signs, crop measurements and the statements of cultivators that much land formerly capable of producing 35 baskets per acre is now yielding under 30 baskets. The statement of old men that formerly that paddy was so high that it was impossible to see a man on a buffalo riding through it is doubtless a picturesque exaggeration, but it is only reasonable to expect some deterioration in this land which apart from the Bassein town plain is probably the oldest in the district. The sterile and hungry character of the soil of the Bassein town plain itself has been emphasised at previous settlements. All that can be said of it now is that thanks to systematic fallowing of the worst portions it is no worse than before. Elsewhere in the settlement area there has been little change Large areas have been brought under cultivation during the expiring settlement and continuous cropping has not produced any great effect as yet. Any slight deterioration that may have taken place on older land has perhaps been nullified by more careful cultivation. Ploughi g and harrowing are said to be more thorough than formerly, and stubble is no longer burnt to save trouble but is ploughed into the ground

42. The term cost of cultivation as used in this paragraph does not include

Cost of cultivation. Statement 12. any allowance for the value of a cultivators own labour or that of his family, nor is any allowance made for his cattle unless they have been purchased within

the four years preceding the year of enquiry. Apart from cost of seed, only actual out-of-pocket expenses have been entered in Statement 12, and they alone are comparable with the statistics recorded at previous settlements. Payments in paddy have been commuted at the local deduced price averaged over 20 years. To avoid undue weight being given to accidental circumstances and the figures being thus distorted, it is perhaps well to compare the average figures over large areas, and the following table shows the assumptions at previous settlements by subdivisions :--

				 Average	cost of cultivation	per acre.
	S	ubdivision.		rst Settlement.	2nd Settlement.	3rd Settlement.
				Rs.	Rs.	Rs
Bassein		••		7.60	7:20	11.10
Ngathainggyat	ing		-	 7 00	8.43	1 2•87
100				1-11-11-11-11-11-11-11-11-11-11-11-11-1	1	

Part of the very large increase in both subdivisions is nominal, being due to the rise in the value of paddy in which agricultural wages are paid and also to the inclusion at previous settlements of labourers' food in the cost of living statistics. At present settlement when food is supplied by the employer in addition to wages a sum of Rs. 5 per head per month has been allowed on this account.

When every allowance has been made for these factors it is clear that there has been substantial increase in the cost of cultivation and there can be little doubt that this is due to the more extensive employment of hired labour. Where the standard of comfort is highest there seems to be a growing tendency for cultivators to confine themselves to a general supervision of their hired hands. At present this is true of only a small minority and most cultivators even in the richest parts of the settlement area do their fair share of work, but the tendency undoubtedly exists and if the price of paddy is maintained will probably become more marked in time. The statistics given in Statement 12 show considerable variations in cost, but these correspond in the main with the different degrees of prosperity prevailing in the settlement area. The cost is lowest in the remote inaccessible area on the west coast (assessment tract 8D), and highest in the centre of the Ngathainggyaung subdivision and in the wealthy Mobva circle (assessment tracts 11B and 7B). Though the cost is high it cannot fairly be called extravagant. Labour is hired freely, but agricultural methods have undoubtedly improved in thoroughness in certain portions of the district if not over the whole area. The statistics of cost of cultivation by race show that Karens spend approximately Rs. 2 an acre less than Burmans. Mr. Bridges and Mr. MacKenna also found that the Karen spent less and doubtless he is a little more thrifty and hardworking than the average Burman. In Karen households, for instance, women are expected to do their share of transplanting, and winnowing is entirely done by them. With Burmans on the other hand young unmarried women normally do no transplanting and frequently winnowing is entirely done by hired labour. The low average cost in the case of Arakanese is due to their being entirely confined to the remote backward area on the West coast. The fact that tenants spend slightly more than small owners on the cultivation of their holdings seems to argue the possession of very fair resources by the former class.

43. Enquiries were made as to the relative cost of cultivation of good and bad land but except in two primary tracts the statistics collected do not justify any differentiation. In the

bad land. lower and more fertile land transplanting, reaping and threshing charges are higher, but these are counterbalanced by the inferior land which as a rule lies high requiring more seed and better ploughing and harrowing. Primary tracts 5 and 9, however, are subject to peculiar conditions, and in their case the cost of cultivation of third class land was so consistently below that of the first and second classes as to render mere fortuitous coincidence unlikely. Primary tract 5 forms the badly flooded portion of the settlement area in th. Thabaung township in which ploughing and transplanting have to be done as the water subsides. In the case of first and second class land sufficient time is available before the end of the rains to permit of fairly thorough ploughing and care ful transplanting. Third class land on the other hand lies very low, it is the last from which the water recedes, and the cultivation is very speculative. There is no time for elaborate working and cultivators have to push the work through as quickly as may be. The charges for plough cattle and labour being thus lighter a lower average cost seemed prima farse probable, and in practice was found to exist. In this tract the average cost of cultivation for first and second class land has therefore been assumed to be Rs. 10'50 and that for third class land Rs. 7 50 per acre. In primary tract 9 first and second class land is a fertile loam soil exempt from flooding, kauklat is the staple crop grown, and cultivators are prosperous and can afford to hire labour freely Third class land on the other hand is severely flooded, tadaungbo is the staple crop grown and cultivators are principally former agricultural coolies unable to hire labour on a large scale Enquiries showed a very substantial difference in the out-of-pocket expenses incurred by cultivators of these two types of land and the average cost assumed for first and second class land is Rs. 12'00 per acre as against Rs 7 for third class land If hired labour and cattle were exclusively employed tadaungbo would seem to cost slightly less per acrethan kauklat. Though cost of seed and reaping charges are double those of kauklat, this is more than outweighed by there being no transplanting charges and by very much smaller charges on account of ploughing and plough cattle. The major portion of the difference in cost must, however, be ascribed to the smaller resources of the cultivators of tadaung bo a fact which has been taken into account in fixing the standard of assessment applicable to this land.

44. Under instructions from the Commissioner of Settlements and Land Valuation of home labour Statement 12A.

Statement 12A. in Statement 12A Cultivators were asked whether they themselves or any members of their families took part in the different agricultural processes such as ploughing, transplanting and so forth, and, if they did, what the cost would have been had they been incapacitated and the whole process been carried out by hired labour. Their statements were subsequently checked with the rate of wages commonly paid in the locality, and estimates greatly in excess of these rates were rejected. It was also assumed that plough cattle had been hired at current local rates. It will be seen that the average cost of cultivation recorded by this method varies between Rs. 18 and Rs. 25 per acre, the mean cost for the whole area being Rs 23'16 per acre This figure agrees fairly well with the theoretical cost based on local rates of pay and the amount of work a labourer is ordinarily expected to complete in a given time. The following table compares this deduced cost with the cost according to the statistics collected. Payments in paddy have been commuted at Rs. 95 per 100 baskets, the local price assumed over the greater part of the settlement area :--

	Head of	charge		Deduced c	ost per acre.	Cost according to statistics.
			Ì	1	Rs.	Rs.
Seed					o 79	0'79
Labour {PI Pi Re II	oughing and ha ucking seedlings ansplanting eaping treshing and wa	rrowing 	 ".	$ \begin{array}{c} \text{Rs.} \\ 5^{\circ}20 \\ 1^{\circ}75 \\ 3^{\circ}50 \\ 4^{\circ}80 \\ 1^{\circ}20 \end{array} $	- 16 <b>*4</b> 5	1 + 89
Cattle					5'18	6 <b>'68</b>
Miscellaneous	l.				o 80	0 <b>*8</b> 0
					53.35	23'16

The deduced cost in the case of cattle is based entirely on the rate of hire prevailing in the settlement area Bullocks are in a great majority, the normal per yoke being 60 baskets equivalent to Rs. 57. As a yoke cannot manage more than 11 acres on most soils the charge per acre is therefore Rs 5'18 Owing to the Bassein district being peculiarly liable to virulent outbreaks of cattle disease it is impossible to base a satisfactory estimate on the sale price and working life They are certainly not a source of profit to the average cultivator, of the animals but a constant cause of anxiety and potential loss Though much time was spent on the collection of these statistics, they cannot be considered satisfactory As the figures stand at present, there is not only no assessable surplus in the case of the worst land, but one is forced to the absurd conclusion that cultivators are working it at a loss It is possible that less labour is put into inferior land than into good land, but this is stoutly denied by cultivators, and detailed examination failed to elicit anything definite in support of this view. It seems to be open to argument whether small holdings of poor land in other countries would show a profit if worked entirely by hired labour, but if home labour is to be taken into account, it is difficult to see what basis of calculation other than local rates of hire can be adopted. The tenant class in the present settlement area is not mainly composed of aged agricultural labourers the value of whose labour is small. Another difficulty, however, arises, namely the impossibility of discovering the precise amount of work actually done by cultivators themselves. When they claim to have worked themselves the work may have consisted in supervision from the comparative comfort of a field hut, or in cooking, or it may have been genuine hard work in the field. With no intention to deceive a cultivator may, and I think often has, put an exaggerated value on his own services, and the fact that so much depends on individual characteristics incapable of check is a serious drawback. It is also open to doubt whether the cost of a cultivator's own food should be debited to cost of cultivation rather than to cost of living. Though the statistics may be of some value in determining net produce values in the case of the most fertile land, no general use is made of them in this report. It seems safer to adhere to the more reliable figures given in Statement 12 and to vary the proportion of the produce taken with general circumstances of cultivators and the extent to which they employ hired labour and cattle.

45. The district figures of advances under the Agriculturists' Loans Act for Agricultural Advances. the past three years have been Rs. 19,595, Rs, 18,800 and Rs #3,300 respectively, and even in the year

### AGRICULTURAL ADVANCES AND CATTLE BREEDING-PARAGRAPHS 45-47.

1905-06, when rinderpest swept away stock valued at over seven lakhs of rupees, the amount advanced was only Rs. 24,700. Considering the liability of the district to cattle disease, the price of cattle and the consequent indebtedness of cultivators, the amount required if the real needs of the area were to be met would probably be somewhere in the neighbourhood of two lakhs of rupees even in a normal year. Agricultural advances therefore cannot be said to be popular, and in 1913 the Township Officer of Kyonpyaw actually reported that no money was required in his township. Township Officers probably do not actively seek the additional work and responsibility that a liberal distribution would entail, but cultivators themselves are not very enthusiastic. Uncertainty and delay are inevitable in a greater or less degree and it frequently happens that some of the objects for which loans are desired **are** inadmissible under the Act To take a typical case a cultivator wishes to borrow Rs 300 of which Rs. 100 are to be spent on cattle, Rs. 20 on seed, Rs. 50 on re-roofing his house and the balance on advances to his hired hands. Under the Act he would only be entitled to Rs. 120 and in practice prefers to borrow the whole amount in one sum from the local money-lender whose procedure is simple and prompt.

No advances under the Land Improvements Loans Act have been made since 1901, but such advances in the settlement area may be said to be represented by the amount expended on the upkeep of the Ngawun embankment.

46. Apart from a few Indian animals in the outskirts of Bassein town, two main types of cattle are distinguishable in the settlement area, namely the Arakanese breed preponderating in the Bassein subdivision and the Upper

Burma breed in Ngathainggyaung Of the two the Upper Burma animal is the bigger and stronger both physically and constitutionally, but in the course of three or four generations the type tends to deteriorate in Lower Burma. It also requires more attention and better food, and oil-cake was frequently mentioned in the Ngathainggyaung subdivision as an item in the cost of cultivation. Owing to extension of cultivation there is little scope for breeding in the settlement area, but Karens breed cattle on a small scale on the west coast and in the garden tract. Stock, however, is mainly replenished by purchases from drovers who appear every year with large herds from Arakan and Upper Burma and wander from village to village.

	Township			1	Buffa	aloes.	Young stock.	
Townshi	p.		Bullocks,	Cows,	Male.	Femile	Kine.	Buffaloes,
I			2	3	4	5	6	7
Kyonpyaw			15,912	6,967	1,143	1,244	7,386	1,073
Ngathainggyaung			13,130	5,489	1,054	1,472	5,504	1,137
Kyaunggon			10,011	3,625	2,413	2,489	8,118	2,999
Thabaung		••	5,037	1,584	2,406	2,375	3,527	1,918
Bassein	•••		9,411	6,417	4,169	1,906	4,925	2 161
Total, Revision area			53.501	24,082	11,185	9,486	29,460	9,288
Total, First Settlemen	t area		850	1,020	950	670	1,500	2,100
Grand Total			54,351	25,102	12,135	10,156	30,960	11,388
And the last								

47. The statement below taken from the annual district returns for the year Numbers and adequacy of 1914 shows the stock of cattle in the settlement plough cattle.

It is not possible to make a detailed comparison of the stock at second and third settlements as Mr. MacKenna gives no details of young stock or of cows. From

#### CHAPTER III-AGRICULTURE.

a consideration of the Season and Crop Report of 1901 and paragraph 24 of his report for 1898-99, he would appear to have included both in his total and to have assumed that two-thirds of the whole were plough cattle. If this is correct, the whole stock at second settlement was 27,587 buffaloes and 67,664 kine, a total of 95,251 head. At third settlement the figures are 29,959 buffaloes and 107,043 kine, a total of 137,002 head, an increase of 43 per cent. As rice land has increased by only 33 per cent the figures denote a substantial improvement, but if all young stock and cows be excluded from the category of plough cattle, the position is still not altogether satisfactory. On this basis a yoke is now expected to plough and harrow 13 acres whereas cultivators say that a yoke of buflocks can only manage 10 or 11 acres and a yoke of buffaloes 12 to 14 acres. As Mr. MacKenna remarked, the shortage is chiefly noticeable in the Bassein subdivision, and in the Ngathainggyaung subdivision the stock of cattle may be considered adequate. When occasional badly cultivated holdings were met with in the former area, it not infrequently transpired that they had been ploughed with cows An interesting feature of the statistics is the enormous increase in kine whilst buffaloes have increased but slightly. The latter are mainly found in the Bassein and Thabaung townships and elsewhere they have been largely replaced by bullocks.

48. The price of an Arakanese bullock varies between Rs. 50 and Rs. 60 Price and rate of hire of cattle. In hiring no distinction is made between Arakanese and Upper Burman bullocks the average rate for the cultivating season being 50 baskets per yoke. The average rate for a yoke of buffaloes is 60 baskets. There is no fixed scale of herding charges though the average rate works out at a basket per head per month, more being paid if an animal is savage. There are no regular cattle markets or fairs in the settlement area

49. Though cattle have been comparatively free from epidemic disease for the past three years, the Bassein District has fully Disease. justified its former sinister reputation during the course of the expiring settlement. Thus in 1903-04 there were 13,360 deaths with a value of Rs. 4,64,049, in 1905-of the loss was no less than 17,806 head worth Rs. 7,22,474 and again in 1910-11 there were 8,810 deaths with a total value of Rs. 2,50,000. The principal diseases are rinderpest and anthrax and the death rate is heaviest in the Bassein subdivision amongst Arakanese cattle. These are apt to die in large numbers before they become acclimatised, and it is said if they survive one rainy season they do not give so much cause for anxiety. It is difficult to suggest any remedial measures other than those adopted already. Though the veterinary staff does what it can, it cannot be expected to deal satisfactorily with outbreaks like those mentioned above and the main hope for the future seems to lie in the co-operation of owners of stock It is of interest to note that in 1912 a Burmese Manual of the more deadly forms of cattle was issued to headmen and examinations on the subject were held in Bassein and Kyonpyaw. One hundred and sixty-four neadman appeared for the examination and a sum of Rs. 734 was distributed in rewards and travelling expenses.

50. The total area of reserved grazing grounds is now 102,171 acres as against Grazing Grounds. 80,037 acres at second settlement. In spite of the

large increase the area is no larger than is absolutely necessary for the requirements of stock and in some cases is barely sufficient. A very large number of applications to throw open grazing grounds to cultivation were referred to me for opinion by the Deputy Commissioner, and after enquiry I found myself unable to recommend any diminution of the present area except for extensions of village sites and the like. Petitioners were frequently men living at a considerable distance from the grazing ground, or landless men with no cattle of their own and whose sole claim to consideration was the possession of large families. In every case the petition was vehemently, and I think justifiably, opposed by the vast majority of local cultivators and many applications were made without any real hope of success. That folder is none too plentiful is shown by all grass growing on *kasins* being carefully cut during November and December, and in two cases villagers actually subscribed to buy out some squatters who had taken up waste used as a grazing ground. So far from recommending any diminution of the area reserved, I have suggested the reservation of the following additional areas to the Deputy Commissioner :--

Surveyors' charg	e. Kwin No.	Kwin No. Village for which proposed.			
I	2	· 3	4	5	
		1	Acres		
Mobya A 🔐	$\frac{3}{326}$ & $\frac{5}{326}$	Feingon Naukkyi Kyudaw Pyandwin		8 135 buffaloes.	
Mobya B	1 & 328	{ Magyigyaung { Lagundaing	} 200	250 buffaloes.	
Mobya C	321	Ashechaung Nyaunggon Kanyingon	·} 91	239 cattle.	
Sabeyon A	439	{ Ngatesu { Apinhnase	} 188	278 ca <sup>.</sup> tle.	
Chitpabın	867	Kanyinngu Oktaik Nyaunggon	} 80	268 cattle.	
Bodaw-Kanni Fanbingyo	109 <b>4</b> 864	Chingon . Ywathit	25	50 cattle. 200 cattle.	

The area at present reserved works out at three-quarters of an acre per head of stock and with the additions proposed should be sufficient. Encroachments were not numerous and the demarcation and mapping of all grazing grounds has recently been taken in hand by the Deputy Commissioner.

51. According to the figures of the Land Records Department there are Other Animals. fewer creeks and the land lies higher. A considerable proportion consists of wretched animals used to draw dog-carts between Yegyi railway station and Kyonpyaw and Ngathainggyaung towns, but some really good animals are also met with in the larger villages such as Inye, and a little spasmodic racing goes on. As long ago as 1884 an attempt was made to improve the breed by stationing a stallion at Ngathainggyaung, but the experiment was a failure and the stallion was withdrawn after a year.

Pig breeding is of considerable importance in many Karen villages and is a source of substantial profit to cultivators. No details of the number of pigs are available, but prior to 1912 the stock must have been very large. In that year, however, the pig population was almost entirely wiped out by an epidemic disease presumably swine fever. Breeding has been resumed but the numbers are still much below the former level. Two types of pig are found, namely the Burman pig, and the so-called English pig, the latter being the larger and heavier animal. A good-sized pig weighing 20 viss sells for Rs. 15 to Rs. 20, the best customers being Chinamen.

## CHAPTER IV.-LAND TENURES AND TENANCIES.

52. From the point of view of land tenure three classes of agriculturists are Land tenures in the settlement clearly recognizable in the settlement area, namely, the large land-owner, the small-owner and the tenant. During the expiring settlement the first and third classes have increased while the second is barely holding its own. Mr. MacKenna having compiled a list of holdings of more than 100 acres in the area dealt with by him in 1898-99, an opportunity was taken at present settlement to investigate the subsequent history of these holdings. Mr. MacKenna noted 71 such holdings, 8 of which exceeded 200 acres in area including one of 453 acres. Of these 71 holdings, 45 are still in existence, 11 have been subdivided amongst heirs of the former owner, 8 have been lost owing to unfortunate speculations in paddy, the creditor in one case being the Arakan Company, 6 have been sold for other reasons, and one has been lost in litigation. Of the 45 holdings still in existence, 10 have decreased in area owing to partition before death or owing to debt and the remainder have increased. Nineteen of the holdings in Mr. MacKenna's list now exceed 200 acres, including 2 of 400 acres and 2 of 500 acres. The number of holdings of over 100 acres in the same area at third settlement is no less than 131. In the absence of disturbing causes there is therefore a distinct tendency for holdings of this type to increase both in number and in area.

Large land-owners are nearly all Burmans who do not work any part of the land themselves, but let it to tenants. Nearly all are rich traders and middlemen who store the paddy received as rent in the hope of prices rising during the rains. As they also make large additional purchases with capital borrowed from Chetties, they are liable to serious loss if prices remain steady or fall as they have done during the past two years.

According to the latest Land Records figures 16.75 per cent. of the occupied area of the district is held by non-agriculturists. This does not appear a very large percentage, but four years ago the proportion was only 15.53 per cent. and in each year there has been a steady increase. High paddy prices have of course made land an exceptionally attractive investment, but it is perhaps a little disquieting that small owners should have been ousted. A more satisfactory feature is the way in which Burman and Karen cultivators have held their own against Indian intruders. Except in the immediate neighbourhood of Bassein town, it is very rare to find an Indian working land either as owner or tenant, and Chetties as a rule sell it at the earliest possible moment if they can get a reasonable price.

The following statement compiled from Settlement and Land Records registers shows the average size of holdings of unirrigated rice land and the number of large holdings in each assessment tract. It does not pretend to complete accuracy as some cultivators have holdings in more than one kwin but it is possibly an approach to the truth. Two or more holdings owned by the same owner in one kwin have been treated as one holding. The figures of average area at second settlement are only approximately accurate as assessment tracts at the two settlements do not exactly coincide:—

	teut		Num	ber of hol	ldings.		Total		Average are	ca of holdings
	Assessm Tract.	Over 100 acres.	50 to 100 acres.	35 to 50 acres.	20 to 35 acres.	Under 20 acres.	of holdings.	Total area,	At 3rd Settlcment,	At 2nd Settlement.
1.207	1	2	3	4	5	6	7	8	9	IO
					(*************************************			•		
	1		li -			0	1 1	Acres.	Acres.	Acres
	IA	15	73	85	296	595	1,064	25,470'33	22'03	18:45
	2A	23	171	232	463	1,022	1,911	45,233'03	23.66	22'37
	3A		10	40	141	598	789	10,210'16	12'94	) "
	3B		1 19	41	156	588	804	11,738.48	14.60 /	12'84
	3C	2	6	7	80	1,432	1,527	12,573.60	8'33	50 a
	4B	18	89	120	. 254	585	1,006	26,909.58	25'24	25'33
	GB	10	85	170	545	4,311	5,121	58.576.82	11'43	2
	5C	I	12	30	85	465	593	8,251 53	13'91	\$ 974
	6A	2	14	24	88	550	678	8,55877	12.05	2
	6B	26	68	108	334	1,574	2,110	35,879.80	17'00	\$ 1540
	78	25	101	142	321	1,033	1,022	33,700'21	20.81	
	8D	I	I	2	59	1,280	1,349	9,004.81	7'10	
	9B	0	28	03	193	4+3	733	14,928.42	20'30	\$ 10.04
	90	18	100	149	357	905	1,535	33,98-75	22.13	5 -9 94
	IOR	5	II	31	92	1,483	1,022	1,3470 35	8'30	3 2'47
	IOC	-4	21	27	133	038	.813	10,890'87	13.30	5 - 4/
	IIB	58	239	341	1,122	4,710	0,470	10,9817.94	10.97	2 22'58
	ILC	0	30	45	171	491	749	13,812-84	18.44	) 30
_	128		13	13	77	294	399	0,303.83	15.80	16'28
To	tal	222	1,103	1,670	4,967	22,993	30,955	490040.08	15'83	

Though large holdings are gradually increasing in number, small holdings of under 20 acres are still in a large majority, and there is little difference in the average area of holdings at the two settlements, except in assessment tracts 10B and 10C, where there has been a marked increase. These two tracts form the garden tract of the settlement area and Mr. MacKenna specially commented on the extremely fragmentary character of the paddy cultivation. During the past 15 years conditions have greatly improved in this area, agricultural methods are better and paddy is now grown for export.

53. The rented area is large, in 10 out of 19 assessment tracts it exceeds 40 Varieties and prevalence of tenancies. Statements 5 and 16. landlords are in a position to select their tenants.

For statistical •purposes three varieties of tenancy have been distinguished, namely fixed produce, fixed cash and railway town land tenancies. The first mentioned is by far the most numerous and forms 95 per cent. of the whole. As regards the last, the right to work land within the limits of certain railway towns such as Begayet and Yegyi is auctioned for a fixed period by Government. In addition to the sum bid the purchaser has to pay land revenue. \*Prior to the year 1911-12 this right was auctioned for one year only In that year, however, some land was auctioned for one year, some for two years and some for three years. The result of these longer leases has been to oust the small tenant who cannot afford the money to bid for a three-year's lease, and in some cases has not sufficient ready money to bid for a single year. At the 1913-14 sale at Yegyi for instance a speculator paid Rs. 60 for the lease of several holdings on which Rs. 170 land revenue was also due, but promptly sublet the land to four tenants for 400 baskets. It might be possible to prevent this by reverting to leases for a single year and by permitting payment by instalments

54 The rents of single and mixed soil class holdings are shown separately in Tenancies, rental value. Statement 16. at the local price deduced over 20 years, and the rent of mixed soil class holdings has been calculated with reference to the assumed fertility and the area falling into different soil classes. The large area let to relations of owners at privileged rents, that is to say, at a very much reduced rental or on payment of land revenue only, has been discarded for statistical purposes

	Assessment Tract.	1st Class.	and Cliss.	3rd Class.	
	1	2	3	4	
		Rs.	Rs.	Rs,	
	IA	11'10	8.46	5'58	
	2A	8.00	0.39	4 00	
	3A	8 70	049		
	38	7 05	500		
	30	8.64	5.03		
1	4D	0.04	5.00	5'00	
	20	2.78	5'86	4.40	
	čĂ	10'46	7'40	1.11	
	6 <b>B</b>	10'00	7'41		
	7B	11'06	8'09		
1	8D	5'91	4'31	3'24	
	• 9B	13'37	10.30	7.86	
	9C	12'37	97.6	7 02	
	10B	10.01	7.00	5 29	
	10C	7 07	5'77	3.8.	
	118	11.01	9.78	0.02	
1	11C	9'31	7.73	5.54	

### 55. At previous settlement 25 per cent of paddy land was let at an average Rents at second and third rental of Rs. 5.85 per acre. At third settlement 40 per settlements. cent of the area is let at an average rental of Rs. 9.06

per acre. These figures speak for themselves, though it must be mentioned that part of the increased rental incidence is due to the rise in the value of paddy. Another and almost revolutionary change that has taken place in tenancy conditions is the substitution of competitive for customary rents throughout the area. At second settlement competitive rents on the present scale were practically confined to the Bokchaung circle of the Ngathainggyaung township, though certain other circles in the north of the district were in a transition stage and the amount payable had become a matter of bargaining between landlord and tenant. However, over the whole Bassein subdivision and much of Ngathainggyaung, the old customary rent, according to which the tenant paid one-tenth of the gross outturn and the land revenue, was still the rule. At third settlement this customary rent has disappeared completely and competitive rents are characteristic of the whole area except the very worst land. The growing scarcity of fertile waste has perhaps been the chief factor in strengthening the landlord's position. Tenants can no longer avoid paying the landlord's demands by taking up waste in the neighbourhood and the latter can insist on the highest rent they can get consistent with On a holding estimated to produce 1,000 baskets the normal rent is 350 security. baskets, the landlord paying revenue, and this cannot be considered excessive if the nominal yield is actually obtained. Tenants indeed admit that they can afford to pay this proportion of the actual yield, but their great grievance is that in unfavourable years landlords either grant no abatement of rent whatever or the amount remitted bears no relation to the deficiency in outturn. A favourable year on the other hand invariably affords a pretext for raising the rent in the following year and the demand is elastic only on the side of the landlord. Landlords however, point out that they are responsible for land revenue and that the demands of Government are also inelastic, and they further say that the rental obtained represents a return of nearer 10 than 20 per cent on their capital. The majority of landlords being non-agriculturists and belonging to a different social class, there is no bond of sympathy between them and their tenants. They are, however, sufficiently alive to their own interests to prefer a substantial local resident with cattle and resources of his own, to the penniless stranger who offers a slightly higher rent with little likelihood of ever paying it Such men are known as "one pot, one mat" men and are rarely accepted as tenants, or if they are, they have to furnish sureties. The economic condition of the average tenant is by no means desperate, he is not affluent, but it would be wrong to regard him as a rack-rented serf and statistics of cost of cultivation, cost of living and indebtedness indicate On the other hand that his position is little inferior to that of the small owner the advent of competitive conditions has not improved the condition of tenants, and two poor harvests in succession would mean ruin to the great majority. Again Mr. MacKenna remarks of the Bassein subdivision : "Few cases were found where a tenant was warned off that another tenant paying higher rent might be installed.

. I heard of no complaints by tenants against treatment by their landlords." This satisfactory state of affairs no longer exists. Complaints are rife and when changes of tenancy occur, it is, generally speaking, the landlord and not the tenant that has taken the initiative. Cases of tenants leaving a holding of their own free will are in the minority, and in such instances it was frequently found that the landlord had grossly overstated the probable outturn of the holding. At previous settlement 11'43 per cent. of tenants had worked the same holding for 5 years or more and at present settlement the figure has fallen to 9'62 per cent. This insecurity of tenure is unsatisfactory now that landlords are in such a strong position, and the only remedy likely to afford any relief seems to be the introduction of leases for a term of years.

56. The rental values utilised for comparison with net produce standards are Utilisation of rental statistics for assessment purposes. Utilisation of rental statistics for assessment purposes.

greatly that they really determine the rental value to be adopted. Though single soil class tenancies are numerous and amount to about half the total number recorded, yet it seems unfair to exclude entirely the rents deduced from mixed soil class tenancies. In any case the difference between the two is slight, thus in a measure confirming the revised classification and the fertility assumptions made. Unfortunately rental statistics cannot be relied on for fixing the detailed pitch of assessment. They seem to vary with gross rather than with net produce values and it is by the latter that assessment proposals must be mainly guided. It is therefore impossible to frame rates bearing a fixed ratio to rental value that would correspond to any rates bearing a fixed ratio to net produce value, or that would be fair to the poorer classes of soil. The tenant rate, however, cannot be entirely neglected where such a considerable proportion of the area is rented as 15 the case in the present settlement circuit, and moreover the tenant rate constitutes a useful general check on assessment proposals. To take the full theoretical half-tenant rate as an assessment standard would involve too large an increase on the present demand, and it is therefore proposed to compare net produce values with 40 per cent. of the tenant rate, but only to attach importance to the latter in the case of first class soils.

57. Sale statistics show that there has been a remarkable appreciation of land

Sales. Statements 6 and 17. values since last settlement and prices in every assessment tract have other doubled or trebled. This is due partly to the rise in the price of paddy, partly

to the growing scarcity of fertile waste, and partly, though perhaps to a less extent, to the competition of non-agriculturists who have come to regard the purchase of land as a suitable form of investment The appreciation in the value of land has been steady and continuous and it is not of a merely temporary or speculative character. The exceptional price of Rs. 81 23 per acre 15 paid in Assessment Tract 12B, which is a narrow strip of very fertile land running along the Ngawun embankment, but the competition in this area is exceptionally keen owing to the presence of numerous non-agriculturists living in the neighbouring town of Ngathainggyaung. Excluding this abnormal area, the highest prices averaging nearly Rs. 40.00 per acre are paid in the fertile Mobya circle and m the Kyonkayin and Yegyi-Kyonpyaw plains (Primary Tracts 7, 9 and 11) Though no direct use can be made of sale statistics in assessment proposals, the figures for sales of single soil class holdings in Statement 17 would seem to support the detailed soil classification. High sale values may be said to indicate a certain amount of agricultural prosperity and confidence in the future, and certainly neither the sale nor mortgage statistics show that any serious alarm was felt on account of the proposed tenancy and land alienation legislation.

58 Mortgage values like sale values show a very large enhancement since

Mortgages. Statements 7 and 18. previous settlement. The area mortgaged in the year of the settlement is small but land is readily accepted as security, and if the holding is a large and good one

the owner can count on the rate of interest not exceeding 24 per cent. Except on the west coast mortgages are generally without possession, but if possession is given no interest is payable. It is rarely the case that any period is fixed within which the mortgaged area must be redeemed, and on the west coast the stipulation was not infrequently made that no redemption was permissible within three years of the date of the bond. From the constant flood of complaints received there would appear to have been a considerable amount of sharp practice on the part of the mortgagees in the richer parts of the settlement area. Mortgages with possession were formerly more common than they are now, and mortgagors were induced to allow the transaction to be shown as a sale in the Revenue Surveyors' register and were content with an oral promise by the mortgagee to allow redemption at any time. In some cases the transaction was even registered as a sale and in one instance the mortgagee cynically remarked that he might or might not allow redemption. Karens seem to have been victimised more than Burmans, but even with Karens it would be unwise to accept all their statements at face value. Allowance must be made for the very general impression amongst cultivators that land cannot be alienated entirely, no matter what the transaction may be, and further the great increase in the value of land has doubtless caused many fraudulent

### CHAPTER IV-LAND TENURES AND TENANCIES.

claims to be made that transactions 15 or 20 years old were mortgages when they were genuine sales.

59. The following tables giving particulars regarding the registration of sales Registration. and mortgages and the activity of non-agriculturists may be of interest. The statistics relate to the sales and mortgages recorded by the settlement staff as shown in Statements 17 and 18:---

	2		Tatal	Salas	Calassia	· Sales t	o Agricul	turists.	Sales to Non-agricul- turists.		
A	ssessment T	ract.	number of sales.	register-	register- ed.	Number of Sales.	Acres.	Rupees.	Number of Sales.	Acres.	Rupees.
-	1		2	3	4	5	6	7	8	9	to
	1A 2A		153 198	70 93	83 105	191 161	2,191 3.276	71,057 67,051	32 37	780 832	20,069
	3A 3B		71 62	14	57 46	55	885 800 826	23,895	57	95 130	3,190
	4B 5B		163	85	78	107	1,844	57,620	56	1,416	39.53
	5C		57 1 30	10 73	38 57	50	655 1,571	17,910 56,436	7 24	60 244	1,71
S.	6B 7B		249 184	153 96	96 88	174 96	2,264	77.247 62,300	75 88	1,084 1,734	43,05
	9B		104	76	28	79	1,311	23,943 53,985	25	302	3,170
	roB roC	•	166	63	103	148 80	1,056	34,197 28,063	18	179	6,89
	ITB IIC		68 t 6 2	457 52	224 10	543 56	7,682 813	3,32,058	138	2,605	1,22,84
	12B Total	•••	3,202	1.650	4	2.657	272	18,115	635	151	8,900

### SALES.

		Total	Mort-	Mort-	Mortgage	to Agri	cult <b>urists.</b>	Mort ag	gages to griculturi	Non- sts.
Assessment	Fract.	of mort- gages.	gages register- ed.	gages unre- gistered.	Number of mort- gages.	Acres.	Rupees.	Number of Mort- gages.	Acres.	Rupees.
1		2	3	+	5	6	7	. 8	9	10
1A		145	58	87	32	508	15.737	113	2,587	51,680
2A		241	139	102	65	1,176	18,245	176	5,262	73,19
3A		53		53	25	204	5,485	28	625	8,230
38		39	10	29	21	261	5,968	18	391	4,830
3C		145	36	109	47	396	7.410	98	931	16,77
4B		147	88	59	1 19	327	8,465	128.	. 3, 231	71,95
5B		300	106	194	139	2,213	43,000	161	3,283	58,15
50		46	17	29	19	419	6,100	27	493	6,19
6A		58	18	40	22	3.37	10,075	36	657	15,21
6B		128	78	50	35	486	11,070	03	2,207	49,26
7B		106	55	51	31	369	14,647	85	2,058	59,13
8D	· · · ·	125	4	121	106	710	13,244	19	180	3.67
9B		75	66	9	20	421	8,260	55	1,707	33,98
9C		1 156	126	30	12	301	5,765	144	4,022	77,20
10B		105	56	49	31	250	5,300	74	930	17.35
TOC		49	26	23	23	369	6,326	26	649	12,80
118	•••	1 775	530	245	255	3,482	93,852	520	10,959	2,92,44
IIC		41	35	6	15	156	3.930	26	677	16,63
12B		31	30	1	4	92	2,875	27	509	17,26
Total		2,765	1,478	1,287	110	12,657	2,86,663	1,854	41,349	8,86,035

## MORTGAGES.

40

The statistics indicate that the provisions of the Registration Act are not fully complied with at present, though this does not apply to the dealings of nonagriculturists who are very careful to guard themselves. As might be expected, registration is most common in the richer tracts near township headquarters, but in remoter areas like the west coast (Tract 8D) and along the foothills of the Yomas (Tracts 3A, 3B and 3C) non-registration is almost the rule. However, there are signs that cultivators are beginning to appreciate the value of registration and they are less disposed to put faith in oral promises.

Sales to non-agriculturists amount to a fifth of the whole in number and a quarter of the whole in area. They are naturally most numerous in the more fertile and civilised areas but investment in land seems a legitimate method of employing capital. That non-agriculturists should be mortgagees of between three and four times the area mortgaged to agriculturists is perhaps not so satisfactory, as it indicates a lack of surplus capital on the part of the great body of cultivators.

## CHAPTER V.-THE EXPIRING SETTLEMENT.

60. The revenue derived from the Bassein district prior to annexation is not system prior to expiring settlement. System prior to expiring settlement. System prior to expiring settlement, System prior to expiring System prior to ex

the Yomas, while it extended further to the east and included land forming part of the present Myaungmya and Ma-ubin districts. Moreover, the keeping of accurate accounts formed no part of the Burmese system of revenue administration. The amount annually remuted to the Court official to whom the revenue of the district had been allotted is known from local records and appears to have been Rs. 2,82,500. This revenue was derived from a house and family tax (*thathameda*), a tax of Rs 10 per yoke of buffaloes or bullocks and from fisheries, salt dues and tolls. There was no tax on land as such The sum remitted to the capital is, however, on measure of the amount collected by local officials. What this was must remain a matter for speculation, but if, as assumed in the British Burma Gasetteer of 1879, the share of the local officials amounted to two-thirds of the sum ultimately remitted to headquarters, the total revenue paid by the inhabitants of the district must have amounted to about Rs. 4,70,000.

During the first two years of our occupation of Bassein the Burmese tax on cattle was retained, but in 1854 land measurers were brought down from Arakan and a land tax was substituted The unit of assessment was the circle and the rates imposed were either Rs. 1-4-0 or Rs. 1-8-0 per acre according to the distance from the central market and reports of circle headmen as to what the land could pay. This arrangement was similar to that adopted after the annexation of the Arakan and Tenasserim provinces, but the resulting assessment was of a somewhat rough and ready character as headmen were entirely ignorant of what an acre was, and the country being still in a disturbed state, it was necessary to be content with very slender information as to the capacities of the soils. Under this system the revenue derived from the district as then constituted amounted in 1855-56 to Rs. 6,17,910 To this total the new land tax contributed Rs. 2,15,170 and the capitation tax of Rs. 5 per married man and Rs 2-8-0 per bachelor, which took the place of thathameda, Rs. 1,94,650. The balance was derived from fisheries, salt and other minor sources. The increase was largely due to indirect taxation which was but slightly felt after the direct exactions of the Burmese official, and the immediate result was an increase of the population by immigration and an extension of the area under cultivation. This rough system of assessment lasted till 1861 when the kwin system was introduced in the settlement effected by Colonel MacMahon and Captain Munro. By this system, which had been introduced into the Tenasserim province by Captain Phayre in 1847, the kwin took the place of the circle as the unit of assessment and the revenue demand was based on the fertility of the soil as ascertained by crop cutting and on the proximity of the karins to the central market. This assessment by kwins of 300 or 400 acres was a manifest improvement on assessment by tracts of country which might

contain 300 to 400 square miles. The rates imposed between 1861 and 1863 varied from Rs 1-4-0 to Rs. 2-0-0 per acre and resulted in a substantial increase This settlement is also remarkable for the introduction of the lease of revenue system which had been previously tried in the Rangoon district in 1858. Under this system settlement operations besides determining rates per acre for each kwin included also the granting of leases for a whole holding for a term of 3, 5 or 10 years to those owners who are willing to accept the terms offered.

To induce cultivators to take up these leases two concessions were made: firstly, the land was not to be measured for revenue during the period of settlement, and secondly, all adjacent waste brought under cultivation was to pay no revenue till the lease expired It was hoped by this means to avoid the expense and annoyance of annual measurements and to stimulate extension of cultivation.

The leases were, however, regarded with great suspicion and a large proportion of the cultivators preferred annual assessment. The system also proved open to serious abuses and leases were not renewed beyond 1879.

A cess of 5 per cent. was imposed in 1876 and subsequently taised to 10 per cent. in 1881 Further in 1879 rates were summarily enhanced by 25 per cent. over the greater part of the area though in some circles only 15 per cent. was taken and in the Kyaukchaunggyı circle the rates were allowed to stand The enquiry preceding this enhancement seems to have been perfunctory and Mr. Bridges, the first regular Settlement Officer, comments on the absence of data and principles which might have justified the action taken. Elsewhere in his report he mentions the unrest and discontent prevailing amongst the agricultural population as a result of these progressive enhancements and says "cultivators are continually in fear that new taxes will be imposed on them and in Karen villages I have frequently been asked whether Government had not ordered a tax to be levied on firewood, dogs and fowls." However, some relief was afforded by the first regular settlement on modern lines which was carried out by Mr Bridges between the years 1880 and 1884. Up till then rates had been fixed after summary enquiry and inequalities in incidence were inevitable. Now for the first time regular and careful enquiries were made, statistics were collected and assessment tracts were formed composed of kwins not necessarily contiguous but similar in fertility, cost of cultivation and proximity to a central market Previously no attempt had been made to classify the soil and the incidence of taxation on good and bad land was the same In Mr. Bridges' settlement on the other hand the rice land m each kwin was divided into two, and in some cases into three, classes and an estimate of the fertility of each class was made in accordance with a scries of crop reapings. Particular attention was paid to liability to mundation and to lasting power of the soil in each assessment tract. In the Bassein township assessment tracts were further distinguished according as the cultivation was permanent or shifting-a distinction which has now become obsolete as all holdings have perforce become permanent in the absence of culturable waste.

The net profit standard as modified by the lasting power of the soil was adopted as a basis of assessment, that is to say from the value of the acre outturn assumed for each tract was deducted a sum equal to the estimated cost of cultivation and cost of living per acre. The sanctioned rates which in the case of rice land varied from 12 annas to Rs. 3-4-0 per acre, do not, however, bear any constant relation to the theoretical half net profit standard, and in the case of the better land fall uniformly far below it. Government was impressed with the need for moderation, the rates proposed by Mr Bridges were reduced, and the net result of the settlement was a slight decrease in demand in spite of a very large increase of roughly 20 per cent. in area due to faulty if not fraudulent measurements by circle headmen. A rate of Rs. 2-8-o per acre was imposed on gardens, betel-vine, sugarcane, dhant and miscellaneous cultivation and a tax of 4 annas on solitary fruit trees.

61. During the years 1898 and 1899 Mr. MacKenna revised Mr. Bridges' rates over nearly the whole of the present settlement area, a separate report being submitted at the close of each year's operations. In 1898 Mr. Lowry dealt

The expiring settlement.

with the old North Mobya circle which at that time formed part of the Myaungmya district, and the three outlying flooded circles of Bodaw-Kanni, Kwingyaung and Daunggyi were resettled by Mr. MacKenna in 1899 at the same time as the southern portion of the Henzada district. Apart from purely revision settlement operations both officers undertook a considerable amount of survey work and in certain areas many of the kwin maps now in use were prepared by them.

In the interval between first and second settlement there was a remarkable expansion of cultivation from 238,419 acres to 390,423 acres and this was accompanied by a rise of 17 per cent. in the value of paddy, making it possible for Mr. MacKenna and Mr. Lowry to assume a Bassein price of Rs. 92 per 100 baskets as compared with Rs. 78 75, the figure adopted by Mr. Bridges. As regards soil classification and tracting the methods at second settlement were similar to those of the first settlement, but the substitution in the year 1899 of the quarter net produce standard for the half net profit standard as the main theoretical basis of assessment was a noteworthy change. The rates actually imposed bear, however, little relation to either standard and fall uniformly far below them. Modifications were freely proposed, regard being paid to indebtedness, liability to cattle disease, lasting power of the soil and pitch of the rates then in force. In the area dealt with in 1898 the rates finally sanctioned by Government differed only in detail from those proposed by the Settlement Officers, the net result being an increase in demand of 20 per cent. in Mr. MacKenna's area and of approximately 40 per cent. in the North Mobya circle re-settled by Mr. Lowry.

The area dealt with in 1899 includes the greater part of the present Ngathainggyaung subdivision and here Mr. MacKenna proposed rates estimated to yield an increase of 36 per cent. In forwarding the report Mr. Wilson, then Settlement Commissioner, dissented from the opinion of Mr. Hall, then Commissioner of Irrawaddy, and proposed drastic enhancements in nearly every tract. Government also considered that the Settlement Officer had pitched his rates too low and subject to various modifications, accepted the Settlement Commissioner's recommendations with a resultant increase in demand of 48 per cent. A justification for this very large increase may perhaps be found in the fact that the first settlement did not give Government its fair share of the profits of cultivation and was limited by the necessity of avoiding an excessive enhancement. At second settlement an attempt was made to secure Government its fair share and heavy enhancements could not be avoided. The rates imposed have, however, been collected punctually and without undue resort to coercive measures, but it must be remembered that cultivators have been extremely fortunate in the course of paddy prices during the expiring settlement. That they will continue to enjoy such windfalls indefinitely is not to be anticipated, and in any case the fact that such a large enhancement was taken only 15 years ago seems relevant in considering the pitch of the new rates.

62. The area occupied has increased by 25 per cent. since 1901. This

Occupied area. Statement 2. increase has been steady and regular, the figures for each year showing a substantial improvement on those of the preceding one. The effects of the land boom

associated with the years 1905 and 1906 seem to have been less marked in the Bassein district than in some other parts of the province. Large areas were granted between 1905 and 1900, when the further issue of grants was suspended for 5 years by the orders of the Financial Commissioner, but there was no absurd inflation of the land values and no abandonment of land when the boom ceased. It is perhaps a little doubtful whether the occupied area at next settlement will show a similar increase owing to the somewhat unattractive character of the waste still available in the more fertile and populous areas, but there is still room for considerable expansion in the Thabaung township.

63. The land revenue collected in the district has also increased steadily

Land revenue. year by year except in 1905-06 and 1911-12. In the former year cattle disease and heavy flooding on the Ngawun necessitated large remissions, and in the latter year floods led to Rs. 36,000 being remitted before assessment.

### 64 Full normal rates of capitation tax are in force throughout the settlement area. The revenue under this head for the past

Capitation-tax. fourteen years shows a substantial annual increase except in 1907-08 when there was a boom in trade in Bassein and it is said coolies remained in the town instead of going into the district as usual. The increase in collections has been very marked in the last two years and has more than kept pace with the estimated increase in population. Comparing the district figures for the triennium 1901-04 with those for the triennium 1911-14 the population according to the census has increased by 13 per cent. and assessers and collections by 19 per cent. This would seem to point to increased thoroughness in assessment, even allowing for the fact that in 1906 the rates were raised from Rs. 4 and Rs. 2 to Rs. 5 and Rs. 2'50 in the sparsely populated area on the west coast.

65. Land revenue has been collected with case and promptitude during the expiring settlement. It is true that th amount in

respect of which recovery proceedings were instituted seems large, but fishery revenue is responsible for five-sixths of the total. Averaging the district figures for the past three years, out of a total Rs. 1,27,357 in respect of which coercive measures were required, land revenue was responsible for only Rs. 7,106 and capitation tax for Rs 13,330. The only area in which any difficulty has been experienced is the inaccessible and remote west coast where Arakanese settlers have a habit of disappearing alter reaping their crops and where some five years ago there were even signs of a deliberate conspiracy not to pay taxes.

66. Mr. MacKenna and Mr. Lowry based their assessment proposals on an Assumed and actual prices. Assumed and actual prices. between 1899 and 1914 has been Rs. 116, or if the two years 1908 and 1912 be excluded as abnormal, the average works out at Rs. 111. The Bassein price has only fallen below Rs. 92 in two years and the price assumed at last settlement has been much below the subsequent course of prices. Millers consider the great rise in price is due partly to keener local competition and partly to increased foreign demand.

67. The following statement shows the distribution of crops at second and cropped area at first and second settlements.
and
third settlements and the total for the whole settlement circuit. Detailed figures of the area under irrigated rice and sugarcane at previous settlement are not available —

			١	Are	a at		
	Cre	op	1	Second Third Settlement. Settlemen		Area in tract for first Setilement	Total for whole Circuit.
			1				
				Acres.	Acres	Acres.	Acres.
Unirrigated ric	e			362,075	<b>480,375</b>	9,665	<b>490,040</b>
Irrigated rice		•••			2,753		2,753
Gardens				23,904	31,043	1,060	32,103
Dhani	•••		•	62	341	150	491
Miscellaneous	•			3,466	2,172	64	2,236
Tobacco				<b>8</b> 67	5,316	i l	5,316
Sugarcane				14.1 1	179	25	204
Betel-vine		•••		69	125		125
		Total		390,443	522,304	10,964	533,268

The area under all crops except miscellaneous cultivation has substantially increased during the expiring settlement. The decrease under the head of miscellaneous cultivation is more apparent than real, and, as will be explained later, 1,345 acres of miscellaneous ya crops in Primary Tract 10 have been included under the head of garden land at present settlement. It is, however, noticeable that tobacco has been extensively substituted for country vegetables in the Daunggyi circle opposite Ngathainggyaung town. The total cropped area has increased by 33 per cent. during the expiring settlement, the expansion having been most marked in the flooded Thabaung township and in the high garden tract of the Kyonpyaw township (Primary Tracts 5 and 10). In both these tracts the increase exceeds 100 per cent, though they are among the least attractive of the whole settlement arca. Land in the more fertile and securer tracts having been already largely taken up at second settlement, there was less room for any very large expansion in these areas and the increase of cultivation in Primary Tracts 5 and 10 has doubtless been fostered by the low rates at present in force in both tracts. However, there has been a healthy increase of occupied area in all tracts in which expansion was possible. Though allowance must be made for the fact that cultivators have been exceptionally fortunate in the high price of paddy prevailing during the past few years, it is clear that the rates of the expiring settlement have in no way retarded cultivation.

## CHAPTER VI.-THE NEW SETTLEMENT.

## PART I —General

white rice milling into Bassein has caused a considerable improvement in the export market, there is keener competition for the paddy produced and the exports of rice from Bassein have more than doubled since last settlement. Sale and mortgage values show that land has greatly augmented in value, flooding is less severe and less widespread and both the population and the area occupied show a substantial increase. Government is entitled to share in the improved conditions and a revision of the present settlement is clearly justified. A forecast of the expected financial result of re-settlement was issued by the Commissioner of Settlements and Land Records in 1909, and an increase of 20 per cent. in the demand on rice land and of 18 per cent. in the total land revenue demand was anticipated. The proposed assessment slightly exceeds the forecast, but the former is based on a Bassein price of Rs. 112 and the latter on a Bassein price of Rs. 105 per 100 9-gallon baskets of paddy. The course of price during the past four years has been far above both figures.

69. In the area for third settlement no regular and formal check of the work Check of Land Records work. of the Land Records Department was undertaken. Errors found in the course of soil classification were entered in errata statements which were forwarded from time to time to the Superintendent of Land Records. In kwins for first settlement holding-marking was carried out by the Settlement staff and subsequently checked by an Assistant Settlement Officer who also recorded the tenure of each occupier.

70. During the first part of the field season, from November till the end of Collection of statistics in the field. Collection of statistics in the in crop selection and crop cutting In an average kwin of 600 acres two selections were usually

made in each year, representing as far as possible the better and poorer soils

Each selection was subsequently visited by an Inspector and in the majority of cases also by the Settlement Officer or an Assistant Settlement Officer. Many alterations were made, the tendency being to select fields too good to be typical or too near the line dividing soil classes Cultivators rendered all the assistance required in reaping. For the remaining months of the season the party was divided into four sections under the Settlement Officer or an Assistant Settlement Officer, a section consisting of three Inspectors and eight Field Clerks. Inspectors did the preliminary soil classification and examination of cultivators regarding the cost of cultivation and cost of living The Field Clerks collected tenancy, sale and mortgage statistics, calculated holoing areas and painted up the maps showing the revised classification. Selected cultivators were examined as to their expenses of cultivation, each entry being subsequently checked by the Section Officer. On the average one man was examined for every 300 acres of area occupied. The same men were also examined as to their cost of living and indebtedness, and in respect of the latter statistics were also recorded for selected villages. Tenancy, sale and mortgage statistics collected by the Settlement staff were compared in the field with the registers maintained by the Land Records Department. The Settlement Officer visited other sections from time to time in the course of the season. Other Field Clerks were engaged in holding-marking in the kwins for first settlement or in reaping plots of miscellancous cultivation and tobacco.

71. The year in which soil classification was carried out has been adopted Settlement year. Settlement is therefore 1913 and in the Kyônpyaw and Ngathainggyaung townships 1914.

72. In the present settlement area there is no land poor enough to justify the system of "fixed assessment," there is no double Nature of proposed assessment. cropped area and in Lower Burma there is no necessity to differentiate rates by tenures. The ordinary fluctuating system of assessment is therefore applicable. It is proposed to impose soil rates per acre on unirrigated On other main kinds of cultivation, namely, dhani, sugarcane, winter rice only betcl-vine, irrigated winter rice, thatch grass or thetke, miscellancous cultivation and tohacco, a crop rate is proposed. The treatment of garden land presented some difficulty owing to the conditions not being uniform throughout the area. A soil rate per acre is suitable in assessment tract 8D, where a permanent distinction can be drawn between cocoanut and other gardens. In all other assessment tracts except tracts 10B and 10C crop rates varying with the assessment tract are proposed. In tracts 10B and 10C gardens have been divided into plantain and other gardens, but the distinction between the two not being permanent crop rates are proposed for each of these types of garden land. A special rate per free is also proposed for solitary fruit trees.

#### 73. The theoretical standards of assessment prescribed for Lower Burma, standard of assessment adopted. 73. The theoretical standards of assessment prescribed for Lower Burma, namely, one-quarter of the value of the net produce and one-half of the tenant rate, cannot be adopted even in the most favourably situated and fertile tracts

of the present settlement circuit without inflicting real hardship and exciting serious discontent Owing to the comparatively low pitch of the expiring rates the imposition of rates based on the prescribed standards would involve an unconscionable enhancement amounting to double, and in some cases treble, the present demand. The present settlement circuit is also peculiar in that the economic condition of the people and the lasting power of the soil are not homogeneous throughout the whole area Stress was laid on the second of these two disturbing factors both at first and second settlement and Mr. Bridges indeed attempted to define mathematically the differences in lasting power of the various types of soil dealt with. These calculations are difficult to follow, if not actually failacious, as was contended by some of the officers who reviewed his report, but this does not invalidate the fact that very considerable differences affecting the fertility of the soil do exist, and that these are not adequately represented in the outturns ascertained by reaping selected fields. It is proposed to meet the difficulty by varying the proportion of the net produce adopted as a standard of assessment, taking into consideration not only the lasting power of the soil but also security from flooding and the economic condition of the people as shown by the average cost of cultivation and standard of living. From this point of view the settlement circuit may be said to fail into three divisions, some characteristic features of which are shown in the following table. It may be noted that the figures entered under the headings "Lasting power of soil " and "Percentage of net produce taken at second settlement " are only approximately accurate, as no allowance can be made for the varying size of the soil tracts when more than one is included in the new primary tracts The figures in the other columns are, `iowever, correct averages:—

Div	Division.		Primary tracts	Average cost of		Average area of	Lasting po accord Mr B	Percentage of net produce	
2011				Cultivation per acre	Living per family	holdings.	Class 1.	Class 2.	second Settlement
	r		2	3	4	5	6	7	8
				Rs.	Rs.	Acres.	Years	Years.	
I			1,6,7,9,11 & 12	13.13	250	18.39	15	10	16
2	<b>.</b>	••	2, 3, 4, 5 & 10	10*53	232	13.88	10	6	12
3	×		8	5 50	171	7.16	ι.		

The tracts included in Division 1, in which it is proposed to take one-sixth of the value of the net produce, are free from flooding, the soil has considerable lasting power and cultivators are prosperous. In Division 2 the land is hable to inundation of greater or less intensity, cultivators are less comfortable and the lasting power of the soil is inferior to that of Division 1. It is proposed to adopt oneeighth of the value of the net produce in this division, except in tract 4 where for special reasons one-seventh is recommended. Division 3 contains only one primary tract, namely, the remote sparsely populated area for first settlement on the west coast. In this exceptional area it is not possible to adopt any reasonable proportion of the net produce as a standard of assessment. To do so would involve an unconscionable enhancement and such rates are proposed as it is thought the people can reasonably be expected to pay.

The multiplicity and lowness of the assessment standards proposed may be considered open to objection. However, no single standard would be appropriate throughout the whole area, the imposition of new rates will involve an increase in demand equal to the increase in the value of paddy, and if the value of the cultivators' own labour is taken into account in calculating the cost of cultivation, the rates proposed on first class land in tracts included in the first division do not fall below, and in most cases exceed, the quarter net produce standard.

The utilization of rents as a basis of assessment has already been discussed, and it will be sufficient to say here that it is proposed to compare the net produce standard with 40 per cent of the rental of first class land in those assessment tracts in which the rented area exceeds 30 per cent. of the occupied area.

## Part 2.-Tracting and Standard Outturns

74. The unirrigated rice land of the settlement area has been divided into 12 Primary Tracts, Map 3. teristics. In the formation of these tracts liability to inundation, homogeneity of soil and the economic conditions of cultivators were the principal factors considered. In the case of irrigated rice land no primary tracting was found necessary as over go per cent. of the area under this crop falls within the charge of a single revenue surveyor.

75. The following statement shows crop measurements and outturns assumed Standard outturns adopted at previous and present Settlements. according to the new primary tracts.

		Second S	ettlement.				Third Se	ttlement.		
ť	Outturn mcasure	by crop ements.	Outturn	assumed.	Outturn by	crop measur	rements,	c		ned
Primary tra	Cl 198 1	Ciass 2,	Class 1.	U 188 2.	Class 1	C1 185 2	Clis# 3	Ci 185 1	Cinas 8,	Class 3.
1	9		4	6	6	7	8		10	11
ı	35 80	26.09	35     80     8	25 20 }	41 21	31.26	<b>31·4</b> 6	40		20
2	81.95	25.48	80	20	3/ 78	27 78	90 45	36	25	19
8	38·59	29•73	{ <sup>86</sup> 80}	25	36 '8	21 77		85	25	
4	89 26	26-89	85     85     30	28	43 63	38 53	21.71	40	30	20
5	37*53	30-72	ຣະ	25	41-31	SJ 75	23.19	40	30	<b>2</b> 0
6	3 •59	27*07	35	25	38 <b>*0</b> 8	29 19		80	25	
7	44-39	85 04	40	.30	45 74	83 95		45	32	
8	Origin	al Setticmen	t.		41.01	31 21	21-86	40	80	20
۴,	49-68	9 <b>\$ 2</b> 8	{ 40 35	80 26	<b>4</b> 3·2H	83 48	26 52	42	83	£2
10	48-89	88 76	No assu	mption.	<b>4.</b> -50	33-69	23 <b>7</b> 0	43	36	85
IJ	96*78	29 85	{ 40 88	80 25	42-98	85-01	27 8.1	42	35	25
19	5 <b>1</b> ·86	<u>9</u> 8 <b>5</b> 9	40	80	46-18	<b>34</b> •78		45	80	

The standard outturn now adopted for the different soil classes in each primary tract follows closely the fertility ascertained by crop reapings during the years 1913 and 1943 and the mean of these two years is in no case exceeded. The former year was a good one, the rainfall was adequate and timely and an excellent outturn was abtained with an alleged district average of 100. I am inclined to think, however, that the figure of 100 given in the Season and Crop Report is below the truth and that the crop was from 10 to 15 per cent above normal. In 1914 the early rains were late and in defect, and though this was partially remedied by exceptionally good late rains, the higher land suffered and the general outturn was perhaps 25 per cent below normal. The north of the district was more affected than the south and the average of the two years thus represents an outturn slightly below normal.

A comparison of the figures at the two settlements shows that in nearly every case a higher average outturn has been obtained and a higher fertility assumption has been made for first class land than at previous settlement. This is not due to any marked improvement in the quality of the soil but is the result of minuter classification consequent on the new system of primary tracting. Not only has the new first class a narrower scope than the old one, but in seven of the eleven previously settled tracts a third class has been introduced with an assumed outturn equal to or below that of the old second class. In the two cases where two classes have been adhered to and the assumption nevertheless raised, explanation is perhaps required. Tracts 7 and 12 are perhaps the two most fertile in the settlement area, the soil shows no signs of exhaustion and on the figures the present In the assumptions might have been made with safety at previous settlement case of tract 7 Mr. Lowry was perhaps unwilling to raise the assumed outturn too abruptly, as Mr. Bridges had only assumed an outturn of 35 and 25 baskets in spite of average measurements of 44.70 and 32.71 baskets. Tract 12 again is the spite of average measurements of 44.70 and 32.71 baskets. best part of one of Mr MacKenna's best soil tracts. In both tracts the outturns now assumed agree closely with those admitted by cultivators theniselves and the latter do not exaggerate the fertility of their holdings A difference in the procedure followed at the two settlements will also account in part for the higher standard now adopted for first class land An inspection of the statistics given in Appendix V of Mr. McKenna's reports will show that the average outturn of first class land has been decreased and that of second class land augmented by the inclusion of abnormal figures At present settlement such abnormal outturns due to faulty selection have been discarded, and though these rejections only number 43, the averages thus calculated are perhaps more typical of the real fertility of the soil. The principle of rejection followed was to ascertain the average outturn of the class from all selections, and subsequently to reject those which were less than half the average or much in excess of it During the two years 3,105 selections were measured or one selection to every 158 acres of rice land, and in view of the number of the selections and the character of the seasons a fairly close adherence to the average of the two years seems justified. The only important difference is in the case of primary tract 6 where the soil has deteriorated during the expiring settlement. As it certainly will not improve, and may easily deteriorate still further a substantial allowance has been made on this account.

76. Outturns admitted by cultivators were recorded over 81,352 acres or about Admitted Outturns. one-sixth of the area under unirrigated rice. Too

Statement 10.

much stress should not be laid on these statistics, but on the other hand cases of deliberate mendacity were

comparatively rare and the statements were sufficiently reliable to prove of great value in arriving at assumed standards of fertility and in soil classification. It will be seen that in no tract is there any wide discrepancy between the outturn according to the settlement assumptions and that admitted by cultivators, and taking the settlement area as a whole the difference between the two totals is under one per cent.

77. The new system of primary tracting, by which kwins are no longer groupsoil classification of Rice land, and in 8 out of 12 primary tracts three soil classes have been introduced instead of

	Prese	ent classifica	ation.			Revi	ed classifica	tion.	3-32-1-42 <b>- 2</b> 7
	Soil class.			Acres.		T	Acres,		
1				240,529	I			]	174.458
2	•••			237,868	2	•••	•••	}	220,131
		••			3	•••			85,786
				ſ	1	•••			2,824
Uncla	ased			9,665	2				5,034
					3				1,807

two as at present. The following table shows the result of the revision of soil classification :---

It will be noticed that the new first class in the area for third settlement is only 36 per cent. of the whole as compared with 50 per cent. under the old classification. This is not to be attributed to undue leniency but is an inevitable consequence of the higher standard adopted for first class land throughout the area. Again in parts of certain tracts the new second class standard is identical with the old first class standard, and as was only to be expected the great bulk of the old first class falls more naturally into the new second class than into the new first class. It is thus impossible to draw any very definite conclusions from the above figures. Besides differences of standard, altered conditions such as abatement of flooding rendered a complete revision of the existing classification necessary, and comparatively little assistance was obtained from the old maps. Generally speaking it may be said that the revised classification proceeds on somewhat narrower lines than the old one and that it no longer proved possible to place whole kwins in a single soil class. At the same time the danger of excessive minuteness was borne in mind and care was taken that the new classification should not be in advance of the ideas of the cultivators Every effort was made to be fair, section officers personally checked 90 per cent. of the preliminary classification of inspectors and the revised classification derives a certain amount of support not only from admitted outturns but also from tenancy and sale statistics for single soil class holdings.

78. As far as possible soil classification was carried out in accordance with Consultation of local opinion in local opinion. Two cultivators of standing and soil classification. Working land in the kwin invariably accompanied the inspector who did the preliminary soil classification and subsequently the section officer. These assessors were of the greatest assistance. In the majority of cases they were honest even in respect of their own land, they were able as a rule to give sound reasons for their opinions, and in many kwins no alteration of their classification was necessary.

79. Four price tracts have been formed according to the cost of carriage to Price Tracts. the central market at Bassein.

Price tract A, with an assumed cost of carriage of Rs. 6 per 100 baskets, consists of the plain surrounding Bassein Town, the *kwins* on the lower reaches of the Daga and Ngawun and also those adjoining the railway line within a reasonable distance of Bassein.

Price tract B, includes firstly, kwins lying back from the lower reaches of the Daga and Ngawun, secondly, kwins on the upper reaches of these rivers, and thirdly, kwins adjoining the railway line but more than 30 miles distant from Bassein. The cost assumed for this tract is Rs. 10 per 100 baskets. Price tract C comprises the more inaccessible kwins distant from the upper teaches of the Daga and Ngawun or any navigable tributary. The cost assumed for this tract is Rs. 15 per 100 baskets.

The fourth price tract D, with an assumed cost of Rs. 21, includes the whole area for the first settlement on the western sea board. This is a very long stretch but the formation of two price tracts for this area is unnecessary as one fixed charge is made for any journey that involves rounding Cape Negrais and facing the open sea. The hire of a boat of 1,000 baskets capacity to Sinma or Ngayokkaung the

The hire of a boat of 1,000 baskets capacity to Sinma or Ngayokkaung the only two large villages from which paddy in any quantity is exported is Rs. 75 per trip besides the wages and food of the crew of 5 men amounting to Rs. 55 per trip. An exceptional item of expense peculiar to this tract is the conveyance of the paddy from the beach to the vessels by means of small boats as the former are unable to come close inshore. At previous settlement the area now included in price tracts A, B and C was subdivided into four carriage tracts with assumed costs of Rs 5, Rs. 10, Rs. 15 and Rs. 20, respectively. The last mentioned tract has now been eliminated It was very small and scattered consisting of 21 kwins only. Ten of these kwins adjoin the new railway line and the other eleven now export their produce to Bassein instead of to Rangoon as formerly.

The two factors that enter into the cost of carriage, namely, cartage from the threshing floor to a point on a navigable stream or to a railway station and the freight thence to Bassein, are shown below per 100 nine-gallon baskets. Buyers as a rule pay cartage as well as boat hire.

		Price tra	aci.		Cart hire.	Boat hire or railway freight.	l otal.	Cost assumed.
					2	3	4	5
					Rs	Rs.	Rs.	Rs.
A	•••		••		3*25	2.75	6.00	6.00
B		••		}	3'75	5'25	9.00	10.00
С			•••		6.72	7'25	14'00	15 00
D	••	••			5.20	15 50	21'00	21'00

**Bo.** It has unfortunately proved impossible to utilize the statistics of whole sale harvest prices recorded at local centres by the

Land Records Department during the expiring settlement. In some cases the records were not traceable in the Record Room and in others the statistics were mutually inconsistent The month in which they were recorded seems to have varied, as for instance in the year 1911 when the prices in the adjoining circles of Daunggyi and Ngathainggyaung are given as Rs. 103 and Rs. 130, respectively. In some cases also the extravagant prices paid by speculators seems to have been accepted, and it not infrequently happens that higher prices are recorded for remote inaccessible kwins than for those in the immediate vicinity of Bassein or conveniently situated on the banks of navigable streams. Another reason for regarding the recorded prices with suspicion is that one uniform price was generally recorded for the whole of a surveyor's charge irrespective of the distance of the different kwins from the place of shipment. The advent of the railway is a further disturbing factor. In the circumstances it seems better to arrive at the local price by the deductive method, that is by subtfacting the cost of carriage and an allowance for broker's profits from the price at the central market.

81. The average prices of paddy in Bassein during January, February and Primatemental market. March for the past 20 years have been taken from the Burma Gasette. No year has been rejected as abnormal as the very high prices of the years 1908 and 1913 are more than counterbalanced by the extremely low prices prevailing during the first decade. Owing to the introduction of the 46-pound basket into Bassein and to the allowance for overweight already referred to in paragraph 38, it has been necessary first to express the prices between the years 1895 and 1907 in terms of the 46-pound basket and subsequently to add the allowance for overweight, amounting in the present case to 10 per cent.

When these adjustments have been made the price at the Bassein central market works out at Rs 112 per 100 nine-gallon baskets weighing 50 pounds each and this has been adopted for assessment purposes. The price assumed by Messrs. MacKenna and Lowry at previous settlement was Rs. 92 per 100 nine-gallon baskets and there has therefore been an increase of 21.74 per cent.

## 82. Two main types of middlemen are found in Bassein, namely, the man who Broker's profits contracts to deliver paddy to millers at the market

price ruling on the day of delivery, and secondly, the so-called contract broker who covenants to supply paddy within a fixed time at a price mutually agreed on by the miller and himself. The former type of middleman far out-numbers the latter, probably 75 per cent of the crop passes through his hands and from the settlement point of view his profits only need be considered.

In return for the promise to deliver paddy the firm promises a commission of Rs. 1-8-0 per 100 baskets and generally lends the broker a considerable sum free of interest as working capital. The big broker employs one or more jungle buyers who receive a commission of Re. 1 per 100 baskets, and he also pays a number of miscellaneous charges such as measuring, watchmen, loading and unloading expenses. These charges are difficult to ascertain with precision but enquiries from millers and brokers indicate that Rs 3 per 100 baskets is a fair estimate on a moderately large turnover Assuming that he has not been exceptionally fortunate in buying at an unduly low price in the jungle, the broker's net profits are unlikely to be large as he has to make good a deficit of Rs 2-8-0 per 100 baskets before he starts making anything for himself. He counts partly on the market price rising while the paddy is in transit, but in Bassein firms can prevent undue delay in delivery as they own a large proportion of the boats employed in the traffic. His main sources of profit are, however, the allowances granted by millers for overweight and the difference between the village and the standard basket averaging between 12 and 2 per cent Doubtless on occasion large profits are made but in some years middlemen do not work off the advances taken from millers and their trading results in a loss The opinion of representatives of leading firms is that over a term of years a middleman's net profits are unlikey to exceed Rs. 2-8-0 or at most Rs. 3 per 100 baskets. If the latter figure be assumed an allowance of Rs. 7 per 100 baskets will fairly represent a broker's gross profits This allowance is perhaps a little generous but is the same as that assumed by Mr. Arbuthnot in his report on the Syriam District as the probable profits of Rangoon brokers, and millers inform me there is no reason to suppose that Bassein brokers make less.

83. The village basket is not quite so constant a measure of capacity as might variation between standard and appear from Statement 4. The standard in common village baskets. use amongst the people is the condensed milk tin of the milkmaid brand. Two of these are taken as equivalent to one zale and 128 to one nine-gallon standard basket. Variations of 126 and 130 tins are occasionally met with but are uncommon and 128 tins is the average over a whole assessment tract. Repeated experiments, however, went to show that 128 tin village basket and the standard nine-gallon basket are not one and the same thing but that the latter only contains 126 tins. Though the error is slight it is cumulative and represents a substantial source of profit to the middleman. Another curious rule of thumb met with was the belief that if a milk tin full of paddy exactly balanced fifteen rupees and two pice the weight of such paddy was 50 pounds per ninegallon basket. Here again the slightest error is multiplied enormously and may make all the difference between a handsome profit and a serious loss. 84. The local price of paddy per 100 nine-gallon baskets assumed in each of the four price tracts is shown below :---

				1		•	Deduc		
		Price tra	acts.		Bassein.		t of carriage.	Broker's profit.	assumed.
	**************************************	I			2	! !	3	4	5
					Rs.		Rs.	Rs.	Rs.
A			•••		ו	ſ	6	7	99
В	•••		202			1	10	7	95
С	•••					1	15	7	90
D	•••	•••			]	l	21	7	84
		100		3445 C	2.222				

The average local prices assumed at previous settlement in tracts A, B and C were Rs. 86, Rs. 80 and Rs. 77, respectively. A comparison with the local prices now assumed is, however, not quite a fair one as at previous settlement no specific allowance seems to have been made for the profits of middlemen.

Though the Bassein price now assumed is considerably below the actual prices prevailing during the past four years, it must be remembered that the year 1912 was quite abnormal and that there is no guarantee that these high prices will be maintained. Speculators who bought extensively with borrowed capital early in the season in the hope of a rise during the rains have lost heavily two years in succession, and this will doubtless have a steadying effect. Though chary of prophesying, millers anticipate a lower range of prices and seem to think the average during January and February will be about Rs. 115 for the next few years, but that any drop below this level is unlikely to be permanent.

85. Assessment tracts have been formed by combining the 12 primary tracts Formation of assessment tracts with four price tracts. Of the 48 theoretically possible assessment tracts 29 do not exist as the constituents do not overlap. The administrative

boundaries of townships have not been taken into account as to do so would involve excessive subdivision of tracts.

## PART 3.-Land Revenue on Rice Land.

86. In this section detailed proposals for the assessment of rice land are discussed. The method followed is first to give a

with its component assessment tracts before describing the next primary tract in serial order. The figures of the present and proposed revenue demand are based on the assumption that the whole assessed area whether cultivated or fallow pays the full revenue rate.

Primary Tract 1.	87. Primary tract 1 contains 14 kmins occupied area distributed as follows :	with	an

Main	kind.	1	and Settlement	3rd Settlement.
			Acres	Acres
Unirrigated Winter	Rice		20,601'71	25,470'33
Gardens			658.95	1,485'90
Miscellaneous			6-39	29.20
Betel vine			•18	4.77
Dhani			5.29	

This is a fertile tract on either side of the railway line in the north of the Bassein township. The soil is a firm saudy loam of considerable depth and lasting power and is free from inundation Three soil classes have been formed with standard outturns of 40, 30 and 20 baskets. The first class is composed of lowlying level fertile plains, the second of higher uneven ground with a sandier soil, while in the third has been placed either very high recently cleared land or occasional patches of hard sterile clay covered with the shwe-lan-bu weed indicating poverty of soil. Communications in this tract are unusually good, there being not only the railway line and the Daga river, but also the road connecting Begayet station with Kangyidaung. Cultivators are mainly Karens living in distinct comfort in large villages, and Kangyidaung town is an active trading centre with a bazaar and some fine houses and pagodas. Land is valuable as is shown by the high tenant rate of Rs 9'48 per acre and by the mortgage and sale statistics. Forty per cent. of the rice land is rented and there is keen competition for good land

The cost of cultivation is high, holdings are large and hired labour is freely employed. In view of the fertility of the land and the substantial comfort of the inhabitants of the tract, it is proposed to take one-sixth of the net produce as an assessment standard. As the whole area falls into one price tract the primary tract is in this case also an assessment tract

	Soil	Stan	Value of outturn.				
Main kind.	class,	Price.	Cost of cultivation.	Outturn.	Gross.	Net.	
I	2	3	4	5	6	7	
			R 9.	Bkts,	Rs.	Rs.	
ſ	t	n N	ſ	40	39.60	26 60	
Unirrig ited winter	2	Rs. 99 per 100 9 gallon	n 13 00 {	30	29'70	16.30	
	3	J	l	20	19 80	6.80	

Assessment Tract IA.

### 88 Assessment Tract IA

	Soul	Theo	etical stand	hrds	Pro	posed stand	lard.	Proposed
Maın kınd.	class	One-fifth gross	Half-rent	One-quar ter net.	One-tenth gross.	l'wo-fifth rent.	One-sixth, net.	rates.
I	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs	Rs.	Rs	Rs	Rs.
ń	1	7 92	5'55	665	3.90	4.44	443	4.20
Unirrigated {	2	5*94	4 23	4'17	3'97	3.38	2 78	<b>e</b> .75
winter rice.	3	3.96	2.79	1'70	1.08	2 23	1.13	1.32

The proposed rates follow closely the net produce standard and for first class land also the rental rate. The present rates are Rs 3'25 and Rs. 2'25 in 10 kwins and Rs. 2'75 and Rs 1'75 in 4 kwins. The present demand is Rs. 70,664 and at the proposed rates will be Rs. 88,022, an increase of 24'56 per cent.

Main	kind.		and Settlement.	3rd Settlement	
			Acres.	Acres.	
Unirrigated winte	r rice	]	38,527.00	45,233.03	
Gardens	•••		1,226'46	2,736.15	
Dhani			49'54	269.33	
Miscellaneous	•••		333,31	195*68	
Betel-vine		·	6'52	31.60	
Sugar-cane				10'57	

89. Primary Tract 2 consists of 76 kwins forming a compact block round Bassein town. The occupied area is shown

This tract is markedly inferior to Tract 1, flooding and exhaustion of the soil owing to excessive working being characteristic throughout. There is a certain amount of evidence that flooding is not so detrimental as formerly. Applications to work in grazing grounds showed that land had become culturable, which when reserved had been declared unworkable owing to flooding, and in accordance with local opinion the revised classification is based on a higher estimate of the relative value of the lower lying land than the old one was. Nevertheless flooding, more especially in the centre and south of the tract, still renders the crop sufficiently precarious to justify a lower rent than would be demanded if the land were free from risk of inundation. The tract is roughly divided into an eastern and a western half by the Ngawun river. The eastern portion consists of the Bassein town plain which rises gradually in the north till it becomes unculturable jungle forming the greater part of the interior of the Shwemyindin circle and largely used as a grazing ground. The western portion forms a riverine plain drained and also flooded by the Thandwe stream and its two tributaries the Petye and Thudaw creeks. Exhaustion of the soil has rendered systematic fallowing of the poorer lands a necessity, especially in the south. Fallowing in the Kyaukchaunggyi circle generally takes place one year in four, and the average of the resulting outturns coincides with the second class standard adopted for the tract, namely, 25 baskets. The frequency of fallowing was considered in soil classification and land requiring rest at frequent intervals was leniently treated. The soil of the tract is in the main a stiff clay which is very shallow in the vicinity of Bassein town, where it overlies a laterite subsoil. The level of the ground is somewhat uneven and in many kwins are found narrow winding depressions with large fields running through broad stretches of higher land with small fields. Three classes of soil have been distinguished with assumed outturns of 35, 25 and 19 baskets. The first class consists either of narrow fertile yos or of land liable to occasional inundation but getting a good supply of silt. The second class is composed either of higher land which does not get silt or of the more precarious flooded land. In the third class have been placed the highest land with a very shallow sterile soil locally known as *di-di-dok-pye-mye*, or land so poor that the plover can be seen running through the crop. Thirty-one per cent. of the occupied area is rented, but owing to the lack of fertility of the soil competition is not keen, and in the Kyaukchaunggyi circle complaints were even made as to difficulty in securing tenants. The sale and mortgage rates per acre are low and considerably below those of Tract 1. Despite the proximity of Bassein and a comparative freedom from debt, cultivators do not appear so pros-perous as in Tract 1 and except in the isolated trading village of Kyaukchaunggyi the standard of living is below what one would expect. There seems to be living money available for public improvements and sayats are comparatively rare. The cost of cultivation is moderate, though not conspicuously low, and cultivators generally work their holdings with the assistance of hired labour.

#### CHAPTER VI-THE NEW SETTLEMENT-PART

The whole primary tract falls into one price tract and is therefore also an assessment tract. It is somewhat difficult to determine in the case of this assessment tract the fraction of the net produce that should be taken. On the one hand good communications and proximity to a big town seem to indicate one-sixth as a suitable fraction, on the other hand exhaustion of the soil, liability to inundation and comparatively low standard of comfort point to one-eighth. On the whole the smaller fraction seems the more just and has therefore been adopted as an assessment standard.

Assessment	Tract	2A.
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### 90. Assessment Tract 2A.

	Soil	Stan	dard.		Value of	outturn.
Main kind.	class.	Price.	Cost of culti- vation.	Outturn	Gross	Net.
I	2	3	4	5	6	7
			Rs.	Bkts.	Rs.	Rs.
ſ	I	J	l r	35	3465	23 15
Unirrigated winter	3	Rs. 99 per 100 9-gallon	11.20	25	24'75	13.52
	3	J	l	19	18.81	7'31

	Soul	Theor	retical stand	ards.	Prop	osed stand	ard.	Proposed
Main kind.	class.	One-fifth gross	Half rent	Quarter net.	One-tenth gross.	1 wo-fifths rent,	One-eighth net.	rates,
1	2	3	4	5 6 7 8		8	9	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	1	6.93	4'30	5 79	346	3'44	2*89	2.42
Unirrigated	2	4.95	3 19	3 31	2'47	2'55	1.00	1.20
winter rice.	3	3.76	2'00	1.83	1 88	1.60	100	1,00

Present rates are Rs. 2'50 and Rs. 1'25 in 38 kwins, Rs. 1 75 and Rs. 1'25 in 23 kwins, Rs. 2 00 and Rs. 1'25 in 8 kwins and Rs 2'25 and Rs. 1'50 in 7 kwins.

The new first and second class rates fall slightly below the net produce standard. This tract is, however, exceptionally poor for a delta district, its sterility has been commented on by Mr. Bridges and Mr. MacKenna, the new demand involves a substantial increase of over 20 per cent. and I do not think it can bear a heavier assessment Systematic fallowing of much of the second class land furnishes an additional reason for the light assessment of this soil class Though the '2-anna fallow rate affords some relief it hardly compensates the cultivator in full. A similar argument is equally applicable to third class land, but as the present minimum rate in this tract is Rs. 1'25 it hardly seems necessary to go below the net produce standard of Re. 1'00. It may even be considered unnecessary to go below the present minimum rate of Rs. 1'25, but the new third class is confined to the very worst land, and the old second class paying Rs. 1'25 covered a very much larger area. Thus the new third class contains only 2,962 acres whereas Rs. 1'25 is being paid at present on no less than 26,824 ácres. The present demand is Rs. 74,484 and at the proposed rates will be Rs. 89,932, an increase of 20'75 per cent.

56

91. Primary Tract 3 consists of a long, somewhat disconnected strip of 173 Primary Tract 3. distributed as follows :--

Main	kind.		and Settlement.	3rd Settlement
			Acres.	Acres.
Unirrigated winte	r rice		25,301.04	34,522'24
Irrigated rice	••			171'01
Gardens			1,185'06	1,621.92
Miscellaneous			92.30	101'12
Dhanı			1'48	65:03
Betel-vine			4'07	12.25
Tobacco				9.43

The tract as a whole is of the hilly jungle as contrasted with the flat riverine plain type. The population is sparse and primitive. Communications are poor and the greater part of the tract is remote and somewhat backward.

Except in the north, where it marches with Primary Tract 5 which is heavily flooded, this tract is free from the worse kind of inundation, though hill streams cause some damage when they come down in spate. It is, however, clear from the old soil classification and from the statements of cultivators themselves, that flooding has greatly decreased in severity since previous settlement, and in many kwins this has necessitated an almost complete reversal of the existing classifica-Over the greater part of the area conditions have improved in another tion. respect. Mr. MacKenna noted that the depredations of wild animals rendered cultivation precarious This is no longer the case in the centre and south of the tract, though in the north, where Keddah operations are in progress, elephants, pigs and deer are still fairly plentiful The surface of the ground is very irregular, the cultivated portions of the kwins being often confined to cup-like depressions separated from each other by sandy ridges or hillocks covered with jungle or sometimes in the south with poor pine-apple gardens. The soil is a sandy loam owing much of its fertility to jungle drainage, and where the latter is plentiful there is little to choose between the high and the low land. Two soil classes have been formed with assumed outturns of 35 and 25 baskets. In the first class has been placed lowlying land free from flood and benefiting by the drainage of the surrounding higher land. The second consists either of high land enjoying little jungle drainage or of land lying so low as to be liable to flooding. The bulk of the land is worked by small owners with holdings of under 15 acres each, there are only two holdings exceeding 100 acres in the whole tract and the rented area is small. Many cultivators supplement their income by working as timber coolies and by cutting bamboos, and the general standard of comfort is distinctly below that of the more civilised central portion of the district Indebtedness is not heavy but this is due rather to inability to give adequate security than to agricultural prosperity, and it is noticeable that the rate of interest is higher in this tract than in any other. In these circumstances it is proposed to adopt one-eighth of the net produce as a standard of assessment. This primary tract falls into three price tracts and has consequently been split up into three assessment tracts.

Assessmen	at Trac	t 3A.	<b>9</b> 2.	Asses	sment T	ract 3A	ŀ		
Main kind, Soil class. I 2 Unirrigated winter { I rice, 2		Soil	Standard. Value					f outtur n.	
		class.	Price.		Cost of cultivation.	Outtiirn	Gross.	Net.	
		2	3 Rs. 99 per 100 9-gallon baskets.		4	5	6 Rs. 34. <b>6</b> 5 24.75	7 Rs. 24'15 14'25	
		1			Rs. } 10'50 {	Bkts, 35 25			
Main kind.	Soil	One	Theoretical stand e-fifth Half coss. rent.	lards. Quarter net.	Prop One-tenth gross.	Two-fifths rent,	rds. Une-eighth net.	Proposed rates.	

Main kind.	Soil class.	One-fifth gross.	Half rent.	Quarter net.	One-tenth gross.	Two-fifth: rent.	One-eighth net.	Proposed rates.
I	' 2	3_1	4	5	6	7	8	9
		Rs.	Rs.	Rs	Rs.	Rs	Rs.	Rs.
Unirrigated	I	6.93	4'35	6.04	3.46	3'48	3.03	3.00
winter rice.	2	4'95	3.24	3.20	2.47	2'59	1.78	1*75

The present rates are Rs. 2'50 and Rs' 1'50 in 45 kwins, Rs. 1'75 and Rs. 1'50 in 2 kwins and Rs. 1'75 and Rs. 1'25 in 8 kwins. The present demand is Rs. 18,046 and at the proposed rates will be Rs. 22,968, or an increase of 27'27 per cent. The increase is large but the proposed rates nearly coincide with the very moderate net produce standard adopted and are considerably below the gross produce and rental standards. Conditions have improved in this tract and in Assessment Tract 2B since previous settlement and as intermediate rates will be Assessment Tract 3B since previous settlement, and as intermediate rates will be levied on first class land in 10 kwins the new rates should be paid without difficulty.

Assessment Tract 3B.

93. Assessment Tract 3B.

Main kind.	Soil	Standa	Value of outturn.			
	class.	Price.	Cost of cultivation.	Outturn.	Grass.	Net,
I	2	3	4	5	6	7
			Rs.	Bkts.	Rs.	Rs.
Inirrigated winter {	I	Rs. 95 per 100 9-gallon	} 10'00 {	35	33.32	<b>23.3</b> 5
nce. (	2	- Daskets.	) (	25	23.75	1375

Main kind.	Soil	Theoretical standards.			Prop	Proposed		
	class.	One-fifth gross.	Half rent,	Quarter net.	One-tenth gross.	Two-fifths rent,	One-eighth net.	rates.
1	3	3	4	5	- 6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs,
Unirrigated \	1	6.62	3'92	5*81	3'32	3'14	3.01	a.12
winter rice. (	2	4.75	3.90	3'44	2.37	2.33	1'72	F 175.

Present rates are Rs. 2'50 and Rs. 1'50 in 18 kwins, Rs. 2'50 and Rs. 1'25 in 3 kwins, and only Rs. 1'75 and Rs. 1'25 in 33 kwins. The present demand is Rs. 18,065 and at the proposed rates will be Rs. 25,742 or an increase of 42'49 per cent. The proposed rates cannot be regarded as anything but extremely moderate in spite of the large increase. The greater part of this tract would appear to have been some what under-assessed in the past, and there is no apparent difference between kwins at present paying Rs. 2'50 and those paying Rs. 1'75 on first class land. Though a rate of Rs. 3'00 on first class land would be justified by the net produce standard, I am relevant to propose it in view of the backwardness of the tract and the poverty of the averaeg cultivator.

Main kind	Soil	Stand	Value of outturn.			
Main Rind.	class.	Price.	Cost of cultivation	Outturn.	Gross.	Net.
I	2	3	4	5	6,	7
	1		Rs.	Bkts.	Rs.	Rs.
Unirrigated winter	∫ <sup>1</sup> <sup>⊥</sup>	Rs. 90 per 100 9-gallon	3	35	31.20	22'50
	( 2	baskets.	5 9002	25.,	22.50	13'50

Assessment	Tract	3C.	94.	Assessment	Tract	30	5

Main Kind.	Soil	Theoretical standards			Proposed standards.			Proposed
	class.	One-fifth gross.	Half net.	Quarter net.	One-tenth gross.	Two-fifths rent.	One-eighth net.	rates.
I	2	3	4	3	6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs,
Unirrigated (	z	6.30	3.82	5.03	3 15	2*35	2*81	2.75
winter rice. ?	. 1	4 50	3.01	3 37	2.22	1'79	1.69	1,20

Present rates are Rs. 1'75 and Rs. 1'50 in 51 kwins, Rs. 2'50 and Rs. 1'75 in 9 kwins, Rs. 1'25 and Re. 1'00 in 8 kwins, Rs. 2'25 and Rs. 1'50 in 3 kwins and Rs. 1'50 and Re. 1'00 in 3 kwins. The present demand is Rs. 18,392 and at the proposed rates will be Rs. 23,504, an increase of 27'75 per cent. The increase is substantial but should be paid without undue hardship as intermediate rates will be assessable on the majority of kwins in the tract.

95. Primary Tract 4 lies partly in the Bassein and partly in the Kyaunggon township and includes 20 kwins with an occupied area distributed as follows:--

	Main I	kind.		and Settlement.	3rd Settlement.	
				Acres.	Acres.	
Unirrigated	winte	r rice	. [	23,950.88	26,909.58	
Gardens	••	`		805.89	309.40	
Dhani				5.30	6.01	
Betel-vine	•••			.18	1.40	
Miscellaneo	us		•• 1	11.00		

The central portion of this tract is distinctly poor with a stiff clay soil overlying a gritty sub-soil, but this gradually merges into the fertile sandy loam of Tract 1 in the west and Tract 7 in the east. The knins are therefore somewhat

miscellaneous in character and the tract boundary is ill-defined. In the main the tract includes only kwins recognised as more or less inferior by either Mr. Lowry or Mr. MacKenna. An exception has been made in the case of 3 kwins near Daga railway station which were formerly grouped with Mr. MacKenna's good tract. The railway embankment has interfered with their drainage and they are now hable to inundation. Though flooding has certainly decreased since last settlement, the tract as a whole cannot be considered secure, and in many kwins the water sull lies ankle deep at the end of the reaping season late in December. There has been considerable immigration from Upper Burma into this tract and little culturable waste remains. Though cultivators appear fairly 'prosperous indebtedness is comparatively heavy and the rental and sale statistics support the general impression that this tract is inferior to Tracts 1 and 7. The cost of cultiva-tion is substantial and a good deal of hired labour is employed. Three soil classes have been formed with assumed outturns of 40, 30 and 20 baskets Much of the first class land is a friable black clay of considerable fertility known as put-kyi-mye. This generally lies very low, outturns are a little precarious and a large proportion has only been brought under cultivation during the past ten years. The assumed outturn of 40 baskets for this land is considerably below the average of 43.53 baskets obtained by crop measurements, but the land is new and the present out-turns are probably abnormal. The second class consists of fairly level stiff clay of medium fertility, and in the third class has been placed high lying shallow soil. Some reliance can be placed on rental statistics as 54 per cent. of the occupied area is let at competitive rates. The average holding exceeds 25 acres in area and considering the small size of the tract holdings of over 50 acres are numerous. Though the tract is thus fairly advanced from the economic point of view, it is a little difficult to determine the proper standard of assessment. On the one hand liability to flooding and the low tenant and sale rates indicate that it is not the equal of Tract 1 in which one-sixth of the net produce has been taken; on the other hand it is not so remote, as the greater part of Tract 3 nor is the soil so sterile as that of Tract 2 in which one-eighth of the net produce has been taken. It is therefore proposed to take one seventh of the net produce although this introduces an additional standard of assessment The whole primary tract falls into one price tract and is therefore also an assessment tract.

### Assessment Tract 4B.

### 96. Assessment Tract 4B.

Main kind.	Soil	Sta	Standard.			
	class,	Price.	Cost of cultivation	Outturn	Gross	Net.
I	2	· 3		5	6	7,
			Rs.	Bkts	Rs.	Rs.
· · · · · · · · · · · ·	I	ו	h (	40	38'00	24.75
Unirrigated Anter rice.	2	Rs. 95 per 100 9-gallon	13'25	30	28'50	15 25
	3	J Jaskets.	) (	20	19.00	5'75

	Soil	Theoretical standards			Proposed standards.			Proposed
Main kind:	Class.	One-fifth gross.	Half . rent.	Quarter net,	Onc-tenth gross.	Two-fifths rent.	One- seventh net	rates.
1	1 12	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.	Rs.	R4.	Rs.
1	1	7.60	4.32	6.10	3.80	3'45	3'54	3'50
Unirrigated	2	5'70	3.30	3.81	s.82	2 68	3.18	2*25
I	3,		14:21	1.44	1,80	1'76	0.82	1.00

Present rates are Rs. 3 25 and Rs 2 50 in 5 kwins. Rs. 2 75 and Rs. 1 75 in 11 kwins and Rs 1 75 and Rs. 1 25 in 4 kwins. The present demand is Rs. 54,818 and at the proposed rates will be Rs 74, 24, an increase of 35 40 per cent. The increase is large but conditions have improved in this tract since last settlement and the enhancement should be paid without difficulty.

97. Primary Tract 5 contains 204 kwins and consists of the permanently flooded portion of the settlement area It covers a wide expanse of country and includes the greater part of Thabaung, township under cadastral survey, a substantial portion of the Ngathainggyaung township to the west of the Ngawun embankment, and also an outlying portion running north into the Kyaunggon and Kyonpyaw townships. The occupied area is as follows :--

Main	Main Kind.		and Settlement,	3rd Settlement
				-
		1	Acres	Acres.
Unirrigated winte	н гасе		3^,648.30	66,828.35
Gardens		. ]	657.59	901.26
Tobacco			867.12	5,284'58
Miscellaneous	•••		2,771'00	1,614'98
Betel-vine			13.07	9'70
Irrigated rice				2,518.63
Thetke				23 <b>·35</b>

Some of the characteristics of this tract have already been dealt with at some length earlier in this report and a brief summary will therefore suffice Inundation is due to the water of the Ngawun sweeping round the end of the bund and banking up the Tabu and Shweny aungbin creeks The water then spreads over a large stretch of lowlying country with inadequate natural drainage and cultivation has to be postponed till after the third and final rise of the Ngawun in October. The date and height of this rise are of the greatest importance. If it is early ard low, the season is likely to be favourable, as the young crop benefits by the rain of October, if the rise is late and high, the crop has to depend on heavy dew and occasional showers during November and December to bring it to maturity and much of it is abandoned unreaped The crop is therefore precarious in the extreme, though the natural fertility of the soil has been increased by annual deposits of silt since the construction of the Ngawun embankment. Cultivators are not well off and the general standard of comfort is distinctly below that of securer tracts. They get sufficient to supply their actual wants but have no surplus to spend on luxuries, and a wooden house is rarely met with outside the headquarters of the Thabaung township. The rented area is insignificant, and in the area for revision settlement this is the only tract in which landlords are not in a position to pick and choose their tenants to some extent The area has not proved attractive to capitalists or non-agriculturists, there being only 11 holdings of over 100 acres and the area of the average holding is below 15 acres Extension of cultivation has been rapid but much of it is very speculative, and cultivators have been fortunate in that there has been no abnormal rise of the main Irrawaddy river since 1905.

Three soil classes have been formed with assumed outturns of 40, 30 and 20 baskets, the classification being largely dependent on the date when transplanting is normally possible The area of first class land is restricted and mainly consists of high land close to the embankment. Though this land is not absolutely secure, the water recedes from it first and it normally produces a good crop of kauk-lat paddy maturing in December. A limited amount of very high land regularly let at high rentals as paddy nurseries has also been included in the

first class. Such land is extremely scarce and plots are in keen demand by owners of lowlying land when their own nurseries have failed. The usual rent asked is Rs. 5 per basket of seed occupying roughly '15 of an acre and sufficient for the transplanting of about 3 acres. Second class land is more precarious as it lies lower, but it can normally be depended on to produce a very fair crop of the short-lived paddy known as gwa-mayin maturing in January and February. Third class land lies still lower and outturns are extremely problematical. Though the soil is intrinsically quite as fertile as that of the second class land the paddy is invariably stunted and sometimes does not even come into ear. The variety of paddy grown in all three soil classes is moh-seik-kyi. This resists flooding well but is disliked by millers as it is light in weight and breaks easily. The cost of cultivation is moderate as holdings are small and cultivators cannot afford to employ hired labour extensively, but as was to be expected the cost of seed is high and almost double that of more secure tracts. The reason for distinguishing between the cost of cultivation of the first class land and that of third class land has already been discussed. In view of the precarious character of the crop, the backwardness of the area and the comparative poverty of the inhabitants it is proposed to adopt only one-eighth of the value of the net produce as a standard of assessment. At last settlement no fixed standard was adopted, but the rates imposed were equivalent to one-tenth of the net produce or less. The standard now proposed is low and conditions are perhaps very slowly improving, but the resulting enhancement is large and considerably exceeds the rise in the price of paddy and to make more would discourage extension of cultivation and lower the standard of living. This primary tract falls into Price Tracts B and C and therefore two Assessment Tracts 5B and 5C have been formed.

Assessment	Tract	: 5B
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98. Assessment Tract 5B.

Main bind	Soil	Sta	Value of outturn.			
Main kind.	class,	Price.	Cost of cultivation.	Outturn.	Gross.	Net.
. 1	3	3	4	5	6	7
		e	Rs.	Bkts.	Rs.	Rs.
ſ	1	1	10:50	· 40	38.00	27.50
Unirrigated winter	3	9-gallon baskets.	7:50	30	28.50	18*00
rice,	3	J	1.1.5-	20	19.00	14.20

	Soil	Theore	tical stand	lards.	Prop	1000 ju 1443 juli		
Main kind.	class.	One-fifth Gross.	Half Rent.	Quarter Net.	One-tenth Gross.	Two-fifths Rent.	One-eighth Net.	Proposed rates.
r i v	3	3	4	5.	6	7	8	9
	-	Rs.	Rs.	Rs.	Rs.	o Rs-	Rs.	Rs.
· r	x	7.60	4.63	6.87	3.80	3'70	3'44	3.20
Unirrigated	2	5'70	3'54	4'50	2.85	2.83	2.32	2'25
HIGET TICE	.3	3.80	3.20	2.87	1.00	2.00	1'44	1'50

Present rates are 'Rs. 3'00 and Rs. 2'00 in 4 kwins, Rs. 2'50 and Rs. 1'75 in 7 kwins, Rs 1'75 and Rs. 1'50 in 131 kwins, Rs. 1'25 and Re. 1'00 in 21 kwins and a single rate of Re. 0'75 in 7 kwins. The present demand is Rs. 93,979 and at the new rates will be Rs. 1,26,007, an increase of 34'05 per cent. The new rates agree closely with the net produce standard and ought to be paid without difficulty in spite of the large increase. Conditions have

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undoubtedly improved in this tract since last settlement, flooding is less severe and the first class land immediately under the embankment is much underassessed at present. The application of intermediate rates will prevent any hardship.

Assessment Tract 5C.

99. Assessment Tract 5C.

	Sall	Sta	Value of outturn.			
Main kind.	class.	Price.	Cost of cultivation.	Outturn.	Gross.	Net.
I	2	3	4	5	б	7
			Rs.	Bkts.	Rs.	Rs.
ſ	<b>,</b> 1	ו	C 10'00 '	40	36'00	26'00
Unirrigated winter	• 2	Rs. Coper 100 9-galion baskets.	1000	30	27.00	17-00
inc. l	3	J -	1 725	20	18'00	10'75

	Soil	Theoret	ical stand	ards.	Pro	Proposed		
Main Kind.	Class.	One-fifth Gross.	Half Rent.	Quarter Net.	One-tenth Gross.	Two-fifths Rent.	Ona-eighth Net,	rates.
1	2	3	4	5	6	7	8	9
		Rs	Rs.	Rs	Rs,	Rs.	Rs.	Rs.
ŗ	I	7'20	3.89	6.20	3. 60	3.11	3'45	3.25
Unirrigated	2	5'40	2.93	4.52	2.40	2.34	3.13	3.00
winter rice.	3	3.60	2.34	2.69	1*80	1.49	1'34	1.32

Present rates are Rs 1 75 and Rs. 150 in 33 kwins and Rs. 250 and Rs. 175 in one kwin. The present demand is Rs. 12,989 and at the proposed rates will be Rs. 14,554, an increase of 1204 per cent. The increase in demand is very much less than in Tract 5B but Tract 5C lies further away from the embankment and flooding is severer. The new rates agree fairly well with the net produce standard, and allowing for the less favourable conditions, I do not think higher rates would be justified.

**100.** Primary Tract 6 contains 49 kwins in the Kyaunggon and Thabaung Primary Tract 6. The area under various crops is given below:

	Main	kind.		2nd Settlement.	3rd Set tlement.
				Acres	Acres.
Unirrigated	winter r	ice		31,863.11	44,438.63
Gardens	••			1.834*87	5 <b>,813,3</b> 0
Miscellaneou	at			30'04	9.05
Thetke	•••	•••	[		193'40
Betel-vine				9'53	11*25
Sugar-cane				1	8.40

The tract consists partly of a narrow strip of kwins adjoining the right bank of the Daga, and partly of a block of country surrounding the headquarters of the Kyaunggon township on the left bank. The tract as a whole is free from

flooding as the Daga does not overflow its banks, and the riverine kwins of the right bank are well above the level of the flooded kwins in the interior. The tract is thickly populated and is favourably situated for marketing its produce, competition for land is keen and very little culturable waste is available. More than half the area is rented at competitive rates and non-agriculturists have bought land freely. The soil, however, is not very fertile and either contains too large a proportion of sand to retain moisture or is a somewhat shallow light clay. Two soil classes have been formed with assumed outturns of 35 and 25 baskets. In the riverine kwins the first class land lies half way down the slope from the river bank, the strip next the river being too sandy to be fertile, and the land at the bottom of the slope being liable to slight flooding In the block of country on the left bank of the river the kwins are not of the same uniform type, but similar principles of soil classification were observed Judging from the old classification and the statements of cultivators it seems probable that much of the old first class land has decreased in fertility during the past 15 years Nevertheless cultivators are on the whole in fairly comfortable circumstances, indebtedness is not serious, the average cost of cultivation is high and hired labour is very freely employed Having regard to the immunity of the tract from flooding and the general circumstances of cultivators it is proposed to adopt one-sixth of the net produce as a standard of assessment As the tract falls into two price tracts two Assessment Tracts 6A and 6B have been formed

Assessment	Tract (	б
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101 Assessment Tract 6A.

	1	Saul	i i		Standa	rd.		Value o	f outturn.
Main kind.	c	lass		Price		Cost of cultivation	Outturn	Gross	Net.
I	1	2	3			۰ -	5	υ.	7
	1					R-	Bkts	Rs	Rs.
Universited wi	n' or 5	I	) Rs	99 per 10		1,25	35	34 65	22 40
rice.	····· {	2	5 9-g	allon bask	cts	},	25	24 75	12.20
	 Saul	1	Theor	etical stan		Pro	posed stand	ards	
Main Kind.	cl 155	One	-fifth 05 <b>5</b>	l Ialı Kent	Quarter Net	One tenth Gross	I wo-fifths Rent	One sixth Net	Proposed rates.
T	2		3	4	5	6	7	8	9
	1	F	ls	Rs	Rs.	Rs	Rs	Rs	Rs.
Unirrigated \$	1		6.93	5 2 3	5 60	3 46	4 18	3'73	3*75
winter rice {	2		4 95	3 74	3 12	2 47	299	2 08	2.52

Present rates are Rs 3 50 and Rs 2 50 in 3 kwins, Rs 2 50 and Rs. 175 in 9 kwins and Rs 2'50 and Rs. 1'50 in 4 kwins The present demand is Rs. 19,598 and at the proposed rates will be Rs 25.327, an increase of 29 23 per cent. The increase is substantial but the new rates agree closely with the net produce standard and the first class rate is below the rental standard The largeness of the increase is mainly due to the somewhat low pitch of the present assessment over the greater part of the tract. The settlement of kwins Nos. 432, 433 and 437 in which rates of Rs 3'50 and Rs 2'50 are in force was revised by Mr. Mackenna in the year 1898-99, while the remaining kwins were dealt with in 1897-98 The latter 13 kwins are described as fertile by Mr Mackenna and at present they are if anything superior to the more heavily assessed kwins However, the Local Government accepted Mr Mackenna's rates for the area dealt with in 1897-98 while it raised them substantially in the area dealt with in the following year.

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102 Assessment Tract 6R

		102. 1155050				
Male Med	Soil	Sta	Value of outturn,			
Main kind.	class.	Price,	Cost of cultivation.	Outturn.	Gross.	Net.
I	2	3	4	5	6	7
			Rs.	Bkts.	Rs.	Rs.
Unirrigated winter	I	Rs. 95 per 100	3 13:00	35	33.32	21.32
rice.	8	) 9-gallon baskets.	5	25	*3' <b>7</b> 5	11.12

Main kind.		Soul	Theor	etical star	ndards.	Prop			
		class.	One-fifth Gross	Half Rent.	Quarter Not.	One-tenth Gross.	Twc-fifths Rent.	One-sixth Net.	Proposed rates.
1	1 2		3	4	5	6	7	8	9
			Rs.	Rs	Rs.	Rs.	Rs	Rs.	Rs.
Unirrigated	5	r	665	5 00	5*31	3'32	4'00	3.54	3'50
winter rice.	2	2	4 75	3 70	2'94	2'37	2 96	1 96	3.00

Present rates are Rs. 3'50 and Rs. 2'50 in 14 kwins, Rs. 3'00 and Rs. 2'00 in 16 kwins, Rs. 1'75 and Rs 1'50 in 2 kwins and Rs. 2'75 and Rs. 2'00 in one kwin. The present demand is Rs. 96,801 and at the proposed rates will be Rs. 97,267, giving an almost negligible increase of 0 47 per cent. In considering the pitch of the assessment in this tract allowance must be made for the fact that an enhancement of 57 per cent. was taken only 15 years ago and also for soil deterioration. Mr Wilson remarked in proposing rates of Rs. 3'50 and Rs. 2'50 in part of the area. "I do not think the land is likely to deteriorate during the next 15 years." Unfortunately this expectation has not been realised and considerable reclassification was found necessary in many kwins. Thus in the three kwins 410A, 410B, and 410C with a total area of 1,547 acres only 49 acres were formerly in the second class as against 1,295 acres under the new classification. In these circumstances a large increase can hardly be expected, and having regard to the pitch of assessment elsewhere I do not think this tract can bear higher rates than those proposed

103. Tract 7 consists of 31 kwins on the left bank of the Daga and includes

Primary Tract 7. the gr

Assessment Tract 6B.

the greater part of the old Mobya North Circle settled by Mr. Lowry and a strip of 6 kwins along the Minma-

naing chaung settled by Mr MacKenna. The occupied area is distributed as follows :--

Mair	h kind.		and Settlement.	3rd Settlement
	Main kind. J gated winter rice		2	3
			Acres.	Acres.
Unirrigated winte	r rice		22,516.07	33,769'21
Gardens			820'10	1,2185
Miscellaneous			21.77	14'23
Thetke				11'74
Sugar-cane				8 00
Betelwine	11/2010			8.12

This tract is one of the most uniformly fertile in the district. It is free from flooding in all but exceptional years and there have been very large extensions of cultivation since last settlement, so that now but little culturable waste remains.

#### CHAPTER VA-THE NEW SETTLEMENT-PART 8.

It was only possible to distinguish two soil classes with assumed outturns of 45 and 32 baskets, and there was not that wide difference between the worst and the best land which would justify the introduction of additional classes. The revised classification follows broadly the existing classification, though in some kwins lowlying land formerly placed in the second has now been raised to the first class as flooding has greatly decreased. In the first class have been placed broad level fertile plains with a loam or clay soil, and in the second either high lying sandy ridges that do not retain moisture so well or the lowest land still exposed to flooding and with a stiff clay soil difficult to work. The paddy cultivated is almost entirely some variety of kauk-lat though some holdings contain a field or two of the black species of kauk-kyi known as nga-kywe grown for home consumption. Some sporadic attempts are also being made to grow tadaungbo in a narrow depression running north and south through the middle of the tract and formerly utilised as a grazing ground for buffaloes. The people on the whole are well off and there is an active export trade in paddy. Burmans preponderate in large villages on the river bank and Karens in small villages in the interior. Rents are nearly all of the fixed produce type and are comparatively high approximating to one-third of the gross produce the landlord paying revenue. 57'01 per cent. of the area is rented, the average per acre being Rs. 9'80 as compared with 20'25 per cent. and Rs. 5'02 at previous settlement.

Sale and mortgage values have greatly increased since previous settlement and now average Rs. 41'58 and Rs. 30'39 per acre respectively as compared with Rs. 12'58 and Rs. 9'34. Part of this increase is no doubt due to the competition for fertile land consequent on the recent high prices of paddy coupled with the growing scarcity of culturable waste, but there has also been a distinct tendency in this tract for land to accumulate in the hands of non-agriculturists and traders, as is shown by the fact that estates of over 100 acres now number 25 as compared with only 3 found by Mr. Lowry, and there are no less than 101 holdings of between 50 and 100 acres. The cost of cultivation is high, both owners and tenants hire freely, and there is no appreciable difference in the cost of working first and second class land. The whole of this primary tract falls into one price tract and is therefore an assessment tract. Having regard to its security from inundation and general wealth it is proposed to take one-sixth of the value of the net produce and 40 per cent. of the rental value as assessment standards.

Assessment T	ract 7B.		104. Assessment Tract 7B.							
	Soi	Staple	Star		Value of outturn					
Main Kind.	class	s. crop.	Price.	Cost of cultivation.	Outturn.	Gross.	Net.			
1	2	3	4	5	6	7	8			
	Rs.		4	Rs.	Bkts,	Rs.	Rs.			
Unirrigated winter rice.	{	$\left. \right\} \begin{array}{c} Kaub \\ lat \\ lat \\ \end{array}$	Rs. 95 per 100 9-gallon baskets,	<pre>{ 14.20 {</pre>	45 3 <sup>2</sup>	42'75 30'40	28.35 15.90			

1	Soil	Theor	etical stan	dards.	Pro	Promoted			
Main Kind.	class.	One-fifth Gross.	Half Rent.	Quarter Net.	One-tenth Gross.	Two-fifths Rent.	One-sixth Net.	rates.	
I	3	3	4	5	6	7	8		
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Unirrigated {	1	8.55	5'53	7*07	4.37	44'1	4.71	4'75	
winter rice. [	3	6.08	4.04	3'97	3'04	3.33	2.65	2'75	

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#### TRACTING-PARAGR APHS 104 & 105

The proposed rates approximate to the net produce standard, though that for first class land is above the rental standard adopted. Existing rates are Rs. 3'25 and Rs 2 25 in 24 kwins, Rs. 3'00 and Rs. 2'00 in 5 kwins, Rs. 3'50 and Rs. 2'50 in 1 kwin and Rs. 3'25 and Rs. 2'50 in 1 kwin. The present demand is Rs. 96,118 and at the proposed rates will be Rs 1,30,173, an increase of 35'43 per cent This considerably exceeds the amount of the increase in the value of paddy, but this tract is one of the wealthiest and most fertile in the settlement area and the new rates will not discourage cultivation or lower the standard of comfort.

105	The	arca	for	first	settlem	lent	on	the	west	coast	forms	Prin	nary
Pris	nary T	ract 8		T fo	ract 8. llows -	The	e dis	tribut	tion of	the o	ccupied	area i	s as

Main I	kind.		Acres.
I			2
Unirrigated winter	rice		9,664-81
Mixed gardens			822 11
Cocoanut gardens			238.11
Dhani		'	150.15
Miscellaneous			63.48
Sugar-cane			24.88

The 88 kwins included in this tract extend in a broken line from Cape Negrais to within a short distance of the boundary of the Sandoway district. The inhabitants are mainly Burmans or Karens with a sprinkling of Arakanese who have lately migrated in some numbers from Cheduba Island in the Kyaukpyu district. Villages are small and poor, the standard of living is low and paddy is grown for domestic consumption and not for sale The area of the average holdgrown for domestic consumption and not for sale ing is only 7 acres and in the whole tract there are only 4 holdings exceeding 35 acres. The people, however, do not depend exclusively on their permanent cultivation and a fair number work timber, cut taungy as or breed cattle as by-industries. The country is wild and primitive, roads and bridges are unknown and in the rains the tract is completely cut off from the rest of the district The average rental value is equivalent to only one-sixth of the gross produce, but the sale value is distinctly high averaging Rs. 32'00 per acre, and good land is distinctly valuable. This is somewhat surprising as large quantities of fertile waste are available. To clear waste, however, requires both enterprise and a certain amount of capital or credit, and all three are rare in this area. Money is more easily obtainable for the purchase of land as the latter can be pledged as security. The cost of cultivation is low, owners work their small holdings with their own labour and cattle, and hired hands are rarely employed. The cultivated area consists mainly of small pockets of lowlying land surrounded by high ridges covered with thick jungle. Though not liable to salt or fresh water flooding, rice cultivation is rendered somewhat precarious by the ravages of pigs and deer and when the crop is ripening many cultivators keep watch over their fields all night. The best land lies low and is a fertile sandy loam getting drainage from the surrounding jungle, but as the land rises the proportion of sand increases, and the highest land at the edge of the jungle is an almost pure sand. Three soil classes have been formed with assumed outturns of 40, 30 and 20 baskets, the classification depending on the height of the land and the amount of jungle drainage enjoyed. As this primary tract falls into one price tract it is also an assessment tract.

### Assessment Tract 8D. 106. Assessment Tract 8D.

	Soil	Stand	ard.	-	Value of	outturn.
Main kind.	class,	Price.	Cost of cultivation.	Outturn.	Gross.	Net.
	2	3	4	5	6	7
			Rs.	Bkts	Ks	Rs.
ſ	۲J		n r	40	33.60	28.10
Unirrigated winter	2 }	Rs. 84 per 100 9-gallon baskets.	5'50	30	25 20	1970
l	3 )		J	20	16 80	11.30

The present rates are Rs. 1 25 in 2 kwins, Rs 0 75 in 45 kwins and Re 0 50 in 41 kwins. Rates of Rs. 2'00 Rs. 1 50 and Re. 0'75 are now proposed equivalent to about 7 per cent. of the value of the net produce. The standard is extremely low but there are numerous reasons why higher rates seem madvisable. Very little paddy is exported from this area and consequently cultivators have not benefited by the recent rise in the price of paddy, people are poor and the pre-sent rates are exceptionally low. The effect of the introduction of correct measurements consequent on the extension of cadastral survey in this area will in itself cause a very large enhancement. It is impossible to calculate from the thugyis' assessment rolls the extent of this increase as the rolls are made out by village tracts and not by kwins, and a considerable area in many village tracts still remains unsurveyed. Inspection of selected holdings showed, however, an average under assessment of 20 per cent. For similar reasons it proved impossible to ascertain the present actual demand, the figure given below is based on correct areas and is therefore in excess of what has really been paid hitherto. The present demand is Rs. 6,389 and at the new rates will be Rs. 14,554, an increase of 128 per cent. 1.000 -

Prima Tract o	107. Primary Tract 9 contains 34 kwins with an
Frimary Aracty.	occupied area distributed as follows :

Mai	n kind		and settlement.	3rd settlement
	1		2	3
			Acres.	Acres.
Unirrigated winter	rice		4,0370*26	4,8911-17
Gardens	··· ·		698.02	1,302*61
Miscellaneous			38.45	
Betel-vine			2*85	5.98
Sugar-cane				5.00

This tract forms a broad gently undulating plain in the north-east corner of the district. The greater part is protected from flooding by the main Irrawaddy embankment, but in certain kwins there are still large areas lying so low that tadaungbo is the only variety of paddy that can survive the floods. Apart from this tadaungbo cultivation both owners and tenants live in substantial comfort, the cost of cultivation is high, the soil is fertile and the tract is distinctly a wealthy one. The population is dense, large villages with good houses are numerous, the means of communication, though capable of improvement, are fairly satisfactory and it may be said that no culturable waste free from flooding remains. Holdings are large, more than half the area is rented at rates equivalent to a full third of the gross produce, and the sale and mortgage values are high. The comparatively large area near Ataung and Maukya villages acquired by non-agriculturists living in the Henzada district is perhaps worthy of mention.

As regards tadaungbo cultivation conditions are somewhat different. It was first introduced into this tract from the neighbouring Ma-ubin district some six or seven years ago, and was largely taken up by landless men who formerly had worked as agricultural labourers. There being no transplanting costs and very little necessary expenditure on plough cattle being required, this crop was particularly attractive to this class of man with little or no capital. Tadaungbo, however, exhausts the soil rapidly and is at best a precarious crop. It has the further disadvantage of being extremely unpopular with millers, and consequently with brokers, who will only buy a limited quantity at rates Rs. 10 to Rs. 15 lower than that of ordinary kank-lat. Unfortunately dishonest brokers have been mixing it with the excellent *let-ywe-sin* paddy grown in this tract for which there was formerly keen competition. Three soil classes have been formed with assumed outturns of 42, 33 and 25 baskets, the first and second classes being under kauk-lat, while the third is reserved almost exclusively for inundated land under tadaungbo. 'The first class consists of level low land free from flood with a fertile loam soil known as the-bok. The second class lies higher and is sandier and being generally on a slope water drains off more rapidly. In some kwins a narrow strip of land immediately adjoining the badly flooded tadaungbo area has also been placed in the second class. Reasons for distinguishing between the cost of cultivation of tadaungbo and kauk-lat have already been given in paragraph 43, and in accordance with local enquiries a lower standard price has been assumed for the former crop.

The eastern portion of this tract formerly sent its produce to the Rangoon market via Pantanaw and Shwelaung, but owing to the silting up of the Kyontani creek during the past two or three years Bassein has lately become the central market for the whole tract Two Assessment Tracts 9B and 9C have therefore been formed according to distance from the Daga river, the more distant kwins formerly exporting to Rangoon forming Assessment Tract 9C. It is proposed to adopt one-sixth of the net produce as an assessment standard in the first and second soil classes, and only one-eighth in the third class owing to the more precarious nature of the crop and the smaller resources of those working it.

Mary bird	Soil	Stand	ard		Value of	outturn.
Main kind.	class	Price.	Cost of cultivation.	Outturn	Gross.	Net.
I	2	3	4	5	6	7
Unirrigated winter	1 2	Rs. 95 per 100 9-gallon baskets.	Rs. } 13'00 {	Bkts. 42 33 -	Rs. 39'90 31'35	Rs. 26 90 18 <sup>.</sup> 35
TICE	3	Rs. 80 per 100 9-gallon baskets.	7:50	25	20'00	13.20

## Assessment Tract 9B. 108. Assessment Tract 9B.

	1		Theor	etical stan	dards	Proj	posed stand	lards.	
Maın kind.		Soil class.	One fifth gross.	Half rent.	Quarter nel.	One-tenth gross	l wo-fifths rent.	t net 1st and 2nd class, t net 3rd class	Froposed rates.
I		2	3	4	5	6	7	8	9
	1		R5.	Rs.	Rs.	Rs	Ks.	Rs.	Rs
	5	I	7-98	6.68	6.72	3'99	5'34	4.48	4'75
winter rice.	$\left\{ \right.$	2	6.27	5'13	4.29	3.13	4.10	3.00	3'25
	4	3	4'00	3.93	3 1 3	2.00	3.14	1.20	1.75

Present rates are Rs. 3.50 and Rs. 2.75 in 8 kwins, Rs. 2.75 and Rs. 2.00 in 2 kwins, Rs 2.50 and Rs. 2.00 in 2 kwins, and Rs. 3.00 and Rs. 2.00 in 1 kwin. The rates proposed are somewhat in excess of the net produce standard but the first class rate is well below the rental standard and the tract is prosperous. Further the application of the new rates will merely result in equalising the incidence of taxation and there is even a slight reduction in demand. This surprising result is mainly due to extensive reclassification consequent on the introduction of tadaungbo. Revenue surveyors placed this uniformly in the first class whereas it has now been altered to the third class, and in revenue surveyor's charge No. 23 there is a decrease in demand of Rs 7,000 on this account alone. After careful consideration I do not think higher rates can fairly be imposed, and it is clear that Government has unfairly benefited by the lack of intelligence displayed by revenue surveyors in the past. The present demand is Rs. 48,858 and at the proposed rates will be Rs. 43,691, a decrease of 10.58 per cent.

Faul	Stand	ard,		Value of	outturn
class	Price.	Cost of cultivation	Outturn.	Gross.	Net.
2	3	4	5	6	7
		Rs.	Bkts.	Rs.	Rs.
I	Rs go per 100 nine-	1 10:00 5	42	37.80	25.80
2	5 gallon baskets.	S S	33	29 70	17.70
. 3	Rs 75 per 100 nine- gallon baskets	7.0 1	25	1875	11.75
	Soil class	Soil class Price. 2 3 Rs 90 per 100 nine- 2 3 Rs 75 per 100 nine- gallon baskets.	Soil class Price. Cost of cultivation 2 3 4 Rs 90 per 100 nine- 2 3 Rs 75 per 100 nine- 3 Rs 75 per 100 nine- 7'0 1	Soil class     Standard,       2     3     Cost of cultivation     Outturn,       2     3     4     5       1     Rs go per 100 nine- gailon baskets,     Rs,     Bkts,       3     Rs 75 per 100 nine- gailon baskets     7'0 /     25	Soil classStandard,Value ofPrice.Cost of cultivationOutturn.Gross.23456234561Rs. go per 100 nine- gallon baskets.Rs.Bkts.Rs.23Rs 75 per 100 nine- gallon baskets7'0'251875

Assessment Tract 9C. 109. Assessment Tract 9C.

roposed rates.
9
Rs.
4'50
3.00
1*50
2

Present rates are Rs. 350 and Rs. 275 in 8 kwins and Rs. 275 and Rs. 200 in 15 kwins. The new first class rate is slightly above the net produce standard but is much below the rental standard which is of some assistance in this tract as 57 per cent. of the area is let The other rates call for no remark The present demand is Rs. 97,095 and at the new rates will be Rs. 1,15,178, an increase of 1862 per cent In this tract a much smaller proportion of the area is under tadaungbo than in tract 9B but the same remarks regerding reclassification apply, and if tadaungbo had not been consistently put in the first class by revenue surveyors, the increase in demand would have been much greater.

Primary Tract 10.

Main kind.		Second Settlement.	Third Settlement.
1		2'	3
		Acres.	Acres.
Unirrigated winter rice		9,053*15	24,36/12
Plantain gardens		2	7,406*01
Mixed gardens		<b>) 12,221 42 (</b>	4,858'95
Miscellaneous		171'90	
Sugarcane			126'15
Betel-vine	a i	23'48	24'51
Irrigated rice			58°83

110. Tract 10 contains 40 kwins the cropped area being as follows :-

The tract is a high sandy ridge running north and south through the centre of the Kyonpyaw township and forms the garden tract of the settlement area. The surface of the ground is most irregular and the kwins have well marked characteristics unlike those of any other tract. In a typical kwin there will be perhaps six or seven long very narrow parallel depressions or yos generally running north and south for the whole length of the kwtn and separated from each other by broad sandy ridges These yos are very fertile, but being little better than watercourses in the rams, they are liable to severe flooding and some are so narrow and deep as to be unworkable. The sandy high land forming nine-tenths of the whole area is partly under paddy and partly under a mixture of plantain gardens, thetke plantation and mixed gardens together with a little sessamum and other va crops. There is at present no very clear dividing line between the poorest paddy land and land under the the and ya crops, though the former shows a slight tendency to increase at the expense of the latter. The inhabitants are partly Karens and partly Upper Burmans who migrated from the Shwebo, Meiktila and Sagaing districts some 15 years ago. The paddy land is in the hands of small holders working 10 acres or less with the aid of their families and their own plough cattle. The paddy is mainly grown for home consumption and very little is exported The cost of cultivation is moderate though the expenditure on seed is high, as floods frequently render a double supply of seedlings necessary on low ground and very dense planting is required on high ground. It is noticeable also that cultivators are making genuine attempts to improve their land by levelling the kon and filling up the yos. From the statements of older men it seems probable that agricultural methods have likewise improved both as regards implements and thoroughness. Whereas formerly the ground was merely scratched with wooden harrows for six sats at the most, now it is both ploughed and harrowed to a fair depth for as many as twelve sats. Though there has been a very large extension of cultivation since previous settlement much culturable waste remains. It is, however, far from attractive and at present affords scope for cattle-breeding on a small scale. Sale and mortgage values are much below those of the wealthy plains forming Tract 9 on the east and Tract 11 on the west and the rented area is small Though the people get sufficient to supply necessary wants they are not well off and this is reflected in the somewhat dejected appearance of their small villages However, many of them add substantially to their income by the hire of plough cattle to cultivators in wealthier tracts. Three soil classes have been formed with assumed outturns of 42, 32 and 22 The first class consists of the best land in the yos, the second of **Deskets**. inferior yo land or the best kon, and the third of the highest and least fertile ken or of very badly flooded yo. In this primary tract it is proposed to take oneeighth of the value of the net produce in view of the character of the cultivation

and the comparative poverty of the inhabitants. The tract falls into price tracts B and C and therefore two Assessment Tracts 10B and 10C have been formed.

	Soil	Stand	ard.		Value of	outturn.
Main kind.	class.	Price.	Cost of cultivation,	Outturn.	Gross.	Net.
r	2	3	4	5	6	7
			Rs.	Bkts.	Rs.	Rs.
ſ	r	h	ſ	42	39.90	29.00
Unirrigated winter	2	Rs. 05 per 100 nine-	10'00	32	30.40	20'40
	3	J ganon basices	l	22	20'90	10.00

Assessment Tract 10B. III. Assessment Tract 10B.

		Soil	Theor	etical star	ndards	Prop	oosed stand	arðs	Proposed
Main kind.	1	class.	One-fifth gross,	Half rent,	Quarter net.	One-tenth gros	Two-fifths rent.	One-eight net.	rates.
	Ī	2	3	4	5	6	7	8	9
			Rs	Rs.	Rs	Rs	Rs.	Rs.	Rs.
	r	1	7*98	5'00	7.47	3'99	4'00	3'74	3*75
Unirrigated	1	3	6.08	3.80	5'10	3'04	3'04	2 55	2*50
winter rice.	U	3	4'18	2 64	2'72	2'09	2,11	1.36	1'50

Present rates are Rs 2 00 and Rs 1 50 in 26 kwins, Rs 3:50 and Rs 2:50 in 3 kwins and Rs. 1.75 and Rs 1 50 in 1 kwin. The proposed rates follow closely the net produce standard and call for no remark. The present demand is Rs 23,070 and at the proposed rates will be Rs 32,051, an increase of 38'92 per cent. The increase is large but conditions have greatly improved since last settlement; paddy is now grown for export, the average holding area has increased from 2:47 acres to 10.87 acres and Mr MacKenna's description of the area as unsuitable for rice cultivation is no longer true I think the enhancement can be paid more especially as intermediate rates will be imposed for five years over the greater part of the area

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112. Assessment Tract 10C.

	Soil	Standard.			Value of outturn.	
• Main kind.	class.	Price.	- Cost of cultivation.	Outturn.	Gross,	Net.
Ι.	2	3	4	5	6	7
			Rs.	Bkts,	Rs.	Rs.
ſ	I	h	ſ	42	37 80	28"30
Unirrigated winte,	1 2	Rs. go per too nine-	9'50	32	28 <b>'8</b> 0	19.30
	3	ganon paskets.	l	33	19.80	10.30

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Main kind Soil		1 heo	l heoretical standards			Proposed standards.			
Man Kind,	class	One-fifth gross	Half rent.	Quarter	One-tenth gross.	Two-fifths rent.	One-eighth net.	rates.	
1	2	3	4	5	6	7	8	9	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
ſ	I	7.56	3.83	7 07	3'78	3'06	3*54	3'50	
Inirrigated	2	5.76	2.88	4.82	2.88	2'30	3.41	2*85	
whiter fice.	3	3.96	1'90	2.57	1*98	1.23	1.50	1*25	

Present rates are Rs. 2'00 and Rs. 1'50 in all 10 kwins included in this tract. The new rates agree fairly closely with the net produce standard. The first class rate is above the rental standard but rents in this area are not competitive to the same extent as in more fertile and populous areas The present demand is Rs 17,151 and at the proposed rates will be Rs. 24,888, an increase of 45'22 per cent. The increase is very large but the same remarks are applicable as in Assessment Tract 10B, and the area may perhaps have been somewhat underassessed in the past.

**II3** Primary Tract II contains 185 kwins and is the broad plain lying Primary Tract II between the Ngawun and Daga rivers in the centre of the Ngathainggyaung subdivision. The following statement shows the occupied area at second and third settlements.

Ma	n kind.		Second Settlement.	Third Settlement.
	I		2	3
			Acres.	Acres.
Unirrigated wint	er rice	.	111,085*88	123,63078
Irrigated rice				1'24
Gardens			3,662.64	5,347*28
Miscellaneous			73*30	108.80
Betel-vine			8.08	14.43
Sugarcane				17*24
Tobacco				4'90
		Second Second	Construction and a second second second second	

The land is free from flooding and is gently undulating in character, changes of level being more abrupt in the south than in the north. Besides the two township headquarters at Ngathainggyaung and Kyonpyaw, there are a number of large and wealthy villages along the railway line and the banks of the Daga and Ngawun, and the population is comparatively dense. The cultivating class is prosperous and that it has surplus money to spend is shown by the fact that Messrs. Rowe & Co have recently opened a branch at Ngathainggyaung and are contemplating opening another at Kyonpyaw. Over the greater part of this tract communications are unusually good. The railway line runs through the centre from north to south, the Daga and the Ngawun are within easy reach on the east and west, and a supplementary system of metalled and unmetalled roads is sufficient for all reasonable requirements The soil of the Bokchaung and Thabyehla circles in the north of the tract is a stiff light brown clay of considerable fertility, while in the south it is sandier and less productive. Roughly half the area is let to tenants at rates equivalent to one-third of the gross produce and more especially in the north large estates of over too acres in the hands of

non-agriculturists are by no means uncommon. Sale and mortgage rates of Rs. 44:00 and Rs. 27:00 per acre show that the land is valuable and very little culturable waste remains. Agricultural methods are careful, the cost of cultiva-tion is high and labour is hired freely by both owners and tenants. Three soil classes have been formed with assumed outturns of 42, 35 and 25 baskets, the first and second classes greatly preponderating in the clay soil of the north and the second and third in the more uneven and sanly soil of the south, where many kwins contain no first class land at all At previous settlement this large primary tract was rightly divided into two soil tracts with assumptions of 40 and 30 baskets in the north and 35 and 25 baskets in the south, but homogeneity of soil being only one of several considerations to be taken into account in the formation of a primary tract, it was decided after the Commissioner of Settlements and Land Records had inspected samples of the two types to amalgamate them into one primary tract. Having regard to the requirement of geographical contiguity two satisfactory primary tracts could not have been formed and any risk of injustice either to the cultivator or to Government has been met by the introduction of a third soil class throughout the area In any case the economic condition of the people and the rental and fertility standards of the different classes of soil are uniform throughout the area and the two types have more points of agreement than of difference. In view of the material comfort of the inhabitants the fertility of the soil and freedom from inundation it is proposed to adopt one-sixth of the net produce as a standard of assessment The primary tract falls into two price tracts and accordingly two Assessment Tracts 11B and 11C have been formed.

N. 11.1	Soul	\`\tand	Value of outturn,			
Main Kind.	class.	Price	Cest of cultivation	Outturn	Gross,	Net
1	2	3	4	5	6	7
		1	Rs,	Bkts.	Rş	Rs
ſ	I	1	ſ	42	39.90	25.90
Inirrigated winter-	2	Rs 95 per 100 nine-gallon	14 00	35	33'75	10.52
i	2	j	l	34	23.75	9'75

Assessment Tract 11B	<b>I</b> 14.	Assessment	Tract	11B.
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Soil	Soil	Theoretical standards.			Prop	Proposed		
Main Kind.	class.	One-fifth gruss	Half rent.	Quarter	One-tenti gross	Two-fifths rent.	One-sixth net	rates.
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs	Rs	Rs.	Rs,
(	T	7'98	5'95	641	3.00	4 76	4 32	4'50
Unirrigated	3	6 65	4.89	4 81	3'37	3.01	3.51	3.52
winter tice,	3	4'75	5.48	3.44	2'37	2.78	1.03	1.25

Present rates are very numerous and varied, namely, Rs. 2'75 and Rs. 2'00 in 53 kmins, Rs. 3'00 and Rs. 2'00 in 44 kmins, Rs. 3'50 and Rs 2'75 in 15 kmins, Rs. 3'00 and Rs. 2'25 in 13 kmins, Rs. 1'75 and Rs 1'50 in 11 kmins, Rs. 4'00 and Rs. 3'00 in 10 kmins, Rs. 3'50 and Rs. 2'50 in 9 kmins, Rs. 3'00 and Rs. 1'75 in 6 kmins, Rs. 2'50 and Rs. 2'00 in 3 kmins and Rs 2'00 and Rs. 1'50 in 1 kmin. The present demand is Rs. 2,99,241 and at the proposed rates will be Rs. 3,55,273, an increase of 17'72 per cent. The proposed rates are somewhat above the net produce standard, but the first class rate is below the rental standard and the resultant enhancement is moderate being below the rise that has taken place in the value of paddy. On the other hand it may be pointed out that an enhancement of 44'00 per cent. was taken only 15 years ago over the greater part of this area, thus heaving less room for any large enhancement now

Assessment Tract IIC.	5. Assessment Tract II	C.
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Main kind.	Soil	Stan	Value of outturn.			
Mam kind.		Frice.	Cost of cultivation.	Outturn.	Gross.	Net.
	2	3	4	5	6	1
	•		Rs.	Bkts.	Rs.	Rs.
ſ	· 1	'n	1	47	37.80	14-80
Unirrigated winter 2 R	Rs gaper too nine-	13.00	35	31.20	18.20	
tire.	3	ganon baskets.	, L	25	22.20	9'50

Soul		theoretical standard i Propo			losed stands	ırds.	Proposed	
Main Rind, class,	One-hfth gross	Half rent.	Quarter net,	One-tenth gross.	l wo-fifths rent•	One-sixth net.	rales.	
1	2	3	4	5	6	7	8	9
		Rs.	Ra	Rs	Rs.	Rs.	Rs.	Rs.
	1 1	7 56	4.65	6.20	3 78	372	4'13	4'00
Unirrigated	2	630	3 86	4*62	3'15	3.09	3 08	3.00
winter rice.	3	4 50	2.77	2 37	2 25	2 31	1.28	1.60

Present rates are Rs. 2.75 and Rs 200 in 17 kwins, Rs 2.50 and Rs 2.00 in 2 kwins and Rs 300 and Rs 200 in 1 kwin. The present demand is Rs 33,696 and at the proposed rates will be Rs 44,046, an increase of 30.71 per cent. Though the increase is large the proposed rates are, if anything, below the net produce standard and should be paid without difficulty

116. Primary Tract 12 includes a narrow strip of 9 kwins immediately adjoining Primary Tract 12. following table shows the distribution of the occupied area

1	third Settlement.
cres.	Acres
148.81	6,303 83
i.	312
133'30	204'36
26.98	99'06
	4'33
1'19	**54
1	30,00
	1'19   

This small area has been formed into a separate primary tract and has not been included in Tract 11 owing to the accidental breaching of the Ngawun embankment 3 miles above Ngathainggyaung town two years in succession some 20 years ago Large quantities of silt were then deposited on the land nearest the river bank, while in the kwins further east the event was merely an unmitigated disaster and many cultivators date their indebtedness from that time The naturally fertile clay soil being thus further enriched, this small area is perhaps the best in the district The population is dense, the tract is wealthy, and the high sale and mort-gage rates of Rs 63.86 and Rs 3351 respectively indicate the keenness of the competition for land Much of the area has been acquired by Ngathainggyaung traders and is let by them at high rates The cost of cultivation is high and cultivators live in substantial comfort Two soil classes only have been formed with assumed outturns of 45 and 30 baskets The first class is lowlying land with a fertile clay silt soil. The second class consists of high sandy ridges or occasionally of flooded depressions As the whole area falls into one price tract, the primary tract is also an assessment tract It is proposed to adopt one-sixth of the net produce as a standard of assessment and as more than half of the area is rented to compare this with 40 per cent. of the rates in the case of the first class land.

#### Assessment Tract 12B.

117. Assessment Tract 12B.

	Soil	Stand	Value of cutturn.			
Main kind chess		Price.	Cost of cultivition.	Ouiturn.	Gross. ,	Net
1	3	3	4	5	6	7
			Rs.	Bkts.	Rs	Rs.
Interiorated winter	I	Re of per too pines	12:75 5	45	42 75	29'00
rice,	2	J gallon baskets.	.3/32	30	28 50	14.75

	Soil		Theoretical.		Pro	Proposed		
Main kind.	class	One-fifth gross.	Half rent.	Quarter net.	One-tenth gross.	Two-fifths rent.	One-sixth net.	rates.
1	2	3	•	5	6	7	8	9
		Rs	Rs.	Rs	Rs.	Rs.	Rs.	Rs.
Uniminated S	r	8 55	7:46	7.25	4'27	5.99	4.83	5*00
winter rice. {	2	5'70	4*95	3*6 <b>9</b>	2*85	3'96	2'46	3.00

<sup>6</sup> Present rates are Rs. 4:00 and Rs. 3:00 in 5 kwins, Rs 3:50 and Rs. 2:75 in 3 kwins and Rs. 2 25 and Rs 175 in 1 kwin The proposed rates are substantially above the net produce standard but very much below the rental standard. This tract is, however, the wealthiest and most fertile of the whole settlement area as indicated by the rental, sale and mortgage rates A certain amount of relief will be afforded by the revised classification by which roughly one-third of the whole area is in the second class as against one-tenth formerly. The raising of the first class standard from 40 to 45 baskets is mainly responsible for this increase in second class land The present demand is Rs 22,568 and at the new rates will be Rs. 27,150, an increase of 20:30 per cent This corresponds roughly with the rise in the value of paddy and can easily be paid.

# 118. Of 2 752 acres under irrigated rice 2 239 acres are found on the semiinundated land surrounding the Lahagyi lake in the

Kwinhla circle of the Thabaung township. Holdings not being fixed and the most common form of tenure being that known as thu-twet nga-win (he leaves I enter) this area is not under cadastral survey The best land is found half way down the slope to the lake but soil classification even on the broadest lines proved impossible In these circumstances it is proposed to levy a crop rate and to adhere to the existing arrangement by which only actually cropped areas are assessed. The average size of a holding is only four acres and culti-Some of them are local residents but many come from the vators are poor Henzada district for the season, and the Township Officer of Thabaung informs me he has much difficulty in collecting the land revenue due on mayin For various reasons the crop is unpopular and a bad season is quite sufficient to lead to the abandonment of many holdings It involves a great deal of hard work and also a considerable outlay on hired labour The cost of cultivation is no less than Rs. 15 00 per acre of which Rs 10 is on account of hired labour The reasons given for this heavy expenditure are that transplanting has to be done in a very short space of time, that the expenditure on irrigation channels is large and that when the crop is reaped towards the end of the hot weather, work is only possible in the early morning and late afternoon There is no rented area and the crop is grown mainly for home consumption, but if sold, fetches the same price as kauklat. The whole area falls into one price tract B with an assumed local price of Rs 95. An average outturn of 35 baskets per acre has been assumed in accordance with crop measurements Though outturns vary considerably with the season the assumption is not too high and is well below the admissions of 60 cultivators examined In view of the unpopularity of the crop and the poverty of cultivators it is proposed to take only one-eighth of the net produce in spite of the high cost of cultivation. The different assessment standards are shown below --

		Standard			Value of outturn.	
Maın kınd	Price	Cost of cultivation	Outturn	Gross.	Net	
I	2	3	4	5	6	
		Rs	Bkts	Rs	Rs.	
irrigated rice	Rs. 95 per 100 nine-gallon haskets	15'00	35	33*25	18.25	
	Jaskets			1		

	l heoretical s	l heoretical standards		Proposed standards	
Maın kind	One-fifth gross	Quarter net	One-tenth gross	One-eighth net	rates.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Irrigated rice	6.65	4.26	• 3 32	2 28	2.25

Present rates are Rs 1'50 in 3 kwins, Rs. 2'00 in 2 kwins and Rs. 1'25 in 1 kwin. In the area outside supplementary survey the rate fixed by M1 Bridges and left unaltered by Mr. Mackenna is Rs. 1'50. The present demand is Rs. 4,130 and at the proposed rate will be Rs. 6,194, an increase of 50 per cent.

## PART 4.-Gardens and other Crops.

119. Two main types of garden are distinguishable in the present settlement area, namely the garden cultivated for profit, and secondly the garden of the house compound type Garden Assessment General which may add to the amenity of life but is not regarded by the owner as a means Of the former type again there are two varieties, namely the perof support manent and the imperimanent, that is to say, those which will retain their present character during the currency of the new settlement, and those which will not. It is clear that one uniform system of assessment is inapplicable to these different varieties and proposals therefore appear somewhat complicated It has not, however, been found necessary to introduce a separate system of tracting for garden land, the rice land assessment tracts being also suitable for this main kind of cultivation. Except in assessment tracts 10B and 10C, gardens of the house compound type are everywhere in the great majority In their case assessment proposals cannot be based on net produce values but must necessarily be dependent on general considerations such as the material prosperity of owners and the amount of waste still available. The cocoanut gardens of assessment tract 8D on the sea coast and the pine-apple gaidens of tracts 2A, 3A, 3B and 3C form the class of permanently profitable gardens In the case of tract 8D these cocoamut gardens have been put in the first class and the other gardens of the house compound type in the second class and soil rates per acre have been proposed. In the case of pine-apple gardens this division into soil classes was found unnecessary as the cultivation is not very profitable and the rates proposed for pine-apple gardens in the different tracts are also suitable for house compounds. In assessment tracts 10B and 10C, on the other hand, there are distinct indications of a rotation of crops on garden land and individual holdings do not yield the same amount of profit over a long term of years. In this area garden land is either under plantains or under a heterogeneous collection of crops such as thetke or sessamum or is even occasionally mere scrub jungle. Plantains are a profitable crop while the others have considerably less value and are merely grown as a temporary expedient to rest the land before another crop of plantains is grown. As the life of the average plantain garden is only 12 years soil rates per acre would be out of date long before the expiry of the new settlement, and it is therefore proposed to levy two separate crop rates according as the land is under ulantains or 1s under thetke and miscellaneous crops.

120. Pine-apple gardens of fair quality are found in the Shwemyindin and Tract 2A. Kyaukchaunggyi circles falling within rice assessment

tract 2A. Though new gardens have been planted of recent years the plantations found in this area are not more than 30 years old and still produce fruit of good quality. These gardens being near either the railway line or the Daga river have the further advantage of rapid and easy communication with the Bassein market. They are planted on high land on a clay soil and are shaded as a rule by jack fruit, *danyth* or *kanazo* trees. The average area of a holding is about 6 acres, tenancies are not found and owners regard their gardens as very subsidiary to their paddy land. Cultivation is careless, no attempt being made to weed out inferior plants or to give the soil a rest. Should plants die the vacant spaces are filled up by propagation from the top, but the new plant does not bear properly till the third season after planting. The congested appearance of many gardens is due to the uncontrolled germination of new plants from these tops which are generally cut off when the fruit is plucked and are left lying on the ground. The fruit is of a fair size and moderately sweet but is liable to damage by squirrels, birds and insects and it is therefore proposed to allow 20 per cent. for wastage from these causes. Further all the plants in a garden do not yield fruit every year, and estimates of those fruiting vary trom 400 to 600 per 1,000 but 500 may be taken as a fair average. There is an active demand for the produce, the ordinary sale rate varies from Rs. 1.50 to Rs. 2.00 per 100. For assessment purposes Rs. 1.75 per 100 has been taken as the standard price. A large number of cultivators were examined as to their outturns. and profits and their statements were tested by the counting of 20 sample plots. It was found that the results obtained by counting tallied closely with the outturns admitted and the latter which are shown in the following table can be accepted with some confidence:—

Persons examined.	Acres worked.	Gross outturn per acre.	20 per cent. wastage.	Outturn sold.	Value at Rs. 1'75 per 100.
1	2	3	4	5	6
-					Rs.
128	753	2,000	400	1,600	28'00

Expenses of cultivation are very small and in the case of those examined amounted to only Rs. 175 per acre the chief items being implements and plucking. The charge for the latter is 4 annas per 100 fruit, but the great majority of the owners pluck the fruit themselves and only hire labour if the price is exceptionally favourable and a fall is anticipated. The value of the net produce would therefore be Rs. 36'25 per acre, and if one-eighth were adopted as an assessment standard Rs. 3'25 would be an appropriate rate, the present rate being Rs. 3'00. In the course of settlement operations, however, numerous complaints were made that the gardens were deteriorating and that the present rate was too high. In view of the casual method of cultivation, or rather absence of method, it is probable that the gardens will deteriorate in the course of the next 20 years, if they have not begun to do so already, but the rate now in force was based on the outturn and prices current in the inferior plantations of the Shangwin and Ngakwa circles and under present conditions is very moderate. Considering the likelihood of future deterioration, it would perhaps be unsafe to increase the present rate of Rs. 3'00 which I recommend should be retained.

As regards other gardens and house compounds in this tract I propose the same rate of Rs. 3'00, the present rate being Rs. 3'00 for plantain gardens and Rs. 2'50 for mixed gardens. It hardly seems necessary to continue this distinction, land is valuable and scarce in this area and the small increase can easily be paid.

121. The pine-apple gardens of assessment tracts 3A, 3B and 3C lying mainly in the Shangwin and Ngakwa circles are in every respect inferior to those of assessment tract 2A.

The cultivation is older, the soil is poorer and owing partly to the inferior quality of the fruit and partly to the greater distance from Bassein, the average price is only a little more than half that obtained by the fruit of the better gardens in the Shwemyindin and Kyunchaung circles The gardens of Shangwin and Ngakwa are generally found occupying high sandy ridges or hillocks intervening between cultivation and some of them are said to be 80 years old. In consequence of prolonged neglect the gardens have undoubtedly deteriorated and the fruit is small and stringy. The following table shows outturns admitted by cultivators, whose statements do not differ materially from the results obtained by counting 20 sample plots.

Persons examined.		Acres worked.	Gross outturn per acre.	20 per cent. for wastage.	Outturn sold.	Value at Re. 1'00 per 100.	
	t	•	3	4	5	6	
	fyt	528	1,700	340	1,360	<b>Rs.</b> 13.60	