

**REPORT ON THE
LAND REVENUE SYSTEM
OF BURMA**

REPORT
OF THE
COMMITTEE APPOINTED TO EXAMINE THE
LAND REVENUE SYSTEM OF BURMA

Members of the Committee.

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The books which have been found most useful in studying the land revenue systems of the various provinces are given in the following list. References are made to some of them in the text of the report. Certain volumes relating to the development of revenue procedure in Burma have been freely used and, for convenience, are referred to by the abbreviations indicated against their respective titles. No authority has been cited for references to manuals in current use in Burma.

Burma.

- The Land and Revenue Manual (Lower Burma), 1911.
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- The Burma Irrigation Manual, 1914.
- The Lower Burma Town and Village Lands Manual, 1913.
- The Burma Village Manual, 1917.
- Directions to Settlement Officers in Burma, 1880.
- Directions to Settlement Officers, (Revised edition), 1885.
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Madras.

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- The Village Officers Manual, 1919.
- Revised Forms of Village Accounts, 1919.
- Report of the Committee on Survey and Land Records, 1915 (Volumes I and II).
- The Madras Survey Manual, 1911.
- Manual of Chain Survey, 1919.
- Note on the Functions of the Land Records Department (undated).

The Punjab.

- Land Administration Acts (1916) and Rules (1918).
- The Standing Orders of the Financial Commissioner (unbound).
- The Manual of Land Revenue Administration, 1908.
- The Settlement Manual, 1915.
- ✓ The Report of the Colonies Committee, 1908.

APPENDIX I.

SUMMARY OF RECOMMENDATIONS.

This appendix contain a summary of our recommendations. The numbers in brackets refer to the paragraphs in which the recommendations are contained. Some reforms of wide scope involve numerous changes of detail which can be grouped under a single head; in such cases it is unnecessary to particularise the details and one reference is given to the head under which they have been grouped.

1. In framing estimates of outturns the settlement officer should utilize material which is at present neglected and observe precautions which now do not receive adequate attention. (95)

2. In place of calculating the cost of cultivation as at present the settlement officer should estimate the normal cost of production over a long period making an adequate allowance for all home labour. (104).

3. Statistics bearing on the outturn and cost of production should be carefully examined and preserved but not published without full explanation. (95, 104, 178)

4. The basis of assessment should be the rental produce, that is, the value of the gross produce less the cost of production instead of the net produce as at present defined and calculated. (106)

5. The rental produce should be calculated by tracts and one half the rental produce should be prescribed as the maximum assessment instead of as the standard. (107, 108)

6. The proposals for the actual assessment should be justified by the examination of rental and land values and other relevant considerations. (109, 119)

7. The average rental of a tract should be considered as ordinarily the best guide to its assessable capacity, but in utilising rental value special regard should be paid to the practice of buying land with borrowed money. (113, 114)

8. Mortgage and sale values should be freely used to supplement rental value in estimating assessable capacity. (115)

9. The gross produce should be used as an indication of assessable capacity where rental and land values are inadequate. (116)

10. The incidence of the current demand should be regarded as the safest measure of the proposed demand. (117)

11. The current incidence of recent settlements in adjacent districts should be examined by the settlement officer when framing his proposals. (117)

12. Enquiries into the cost of living and indebtedness should not be undertaken without special reason. (118)

13. A record of the data for classification should be prepared. (130)

14. In working out the scheme for such a record the assistance of the agricultural department should be obtained. (132)

15. The varieties of soil, position, etc., illustrated in the record, should be grouped for assessment purposes into assessment classes. (134)
16. The assessment classes for rice land should be standardised with reference to the number of baskets of paddy which the class, for assessment purposes, can be assumed to yield. (134)
17. The double classification of rice land should only be adopted with the previous sanction of the Settlement Commissioner. (135)
18. The terms Primary Tract and Assessment Tract should be abandoned and replaced by the terms Tract and Assessment Group; a tract being a geographically continuous unit; and an assessment group, a collection of kwins and villages within the tract, not necessarily continuous. (137)
19. The object of tracting should be to divide the settlement area into smaller areas so far homogeneous that rates generally applicable can be justified on considerations common to the whole tract. (137)
20. The object of grouping should be to adjust the tract rates to individual villages and kwins within the tract. (137)
21. So far as possible main kinds of cultivation should be standardised and the maps of the Land Records Department should only distinguish main kinds which need differentiation for fiscal and statistical purposes. (140)
22. In precarious areas the settlement officer should consider the desirability of increasing the elasticity of the demand by pitching rates for dry land moderately in comparison with those for rice land. (141)
23. Formal recognition should be accorded to certain principles of classification. (142)
24. Miscellaneous items of the demand such as the assessment of special crops, gardens, trees, and thathameda should be considered with reference to the demand as a whole. (143)
25. No assessments should be levied at crop rates except on land with an impermanent surface, and on some double cropped land. (144)
26. Palm trees should ordinarily be exempted from assessment in villages where the number of assessable trees does not exceed 500. (145)
27. Particulars regarding the ownership and mortgage of palm trees should not be recorded except so far as this may be necessary for the record of rights. (145)
28. No attempt should be made to determine the net or rental produce of palm tree cultivation, but it should be assessed on general considerations, particularly with reference to rents. (145)
29. The capitation-tax and the thathameda-tax should be converted into local rates and assessed as house taxes according to the quality of the building, and the date for the collection of the capitation-tax should be postponed. (146)
30. For the adjustment of thathameda no detailed enquiry by individuals should be attempted, but the rates should be framed on general considerations regarding the current incidence, the incidence in adjacent districts and the incidence of capitation-tax in Lower Burma. (147)
31. On irrigated land the total assessment including the charge for water should be fixed by the settlement officer. (148)

32. An estimate of the revenue which would have accrued independently of irrigation should be framed by the settlement officer and credited to Land Revenue. (149)

33. Either the Irrigation Department should be credited with the whole enhancement of revenue due to irrigation or only with so much as represents the commercial value of the water; on the latter alternative, the commercial value should be determined by the value of the water on the poorest soil. (150 to 152)

34. Compensation should be paid for damage to private irrigation works. (150)

35. Drainage rates should be calculated on the same principle as water-rates and the credit to the irrigation department similarly determined. (157)

36. The preparations for settlement should be conducted in two stages. In the first stage the Settlement Commissioner should examine the preliminary arrangements for survey. In the final stage the land records department should prepare the necessary map and statements. (161, 162)

37. Settlement operations should be conducted in three stages: the first stage should comprise the collection and analysis of material relevant to the assessment and the submission of assessment proposals; the second stage should be the consideration of the proposals by the public and Government; the third stage should be the introduction of the settlement by the settlement officer in accordance with the orders of Government. (160)

38. During the first recess at the end of the first stage the settlement officer should submit a report containing his proposals for assessment and for the further conduct of the settlement. (166)

39. The proposals should then be published for criticism, considered in a conference attended by representatives of the public and submitted for Government to pass orders, provisionally fixing the assessment and prescribing the further enquiries to be held. (168, 169)

40. No limitation of enhancements should be prescribed. (169)

41. For the present twenty years is a suitable period for the currency of settlements. (169)

42. The settlement officer should then introduce the settlement, classifying the soil, preparing or re-attesting the record of rights, and conducting only such further enquiries as had been directed by Government. (170)

43. Each land-owner should be supplied by the classifier with an extract from the record of classification showing the classification of his land. (171)

44. At any stage if the settlement officer considers that the total assessment of a tract should differ by more than 3 per cent. from that provisionally sanctioned he should obtain the further orders of Government. (174)

45. In other cases he should announce the demand, stating that it would not be final until confirmed, and that appeals against village assessment, but not against individual assessments, could be submitted to the Settlement Commissioner within one month. (174)

46. He should then submit the proposals to the Financial Commissioner for orders, explaining any variation by more than 25 per cent. from the provisional sanction in the assessment for any village. (174)

47. The individual assessments should be calculated during the recess and an extract from the record of rights comparing the old and new assessments should be prepared for each land-owner. (175)

48. At the same time the new assessment-roll should be prepared by the Land Records establishment under the supervision of the superintendent and the direction of the settlement officer. (175)

49. Deferred enhancements should be calculated as rebates in the settlement Office and the immediate enhancement should be limited to one-third of the current assessment, the balance being taken every fifth year by instalments not exceeding the original enhancement. (176)

50. Private improvements should be exempted from enhancement for the period of settlement. (177)

51. Paragraph 481 of the Land Records Manual should be amended. (177)

52. At the end of settlement a final report summarising the operations should be submitted. (178)

53. Direction 2 of the Land Revenue Directions should be amended to make clear the intention of Government. (184)

54. A record of rights should be prepared, in the first instance at settlement and subsequently in other districts by a special staff. (189, 191)

55. The record should contain full information regarding private rights, public rights and rights of user; public lands should be demarcated so far as possible, and private claims if the parties would pay the cost. (193)

56. The record should be maintained in the township office and kept up to date by a register of mutations. (194)

57. The revenue surveyor should annually prepare an assessment roll, based primarily on the record and corrected in the field according to the facts as he finds them; when the facts are not in agreement with the provisional entries he should enter the necessary particulars in his mutation register and in this manner report them to the township officer, as record officer. (194)

58. Registration officers and civil and revenue courts should report transfers to the record officer. A special record officer should be appointed if necessary. (195, 250)

59. In mutation proceedings the record officer should ascertain that the transfer is in order and in the event of dispute open proceedings, hold a summary enquiry and refer any aggrieved party to a civil court. (195)

60. Every entry in the record should be presumed to be correct until the contrary is proved; there should be no distinction in this respect between public and private rights. (196)

61. Copies or extracts from the record should be required in all plaints, and plans should depict adjacent holdings sufficiently for identification. (196)

62. Documents for registration should contain a description of the land according to the current record and if practicable certified extracts should be attached. (196)

63. The tax-ticket should be endorsed with a notice showing that it carried no presumption of title. (196)

64. Parties to a transfer should be liable to a penalty for failure to report. (196)

65. Statistics of cropped areas should be compiled by tracts and so far as practicable illustrated by graphs. (198)

66. The field register should furnish crop statistics by assessment classes. (198)

67. The Commissioner of Settlements should prepare the annual crop forecasts but should consult the Director of Agriculture. (199)

68. District officers should be directed to make use of non-official agencies so far as possible in the preparation of forecasts. (199)

69. Surveyors should not record wholesale harvest prices solely in their headquarters but in each kwin visited during field work. (200)

70. District returns of the prices of food grains should be expressed in viss and pounds instead of in seers and chittacks. (200)

71. The Season and Crop Report should be prepared during the recess. (201)

72. In Lower Burma the mortgage and sale statistics should be compiled separately for rice land, and rental statistics for fixed produce rents on rice land should show the rents in terms of paddy. (202)

73. Usufructuary mortgages and partnership and share produce tenancies should be included in the statistics; until this change is introduced, the publication of statistics in Upper Burma should be suspended and such particulars should only be recorded so far as is necessary for assessment purposes. (202)

74. The work of the surveyor in recording economic statistics should be simplified. (203)

75. During the year preceding settlement and also during the first year of settlement, surveyors should be relieved of survey work and required to record additional particulars. (203)

76. The rules for the preservation of permanent survey marks should be amended. (207)

77. District requirements in respect of traversers and draughtsmen should be examined and deficiencies made good. (208)

78. The special survey party should be organized on a permanent footing as a survey branch of the land records department. The officer in charge should be appointed Assistant Director for Surveys to inspect the programmes and progress of district surveys, arranging annually a three years' programme for each district, to inspect the progress of map printing and, with the help of an assistant superintendent, to conduct large scale revenue surveys. (209)

79. Arrangements should be made with the Survey of India Department for relieving the provincial survey branch of work not required for the revenue survey, for assistance in large scale surveys, and for training surveyors and survey teachers. (210)

80. Experiments in the direction of fixed assessments should be made by introducing holding settlements in certain kwins. (224)

81. Intermediate fallow rates between the full rate and the two anna rate should be abolished so far as practicable and where not abolished should be specified by Government and notified. (228)

82. Applications for the two-anna rate should bear a certificate that the land has not been used for profit or for any non-agricultural purpose. (228)

83. Where surveyors in Lower Burma are allowed to exempt crops from assessment on account of floods they should be allowed to

exempt crops totally destroyed by any cause and no distinction should be made between cultivators and non-cultivators. (230)

84. The feasibility of applying the "quarter normal rule" in Prome District and other insecure areas of Lower Burma should be examined. (230)

85. In precarious areas in Upper Burma crops assessed at the *kaing* season, unless grown on island or riverine land, should receive exemption to the same extent as crops grown at other seasons. (231)

86. Temporary surveyors should not be employed on the assessment of island crops. (231)

87. The feasibility of abolishing the quarter normal rule for dry crops in Upper Burma, and in the alternative the feasibility of abolishing remission procedure by extending the quarter normal rule should be examined. (231, 232)

88. Special officers appointed for remission work should have experience of land records work and so far as practicable be appointed from among land records inspectors. (232)

89. Remissions should be granted by individual holdings. (232)

90. In irrigated areas revenue officers should be allowed as an experiment to dispose finally of applications for remission without prior reference to irrigation officers. (232)

91. Fluctuations in the annual demand should be scrutinized by means of graphs maintained for each settlement tract in duplicate in the offices of the Divisional Commissioner and Deputy Commissioner. (233)

92. In most Lower Burma districts, and in some Upper Burma districts, surveyors should be grouped at township (or district) headquarters. (234)

93. Holding numbers should be made permanent as far as possible, but the general introduction of permanent holding numbers should be postponed until the new form of register is introduced. (236)

94. Pending the introduction of permanent holding numbers, measures should be taken to reduce the number of changes. (236)

95. The new draft Land Records Manual should be used as the basis of a new compilation which should be issued by instalments. (237)

96. The annual tax-ticket should show full details of the assessment. (239)

97. The collection of revenue should be made less summary. (242)

98. The feasibility of crediting interest on Government stock to land revenue should be examined. (243)

99. In districts where Land Records work presents exceptional difficulty, revenue surveyors should be relieved of survey work and experiments should be made in the omission of details regarding crops, assessments and occupation from the map. (245)

100. The system of fixed *kwin* assessments with distribution by *thamadis* should be abandoned and a simplified system of assessment by surveyors be introduced; where the area is too poor for this no tax other than *thathameda* should be collected. (246)

101. The system of fluctuating *kwin* assessments should be abandoned and a simplified system of assessment by surveyors introduced as soon as practicable. (247)

102. Systematic arrangements should be made for the extension of supplementary survey. (248)
103. The question of substituting fixed emoluments for payment by commission as the remuneration of headmen should be examined. (249)
104. The division of function between the revenue and land records department should be retained. (250)
105. The charges of land records inspectors should be brought into accordance with township boundaries. (250)
106. Selected inspectors of land records should be appointed deputy township officers for the exercise of revenue functions and particularly as special records officer when a record of rights is introduced. (250)
107. Superintendents of Land Records should enjoy the status of subdivisional officers, and their emoluments and prospects should be in no way inferior to those of any provincial civil service. (251)
108. The appointment of Deputy Director should be reserved for a member of the Burma Commission; a second Assistant Director should be appointed for general administration. (252)
109. The Financial Commissioner should continue to exercise the present degree of control over settlements but should become a member of Government; no change is necessary pending the introduction of constitutional reforms. (252)
110. The Inland Trade Registration Department should be made over to the Director of Industries, and the Commissioner of Settlements and Land Records should be appointed Inspector-General of Registration with an assistant to inspect registration offices and the record of rights. (252)
111. Surveyors should be eligible for a good conduct allowance. (253)
112. One-quarter of the inspectors of land records should be appointed direct from outside the department and undergo a special course of training. (253)
113. Inspectors of land records should not be confirmed in that appointment until they have served a year on probation and passed an examination. (253)
114. The pay and allowance of the subordinate land records and settlements need further consideration. (253, 255)
115. Vacancies in the superior land records service should be publicly advertised before selections are made. (253)
116. The number of assistant superintendents is inadequate. The present grading of districts should be reconsidered, and an assistant superintendent should be posted to every first class district and to second class districts so far as possible. (253)
117. Assistant superintendents on probation should undergo a course of settlement training for one year. (253)
118. The district superintendent should be appointed an assistant settlement-officer for the period of settlement. (256)
119. The arrangements for training revenue officers in land records and settlement work should be revised. (254)
120. Field clerks should undergo a course in practical agriculture before appointment as soil classifiers. (255)

121. Each settlement party should contain so far as possible one assistant from the Burma Commission, one from the Land Records Service or the Burma Civil Service, and one promoted from the ranks. Assistants from the Land Records Service should join the department for five years. (255)

122. Legislative and economic measures to improve agrarian conditions in Lower Burma are of urgent importance. (257)

123. The distinction between state and non-state land in Upper Burma should be abolished. (258)

124. The provisions for the temporary relinquishment of land in Lower Burma should be cancelled. (258)

125. The definition of a village in the Lower Burma Town and Village Lands Act should be amended. (258)

126. In Upper Burma private rights in residential lands should be acknowledged. (258)

127. Town lands should be surveyed on the field book measurement system. (260)

128. Urban areas should be constituted separate survey charges so far as practicable and experiments should be made in the appointment of special inspectors for town lands survey work. (260)

129. The demarcation and survey of fisheries requires attention. (260)

130. Experiments should be made in the licensing of surveyors for private survey work. Land Records subordinates should only undertake private survey work by permission of the superintendent; detailed instructions on this subject should be drawn up with a suitable scale of fees. (260)

131. Departmental reports should be simplified and replaced so far as practicable by charts. (261)

132. The Report on Land Records Administration should be re-arranged and apparent discrepancies between statistics in different reports purporting to illustrate the same facts should be explained by foot-notes. (261)

133. Certain minor administrative reforms deserve attention. (263)

APPENDIX II.

LAND REVENUE SYSTEM IN INDIA.

THE LAND REVENUE SYSTEM OF BOMBAY.

1.—*The Basis, Standard and Principles of Assessment.*

1. The system of land revenue in Bombay is ryotwari; the assessment is imposed, not upon the large estate or the village as a whole, but upon the separate small holdings of individuals who are regarded as occupants and not as tenants of large proprietors. This principle is laid down clearly in section 3 of the first Bombay ordinance dealing with the subject of land revenue (Bombay Regulation XVII of 1827) which runs as follows:—"The settlement of the assessment shall be made with the occupant of the land. The cultivator, when the land is held by him direct from Government, is to be considered the occupant; and when it is not so held, the person having the highest right or holding, recognized by the custom of the country or resting on specific grant, which intervenes between Government and the cultivator is to be so considered." The land revenue does not purport to represent any standard proportion of the net produce or profits of cultivation or of the assets of land owners, but, as explained more fully below, is determined by general considerations.

2. The term for which the land revenue of each district or part of a district is settled is thirty years. During this period, the revenue demand on assessed land which is occupied only varies from year to year where—

- (a) suspensions or remissions are granted owing to famine, drought and general failure of the crops, floods, etc ;
- (b) the classification is altered by Government from rice land or garden land to dry land, which very rarely happens, and
- (c) where land classed as dry is irrigated from canals, tanks or other sources maintained by Government, when it pays a water rate in addition to the land revenue and calculated independently of it.

It should be noted that the individual remissions on wet land for failure of supply in the Government source from which they are irrigated which are so important a feature in the Madras system are absent in Bombay. The reliability of the source is an important element in the classification and it was considered sufficient to fix the rates on the assumption that there would be bad years. It results, therefore, that the assessment system of Bombay is far more "fixed" than it is in Madras. A cultivator who improves land is, as in Madras, exempted from any future enhancement of revenue on that account.

3. The enhancement of revenue at resettlement is limited by rule to 33 per cent. from a *taluka* (township) or a group of villages, 66 per cent. from a single

village and 100 per cent. from the individual holding. The exact significance of the term "group" is explained below. Where the resettlement results in the assessment payable on any individual holding being enhanced by more than 25 per cent. the increase in assessment is imposed gradually. An enhancement equal to 25 per cent. of the old assessment is imposed every two years until the full new assessment is reached.

4. Expenditure by Government on irrigation is recouped in two different ways according as the land was or was not classed as dry land at the original settlement.

Water rate. Land then classed as rice land or garden land pays a consolidated assessment determined in the manner subsequently explained. Land irrigated from canals, tanks or other sources maintained by Government and constructed since the original settlement pays a water rate in addition to the land revenue. The land revenue paid by the land is the ordinary dry rate and is credited as land revenue. The water rate varies with the crop and may be as high as Rs. 45 per acre for sugarcane. It is collected in the same manner as the land revenue but separately from it and a receipt form of a distinctive colour is given for it. The whole of it is credited to the Irrigation Department. The principles on which it should be calculated have never been authoritatively defined but Government have recently accepted the view that the water rate should be proportional to the increased rental value due to the supply of water. If a cultivator requires water, he applies to the Public Works Department for it, stating the crop he proposes to grow and the area for which water is wanted. An order is then passed permitting him to take water for so many acres at the rate prescribed for the crop.

5. Cesses for local purposes are calculated at one anna in the rupee on the land revenue, including occasional water rate credited to land revenue such as the rate on land irrigated by Government wells and penal rates for unauthorized irrigation, but not water rate creditable to the Irrigation Department. Where any item of land revenue is remitted, the proportionate cess is also remitted. The practice in both respects differs from that in Madras where the cess is levied on the gross demand and water rate payable, without regard to any remission which may have been granted, and where remission of land revenue does not ordinarily carry with it remission of cess.

II.—Settlement.

6. A very brief description of the development of the Bombay settlement system may enable the way in which the three distinct processes comprised in an original settlement were carried out in that province to be more clearly understood. These three processes are—

- (1) the classification of soils and the collection of the data required for the determination of the demand,
- (2) the determination of the demand, and
- (3) the introduction of the settlement.

7. In 1827, Mr. Pringle, then Assistant Collector at Poona, was placed on special duty to devise a system of survey and settlement for the Poona and surrounding districts. The system evolved by him comprised two main operations; a survey of all the cultivable lands field by field, and an assessment of every field so measured. The second of these operations was a highly complicated one. Stated briefly, Mr. Pringle's system was based on the theory that the relative capacity of different classes of soils to bear assessment is in proportion to their average net produce, meaning by this expression the surplus of the gross produce which remains after deducting the cost of cultivation. His first measures therefore were—

- (i) to divide the soils he met with into classes,
- (ii) to ascertain the average gross produce of each class,
- (iii) to discover the average cost of producing this amount, and
- (iv) to find the net produce of each class by deducting (iii) from (ii).

The result of these calculations would be to give him a scale in terms of net produce which would express the relative assessment bearing capacity of each class from the highest to the lowest, as obviously the surplus over the cost of cultivation varies with the productive capacity of the soil. The number of soil classes varied locally but was usually fixed at nine. The average gross produce of each class was determined by local enquiry from the ryots, by crop experiments, etc. The cost of cultivation was calculated in the most extraordinary detail including not only the expenses of labour, seed, bullocks, etc., but also such items as insurance against loss of cattle, fees to artificers and even the cost of propitiating the local deity at harvest time. So minute were the enquiries that some of the *kaifiats* as they were called, ran to rolls of paper 30 yards in length. The average gross produce was then converted into money at an average of prices for past years and the net produce found by deducting the cost of cultivation. This system, which was extended over the whole of the Poona and several surrounding districts, broke down, partly owing to its complexity, but mainly because the resulting assessments were too high. In 1836, therefore, Mr. Goldsmith of the Civil Service and Lieutenant Wingate of the Engineers as survey expert, were directed to commence operations anew in the Poona District. The system worked out by these officers was the basis of all subsequent operations. The essential difference between it and the Pringle system is that it worked from aggregate to detail instead of in the reverse direction. A succinct account of the procedure is given in a Joint Report by Messrs. Goldsmith and Wingate published in 1840. "The present condition of the agricultural classes, the state of particular villages, the amount of the Government realizations, the prices of produce and similar considerations compared with those of preceding years afford us the chief groundwork for determining satisfactorily what abatement or addition should be made to the existing Jumma. We also by a similar process arrive at an opinion of what the rates of the different soils should be and by applying these to the ascertained area and classification we find what amount of Jumma these

rates will produce and by examining whether this is as much in abatement or excess of the existing Jumma as our previously formed opinions had led us or think necessary, we are enabled to correct our first estimate of the appropriate amount of the Jumma and thereby finally settle our rates."

8. Started originally as a local experiment, the "Survey" on the lines laid down by Messrs. Goldsmith and Wingate had been extended from Poona to Nasik, Sholapur, Ahmednagar and the Southern Mahratta country. But no guiding principles had been laid down for the conduct of the operations and in 1847, therefore, the Bombay Government directed the three Superintendents, Messrs. Goldsmith, Wingate and Captain Davidson, to hold a conference at Poona "for the purpose of taking into consideration the best means of bringing the somewhat diversified operations of the several revenue surveys of this Presidency into conformity as far as practicable" and also "for ensuring the results of the surveys being turned to the best account and maintained in their original integrity in the future management of the districts." The result of their deliberations was the "Joint Report" which has been described as "the source of plenary inspiration for the guidance of the extended operations." The subjects with which the Report dealt may be divided into the three main heads of (a) the Unit of Assessment, (b) the Assessment of the Unit and (c) the Revenue system to be based thereupon, with special reference to the important question of tenure. With the latter we are not here concerned and it will be discussed in dealing with the Record of Rights. For the Deccan districts to which the rules laid down in the Joint Report were expressly meant to apply, the standard unit of assessment laid down was 20 acres of light dry crop soil and 4 acres of rice land. Many changes were made subsequently in the principles by which the size of the survey number as it was called were regulated. The principles laid down in the Joint Report in regard to the assessment of the unit were that the relative value of survey numbers should be found and expressed by means of classification and that the absolute rate of assessment should be fixed in accordance therewith by maximum rates settled by the system of "aggregate to detail."

9. Though there were variations in details, especially when settlements were extended to Gujarat and the Konkan, the main principles as laid down in the Joint Report were preserved in all the subsequent settlements. A general description of the system of classification can, therefore, now be given.

Lands were classified at settlement as rice land, garden land or dry land. There were three orders of dry land, Black, Red and Light. In the Black and Red orders there were seven classes, in the Light order there were only five. The Black order comprised classes 1 to 7, the Red order classes 2 to 8 and the Light order classes 6 to 10. The depth of the soil was regarded as the most important consideration. The first class comprised black soil $1\frac{3}{4}$ cubits deep; for any diminution of the depth by a quarter cubit, the soil was reduced a class. The relative value of the highest class was reckoned as 16

annas, of the second class as 14 annas and so on, down to 2 annas. Thus black soil $1\frac{1}{2}$ cubits deep would be reduced one or more classes if the surface were uneven or the soil alkaline. Its relative value, in such circumstances, might be 14, 12 or even 10 annas. Limestone nodules, sand, clay, excessive slope, and scouring by water-courses were all regarded as "faults" reducing the relative value of the class, and one, two or even three such "faults" would be assigned when the fault was exaggerated. First class black soil in a good position as regards level or sub-soil water would be raised above the 16 annas class to 18, 20 or 22 annas.

Each survey field was divided into compartments, originally of about 1 acre each, which were separately classified. The average classification of the compartments represented the classification of the field. Thus a survey field 6 acres in extent might contain one acre of first class land valued at 16 annas, one of second class valued at 14 annas, two of fourth class valued at 10 annas and 2 of fifth class valued at 8 annas. The classification of the whole field would then be obtained as follows:—

1	compartment of	16 annas	=	16
1	compartment of	14 annas	=	14
2	compartments of	10 annas	=	20
2	compartments of	8 annas	=	16
				66
6	compartments	...		66

and the valuation of the field would be 66 annas. The assessment of the field was supposed to be fixed on the arable land, areas uncultivable owing to rock or swamp (known as *pot kharab*) were therefore deducted in working out the total classification value of the whole number. These areas were not measured but were calculated by eye-estimate at the time of classification. To take another example, a field of 4 acres of which a quarter of one compartment and a half of another were uncultivable; the classification of such a field would be valued as follows:—

1	compartment of	14 annas	=	14
1	compartment of	12 annas	=	9 (quarter share deducted for <i>kharab</i>).
1	compartment of	10 annas	=	10
1	compartment of	10 annas	=	5 (half share deducted for <i>kharab</i>).
				38
4	compartments less three-fourths deducted for <i>kharab</i>		=	38

and the average valuation of the field would be 11 annas 8 pies which would be rounded off to 11 annas 6 pies.

10. At the revision settlements which began in 1868 various technical improvements were introduced, the most important of which was the revision of the soil scale. The necessity for this revision arose from the overassessment of the poor soils as compared with the richer soils at the original settlements. In most districts the change took the form of adding what were called "scale increases" to the anna classification. The classers were permitted to do their work in the

ordinary way and the necessary reclassification was made in office by making proportionate additions to the soil annas of the highest classes in accordance with scales fixed by the Superintendent. A large number of such scales were fixed by the Superintendent according to the needs of particular cases. The following will serve as an example :—

Original.	Scale increase.	
	As.	P.
16-12	2	0
12-10	1	6
10-8	1	0
8-6	0	6
6	Nil.	

This meant that a dry crop field, the classification value of which according to the soil scale was 16-12 annas would have an addition made thereto in the office of 2 annas, the practical result being an increase of from 12½ to 16½ per cent. in the assessment and so on throughout. The effect of this system was "to widen the difference between good and bad soils so that the increase of revenue under a given maximum shall fall more on the good soils than on the bad."

A further change introduced at the Revision Settlements was the introduction of the position class and subsoil water class; this meant that if a field were in a good position as regards level or sub-soil water it would receive an additional two annas or more. The position class and subsoil water class were not applied in the same tract. The former was used in the Deccan and Karnatak and the latter in the Gujarat plains. The main features of the position class system were that dry crop lands were divided into four classes in accordance with their valuation, ranging from flat low lying lands situated in the valleys and thus receiving the best drainage from the high grounds which were placed in class 1, to ridges and steep slopes retaining neither rainfall nor moisture which were placed in class 4. An anna scale of the usual type was drawn up by which additions were made to the soil annas of dry crop land in accordance with the class in which they were placed. At the time of classification a note was made by the classer as to the situation of the survey number and the necessary additions were made to the soil annas subsequently in office. This system, naturally, was peculiar to hilly country.

The chief features of the sub-soil water class system were as follows:—In every village, after an inspection of existing wells and their phenomena bearings on the question of the quality of the sub-soil water and its depth from the surface, the village lands were divided up into areas homogeneous in respect of sub-soil water supply. Thus in one village there might be four such groups:—

- (1) in which sweet water might be obtained at a depth of about 10 feet.
- (2) in which the water was brackish and its depth about 15 feet.
- (3) in which the water was again brackish but only available at 20 feet.
- (4) in which there was no sub-soil water stratum within 40 feet.

Additions were then made to the soil classification annas of the fields in the first three groups according to a "subsoil water classification" based on (a) the depth of the water from the surface, (b) the quality of the water, and (c) the soil classification annas of the field. Thus if the soil classification annas were from 12 to 16, an addition of four annas might be made if sweet water were found 10 feet from the surface, which would be reduced to two annas if the water were brackish. If the soil classification annas were from 5 to 8 and brackish water were found at a depth of from 10 to 20 feet below the surface the addition would only be one anna. This system implies level homogeneous plains.

Both at the original and revision settlements the classification further depended upon distance from the village and on the size of village. One anna might be added to the soil classification annas if a field were within a quarter of a mile of a small village and two annas if it were within a quarter of a mile of a medium sized village and so on. This system was not applied to the Konkan where the people generally live in houses situated on or near their lands or in scattered hamlets. In other districts it was only applied to dry crop lands and not to rice or garden lands; the reasons for this are not on record but were probably the smaller bulk and greater value of the crops grown on these classes of land which made the "distance factor" of less importance than in the case of dry crop. At the original settlements the distance scale was sometimes diverted from its legitimate use and made to serve the purpose of altering the normal assessments for reasons other than contemplated in the Joint Report. Thus in the Bardoli taluka of the Surat District the villages of the inferior castes, in addition to having the benefit of lower rate of assessment had distance scales applied to their fields which still further reduced their assessment relatively to those of the villages of the higher castes. At the revision settlements the special conditions which had led to the manipulation nearly all ceased to exist. The old scales were therefore abolished and new scales substituted framed on the theoretical principles.

To sum up therefore by an illustration the effect of the different scales, a dry crop field with a soil classification of 12 annas which enjoyed moderate advantage as regards subsoil water might receive an extra anna on that account and might receive an additional anna if it were also within a quarter of a mile from a small village making 14 annas in all.

11. The description given above applies to the classification of dry land. For the classification of rice lands two systems were adopted; the rupee scale system in Gujarat, the Konkan and parts of the Deccan, and the "Dharwar" system of the Southern Mahratta country which was subsequently introduced into parts of the Deccan and was adapted for use in Kanara. Under the rupee scale system, the soil and water factors were considered to have a generally equal value, as the rainfall of the tract is heavy, certain and of a uniform character; 8

annas were assigned to soil and 8 annas to water. Under both these and the original Deccan system the classification annas of each factor were added together and one maximum rate was applied to the combined annas in working out the assessment. In Gujarat, on the other hand, where the relative value of the two factors of soil and water varies far more greatly than in the southern districts, the device was adopted of having separate maximum rates and, therefore, separate assessments for soil and water, the relation between the two being expressed not in the classification but in the rates, which were varied from district to district in accordance with the changes in the relative value of the two factors.

Under the Dharwars system, the one most generally adopted both for rice and garden land, six water classes were arranged. These were—

(1) Low lands under sources with supplies lasting to the end of March or April, or capable of growing sugarcane every second or third year.

(2) Higher lands under such sources capable of growing a second rate crop of sugar cane with certainty.

(3) High and distant lands under such sources and low lands under sources with supplies lasting to the end of December or January capable of growing sugarcane only when the rains were very favourable.

(4) High or distant land under sources with supplies lasting to the end of December or January not capable of growing sugarcane but of growing a second crop.

(5) Very high or distant land under such sources and land under small tanks on which no second crop was possible. The reliability of the source was an important element in fixing its class, both as to volume of water and its annual appearance.

The average water class was worked out from the whole field in the same way as if the figures of the water class were annas. Thus if in a field the water class of one share was the third and if the other share the fourth, the calculation would be

Class.	...	Shares.	...	Annas.
3	...	1	...	3
4	...	1	...	4
Total	...	2	...	7
		—		—

Average water class 3—6

The water and soil factors were then combined on a sliding scale which was fixed by the settlement officer separately for each group or perhaps for each village so as to produce an equitable result but were, therefore, not always adjusted quite in mathematical uniformity. An illustration will show how the combination worked in practice. If the maximum rate for a village were Rs. 9, this would only be paid by land classed as 16 annas with first class water supply. Second class soil, *i.e.*, land classed as 14 annas, with second class water would pay Rs. 6-12-0. Second class soil with fourth class water would pay Rs. 4-12-0. Fourth class soil, *i.e.*, land classed as 10 annas, with first class water would pay Rs. 7-6-0. Fourth class soil with fourth class water would pay Rs. 2-13-0.

12. It has already been stated that the Bombay Settlement System is one which works from aggregate to detail. The system of classification is merely a device for distributing the total demand determined for the area under settlement. Three operations were involved in the process of determining the assessment. These were—

(a) the division of the villages of *talukas* (townships) into groups ;

(b) The determination of a total amount for the area under settlement by an examination of the revenue history of the tract ; and

(c) The distribution of the aggregate for the whole area over the groups by means of maximum rates for the various classes of land.

The object of grouping in Bombay as elsewhere was to divide the *talukas* into homogeneous group of villages comprising those parts of the whole area, the relative conditions of which called for a variation in the "standard of assessment" in order to allow for advantages and disadvantages. The necessary variations were made by graduating the pitch of the maximum rates for the several classes of lands between group and group in accordance with the estimate of the settlement officer regarding the allowance necessary to be made in each case. But within each separate group the same maximum rates were applied to the different classes of land, difference in fertility having been already taken into account by the classification. The principles according to which villages were to be grouped were laid down very clearly in the joint report ; these were that the basis of differentiation was to be "marked and permanent distinctions" such as climate, situation and, in the background, as "in a great measure temporary," the state of husbandry. It was distinctly stated that neither caste nor the condition of the cultivators should be taken into consideration in this connection but in practice at the original settlements it was found impossible to avoid doing so, especially in Gujarat where the system of caste assessment had prevailed from time immemorial. The grouping at the original settlements was therefore generally of an essentially transitional character.

The determination of the demand was obviously the touchstone of the success of the settlement. In coming to a conclusion regarding a suitable demand the settlement officer had to examine it from two standpoints. He had to enquire into the suitability of the existing assessment to the existing conditions, whether it was too high or too low or might be considered equitable. He had also to forecast the effect of probable future changes. He had to consider how far the existing conditions were likely to be permanent before coming to his final decision. His conclusions on these points were based on a careful study of the revenue history of the tract.

The earlier settlement reports were of a somewhat vague and confused character but in the later reports this study was made in a systematised form. It comprised—

(i) A description of the general and physical features of the whole settlement area both in itself and also with relation to other neighbouring tracts, if any, previously settled.

(ii) A consideration of the general state of communications such as roads, railways, etc. and of impediments to transit such as unbridged rivers, etc.

(iii) A description of the various classes of cultivation including the facility for irrigation and also of the state of husbandry.

(iv) An account of the condition of the population with reference to caste, general prosperity, amount of agricultural stock, health, education, etc.

(v) An enquiry into the statistics of land revenue, including those of the actual demand collections and remissions for as many years as was possible, with an estimate of the incidence of the assessment.

(vi) A concomitant enquiry into the statistics of occupation and its bearing upon the question of the pressure of the assessment.

(vii) A study of prices.

(viii) A study of the statistics of leases, sales, mortgages, etc., if available.

The final operation was the distribution of the aggregate over the individual survey numbers. This was done through the medium of maximum rates fixed for the different classes of land. It should be noted that the maximum rate is not the same thing as the maximum assessment. The maximum rate is the rate applied to 16-anna land. But land may be classed, on account of various advantages, considerably above 16 annas. In the case of tank irrigated rice the classification of soil may be as high as 32 annas. If the maximum were Rs. 2, the maximum assessment would be $\text{Rs. } 2 \times \frac{32}{16} = \text{Rs. } 4$. In order to make the necessary differentiation between the groups of villages the general pitch of the maximum rate was varied between group and group, the allowance necessary being determined by the settlement officer according to his opinion of what was reasonable. The determination of the maximum rate, therefore really involved two operations "land rating" and "group rating". The latter has been sufficiently explained. As regards land rating the object of the maximum rate for the different classes of land was to provide a rate which when applied to the classification values, would produce a suitable assessment for each class in comparison with other classes. The settlement officer's decision as to the rate "depended not upon the final working out of results based on theory, but rather upon the subjective impressions of local knowledge and experience". Sufficient has perhaps been said to show the overwhelming part played by general considerations in the fixation of the demand under the Bombay Settlement system. Before passing on to describe resettlement operations, a concrete illustration of the application of the system to an individual village and to a group of villages may be given. After the settlement officer had determined with reference to the general conditions described above, of which the most important would be the existing settlement, what the village as a whole could pay, and had decided that Rs. 250 would be a suitable amount, he would then estimate what the soil could stand and decide that

Rs. 1.50 for the best of 16-anna soil and proportionately for the soil classed above or below 16 annas would be the appropriate rate. The assessment arrived at in this way might be Rs. 210. The difference between this and Rs. 250 would necessitate a revision of the estimate and the settlement officer might eventually decide on Rs. 230 which would give a rate of Rs. 1.60 on the best soil; this would be the maximum rate though not necessarily the maximum assessment. This would be the maximum rate for similar villages similarly situated and all villages with the same maximum rate would belong to the same group. But the group would contain large and small villages. First class land with no advantage or defect would pay rather more near the largest villages. It would probably be classed at 18 annas and would therefore be Rs. $1.60 \times \frac{18}{16}$ or Rs. 1.80 per acre. It would pay rather less near the smallest villages and would probably be classed at 14 annas. It would therefore pay Rs. $1.60 \times \frac{14}{16}$ or Rs. 1.40. Near a medium sized village it would pay the exact maximum rate of Rs. 1.60. First class land at some distance from a medium sized village would, however, only be classed as 14 annas and would pay Rs. 1.40 per acre, while first class land at some distance from the smallest village would be lowered to 12 annas and pay Rs. 1.20 per acre. The rate would similarly be differentiated for land with natural advantages of position or sub-soil water level.

The minuteness of differentiation which the system permitted is shown by the fact that in one small village taken at random there were no less than eight rates on dry land alone and none of the land in the village had been classed higher than 6 annas. An important adjunct to a Bombay settlement should here be mentioned, the *jantri*, which in its original form was merely a ready reckoner of assessments showing the acre rate for the different classification values according to the sanctioned maximum rates, which were worked out ready to hand in order to save the trouble of calculation separately for each survey number. The acre rates shown in the *jantri* were thus simply those which a clerk or other subordinate could have worked out for himself. Later, while the *jantri* still continued to serve the purpose of a ready reckoner, the rates shown in it were not such as could have been calculated by a clerk, but were modifications of them drawn up by the superintendent personally and embodying his ideas as to what the rates ought to be.

13. As already stated the period of revision settlements began in 1868. The original revision settlements were, in everything but name, original settlements and the whole work of survey and demarcation was done afresh. As time went on and the districts which fell in for revision were those in which the later and improved methods had been brought into operation, the field work at revision settlement was first reduced to a test of the old measurement and classification and finally abolished altogether and the original work continued in its entirety. When this point had been reached the only operation to be performed by the settlement officer was that of fixing the assessment rates. The proviso to section 100 of the Land Revenue Code, which was substituted for the original clause by Bombay Act IV of 1866, lays down that when

a general classification of the soil of any area has been approved by the Governor in Council as final, no such classification shall be again made with a view to the revision of the assessment of such area. In 1892, the separate "Survey" establishment, *i.e.* the separate settlement department, was abolished and the work of settlement handed over to the revenue department. The work of resettlement is now usually undertaken, ordinarily for a *taluka* at a time, by an Assistant Collector, who in most cases the Subdivisional Officer. He is given the assistance of one clerk only for the collection of the statistical information he requires. He has nothing to do with classification. If he comes to the conclusion that, over a whole tract, some error or misapprehension has occurred, he submits a report and Government may authorize reclassification directed to a particular point for that particular tract, but merely with a view to a lowering, not to a raising, of the classification. A few instances of this kind have occurred. For example, if the classers assumed that the water of a particular tract was not brackish and lasted on to the hot weather and it was subsequently established that the water was brackish and failed in January a good case would be made for reclassification. Riverine and tidal action might also justify reclassification. The only way in which a settlement officer can now revise the relative assessment of two villages is by changing their grouping. The new assessment on the group must not exceed the former assessment by more than 33 per cent. By taking two villages from a high group, the maximum rate for which is Rs. 3'4, and including them with eight villages of a low group, the maximum rate for which is Rs. 2'8, he can enhance the revenue on the new group as a whole by 33 per cent. and by leaving the two Rs. 3'4 villages unchanged, he can raise the demand on the other villages by more than 33 per cent. without raising the revenue for the whole group by more than that figure. *Vice versa* by transferring several villages from a lower to a higher group, he might prevent himself from raising the demand on the main block of the group by so much as 33 per cent.

14. In framing his proposals, the settlement officer relies on the past revenue history of the tract; for example; he pays special attention to the question whether the revenue has been collected without difficulty or not. He also pays special attention to rental values.

The proposed rates are published with a summary of the reasons on which they are based. A period of two months is allowed for objections. These are freely submitted, but tend to be stereotyped in form, more especially as they are usually drawn up by a vakil. They seldom touch on the question of rental values which is one of the most important considerations in determining the enhancements. The new rates are then introduced by the Collector. The new *Akharband* (classified area statement) is prepared in the office of the Superintendent of Land Records for survey fields and subdivisions. The new assessment on each field or subdivision is intimated to the village accountant who prepares the individual *Khatas* accordingly. These *khatas* are supplied to the cultivator on payment of one anna and show every item of the fixed assessment.

III.—The Collection of Revenue.

15. The revenue on ryotwari lands is payable in instalments, usually two, the date fixed for which varies in different districts. The land revenue demand of each year on each individual survey number ordinarily remains unchanged for the period of settlement unless there are suspensions or remissions. The village accountant makes out annually an account (*khata*) showing the assessment due from each ryot for the year, including arrears and fluctuating revenue if any such as rents and fines for unauthorized occupation, cultivation in village sites, payments for wood or fruit collected from communal lands, and excluding remission and suspensions. The ryot is verbally informed of the demand and on payment of his dues obtains a receipt for the amount on which he is informed that he is entitled to see the *khata* for the year, but he receives no statement showing the details of the annual demand. This receipt form has recently been substituted for the receipt book formerly in use.

16. If the revenue is not paid punctually a maximum penalty not exceeding one quarter of the amount overdue may be imposed. The methods by which land revenue are recovered are:—

The recovery of arrears.

- (i) the service of a written notice of demand ;
- (ii) the forfeiture of the occupancy right on which the arrear is due ;
- (iii) the distraint and sale of moveable property ;
- (iv) the sale of immoveable property ;
- (v) the arrest and imprisonment of the defaulter.

Nothing is said as to the order in which these processes are to be applied nor is it said that the one is resorted to only in case of failure of another. It is left to the Collector to adopt any process or more than one at his discretion. If forfeiture is the method adopted, the Collector may dispose of the holding by sale or otherwise as, for example, by the grant of the land to a pauper cultivator. Ordinarily notice of demand is issued by the Tahsildar (Township Officer) ten days after the arrear has accrued. If a distress is made against moveable property, such articles as household utensils, grinding stores, cots or cradles and ploughing cattle and implements of husbandry are exempted as if the provisions of the Code of Civil Procedure applied. If a defaulter is arrested, he may be detained in custody for ten days in the office of the Collector or Mamlatdar and on the expiry of the ten days, if the arrears are still unpaid he may be imprisoned in the civil jail. The total period of detention may not exceed six months when the arrears, penalty, costs and subsistence money exceed fifty rupees, and six weeks when they are less than this amount. When moveable property is brought to sale, written notice of the time and place must be published at the Collector's and Mamlatdar's Office and at a public building in the village as well as at the defaulter's house, and at least 30 days must elapse between the publication and the auction sale. The purchaser must deposit at once 25 per cent, of his bid and the balance within 15 days from the date of sale. The Collector may on application

set aside the sale within 30 days if he considers that material irregularity, mistake or fraud in publishing or conducting the sale has wrought substantial injury to the applicant. He may also set aside the sale for any reason which he thinks sufficient, whether on application or his own motion, recording his reasons in writing. Otherwise the sale is confirmed after 30 days.

17. There is no system of darkhastā or applications to take up unoccupied lands as in Madras. All unoccupied land is sold by auction. A partial exception to this rule is provided when a subdivision of a survey number is relinquished. It is first offered to the holders of the remaining subdivisions of the same survey number. If they refuse it, it is then sold by auction. When a subdivision of a survey number remains unoccupied and unassigned, the holders of the remaining subdivisions of the same survey number are responsible for the revenue on it, but, in practice this never occurs.

18. A ryot may continue to hold the fields he has for as long as he likes, but he can relinquish his entire holding or any entire survey number or a recognized share in a survey number provided he does so by giving written notice to the Mamlatdar. If the remission is absolute, notice must be given before the 31st March or other date fixed by the Government and takes effect after the close of the current year. The occupant remains liable for the revenue for the remainder of the year.

IV.—Land Records.

19. The definition of occupant in the first Bombay Survey and Settlement Act, I of 1865, was "the person whose name is entered authorizedly in the survey paper or other public accounts, as responsible to Government for payment of the assessment due upon any field or recognized share of a field." He was not, however, in virtue of this position, by any means necessarily the sole holder of the survey number or share, since any co-owners of the occupancy could make application and have their names entered as joint occupants. At the same time by the terms of the law the occupant proper was still held responsible for the assessment of the whole number, the joint occupants merely having the right to have their names entered and their shares shown in fractional parts of a rupee, being responsible for their share of the assessment to the occupant. But, while recognizing the fact of subdivision, the Act refused to allow the original survey number or recognized shares to be divided into smaller numbers or shares even though this might be absolutely necessary to carry out a partition order passed by a competent court. In the end, however, it was found necessary to amend the law and by Act IV of 1868 the subdivision of survey numbers and recognized shares for this purpose, subject only to the limit of a minimum of area was permitted. Further, permission was granted to survey officers at revision survey to subdivide any

survey number or share, subject to the limitations of area imposed. "The effect of these provisions was to break down the corner stone of the Joint Report System, *viz.* the indivisibility of the original survey numbers." The permission thus granted was fully taken advantage of especially in the separation of clubbed occupancies. Those persons whose names appeared in the original records merely as "joint occupants", subordinate to a principal occupant, now had their lands separately measured and made either into survey numbers or if below the minimum area for a standard survey number into *pot* (recognized share) numbers. In 1894 the separation of clubbed occupancies was put a stop to on the score of expense and henceforth subdivision was not done except on application by and at the cost of the ryots.

20. Previous to this however, the law of occupancy had been still further revised by the enactment of the Land Revenue Code (Act X of 1879), with which was incorporated, with modifications, the Survey Act of 1865. In this the two classes of rights were separated under the heads of "occupancy" and registered occupancy. An "occupant" was defined as "a holder of unalienated land, or where there are more holders than one, the holder having the highest right in respect of such land or where such highest right rests equally in more holders than one, anyone of such holders" while "registered occupant" was defined as "the sole occupant or the eldest or principal of several joint occupants whose name is authorizedly entered in the Government records as holding unalienated land whether in person or by his co-occupant, tenant, agent, servant or other legal representative." Under the provisions of the Act, the registered occupant was directly responsible for the payment of the assessment, the occupant was only responsible in his default; the occupant could not relinquish a number or effect a transfer, while an application to use lands for non-agricultural purposes had to pass through the registered occupant.

This double system of occupancy lasted for over 25 years. It saved Government from the trouble of minute enquiries into land possession which tended to become more and more complicated with the increasing subdivision of land. The system of paying the assessment through the registered occupant further relieved Government from the necessity of keeping up to date an enormous number of small accounts. It worked well enough so long as there were no suspensions and remissions but it broke down hopelessly in the famine years which began in 1899. The revenue assessed on the "registered occupant" had in practice been distributed over the actual occupants by the village accountant according to his private knowledge of the circumstances. When the system of suspensions and remissions was introduced, the accounts soon became a tangled mess. In a poor year half the revenue might be suspended. In the following year, with a ten-anna crop, the collection of half the suspended revenue might be ordered. "The result was the hopeless confusion of the village accounts. "The system collapsed under the sheer weight of arithmetic." Further it was defective in that it failed to provide any material for the study of agrarian conditions. No

information was available regarding the actual state of agricultural economy, the size of holdings, the area rented or mortgaged, what proportion of land was held by agriculturists, or by moneylenders. The Famine Commission commented strongly on these defects and held that an enquiry into the conditions of landholders by the preparation of the Record of Rights was essential to proper administration. Accordingly in 1901 two officers were sent to the Punjab to study the system in that Province and the result was the introduction of a Record of Rights in Bombay by Act IV of 1903.

21. For reasons which it is not necessary to describe in detail it was decided that the Record of Rights as brought into operation by Act IV of 1903 should be purely a statistical record, the *Khatedar* or registered occupant, being still retained for revenue purposes. Provision was made for an enquiry into and registration of title separately in the case of *Khatedars* (including all those having a possessory title to land) and tenants. In the case of survey numbers held by several occupants, the area in the possession of each was entered approximately without measurement. The Act also made provision for keeping the record up to date by means of a mutation register, in which all changes were to be entered as they occurred, the duty of reporting all changes being laid on landholders under penalty for failure to do so. These mutations were to be incorporated into the record after due notification, the whole record being rewritten and brought up to date at such intervals as might be necessary.

The introduction of the record of rights in its present form is due to Mr. (now Sir George) Curtis who held that unless and until the record of rights became also a record of liability it would never be anything more than a "statistical incubus; a useless piece of work to be got through as soon as possible and, when finished to be put away and forgotten with all possible speed." His views prevailed and the changes they involved were incorporated in the Land Revenue Code by Act IV of 1913. The then "registered occupant" was abolished and "occupancy" was made to depend upon possession by the following definitions:—"Occupant," means a holder in actual possession of unalienated land other than a tenant; provided that where the holder in actual possession is a tenant, the landlord or superior landlord as the case may be, shall be deemed to be the occupant. "To occupy land" means to possess or to take possession of land. "Occupation" means possession. The primary liability for the payment of the land revenue was diverted from the original "registered occupant" and laid upon the new possessory occupant. These two reforms necessitated a third, the recognition of a new unit of holding. By the old law, the only subdivision of the survey number recognised had been the "recognized share," a term including the "plot number." This, however, was a survey unit and under the old system could only come into the revenue accounts by way of the survey records after actual survey and map correction. Such an area could not serve as the new unit of holding which was to be based upon possession and not upon entry in the survey records. Hence it was necessary to create a new type of unit, the "subdivision" which was defined as follows:—"subdivision of a number" means

a portion of a survey number of which the area and assessment are separately entered in the land records under an indicative number subordinate to that of the survey number of which it is a portion. The term "recognized share of a survey number" was abolished. The splitting up of the survey number into such subdivisions was, at the same time authorized by section 117B. These subdivisions became necessarily the unit of relinquishment in place of the survey number or recognised share of the old law. This change was only possible upon measurement and mapping of all parcels of land separately 'held.' This operation has been effected by Mr. F. G. H. Anderson's introduction of the Plane Table survey method with which over ten million plots have been mapped since 1913.

The record of rights was not introduced at resettlements but under the supervision of the Collector of the District. Experiments were made in a few *talukas*, and after the difficulties there revealed had been satisfactorily met, it was introduced *taluka by taluka* in every district.

The Register of Holdings is now the Record of Rights. It contains columns showing the serial number, the survey number, the area, the ordinary or special assessment or quit rent on *inam* lands (lands held free or on favourable tenure), the subdivision number, the area, assessment, assessment on *inam* lands, the name of the person in actual enjoyment, the nature and origin of his title, particulars of other rights or encumbrances with the names of the rightholder or encumbrancer, reference to the mutation register and remarks. If land be mortgaged with possession, the name of the mortgagee will appear in the column showing the person in possession, and the name of the mortgagor will appear in the column of "other rights or encumbrances." Similarly, if land be mortgaged without possession, the name of the mortgagor will be shown in the column for person in possession and the name of the mortgagee will be shown in the column for encumbrances. Mutations are recorded in a separate register. At present it is the practice to re-write the main register every five years but a method has been devised by Mr. R. Maxwell, I.C.S., for making the record continuous and permanent; this is now under the consideration of Government. Under this method there will be a permanent and continuous register in which every change of right as it occurs will be entered in sequence, detailing the parcels of land it affects, and a brief 'index' periodically revised and re-written, showing for each parcel of land in serial order the last and former transactions affecting it. The village accountant is required to ascertain all changes in possession. These should be reported to him and persons who fail to report within three months are liable to a penalty imposed on summary enquiry in the village by the Mamladar which may not exceed 25 rupees. Mutations effected by registered instruments are reported by the Sub-Registrar to the village accountant and as civil decrees affecting land are executed by the Collector they are thus brought to the notice of the village accountant. No civil or other suit relating to land may be instituted unless an extract from the record is attached to the plaint and any change found necessary by the Court is certified to the Collector. If the village accountant notices an unreported

transfer, he is expected to enter it in the register and publish the fact that he has done so on the village notice board. All entries in the mutation register are supposed to be notified on the village notice board but this provision of law is carried out strictly only in some villages and in others it is not carried out at all. The procedure it involves appears too laborious for exact compliance and a simplified procedure has been suggested under which the accountant would publish only a schedule of "persons whose rights have been lost or reduced by mutations recorded" since a certain date with a notice that persons interested can see the details in the mutation register. All mutations by succession are first recorded in a separate register for successions and when approved are transferred to the mutation register. Similarly disputed cases are recorded in a register of disputes to be disposed of by superior officers. No entry in the mutation register can be transferred to the record of rights until it has been certified (attested) by the Mamlatdar's first *karkun* (head clerk) or some higher officer.

It is important to notice that the record is a record of possession. Any complicated question of title would be referred to the civil courts. If a person registered in the record as in possession were to sell his land by registered document but the vendor remained in possession and both the parties admitted to the village accountant that, by an oral agreement, the transaction was really a mortgage, the vendor would still remain as occupant and a note would be made in the appropriate column of the registered deed of sale and as to the admission by both parties as to its being in reality a mortgage.

22. As in Madras, there are no statistics to show the proportion of land held by agriculturists, and non-agriculturists, residents and non-residents, or to show the area mortgaged at any given time or the area alienated by sale or mortgage or the area rented or the pitch of rents. No one has yet produced a working definition of 'agriculturist,' and although statistics of the areas sold can be obtained, in the absence of such a definition, they have been discarded as valueless. Information on these points is available in the Record of Rights and the Mutation Register. In Part II of the latter (Village Form 12) the village accountant enters details regarding tenancies and cropped areas and the register is preserved for thirty years. The information in this register, as well as that in the Record of Rights and the Mutation Register, is said to be of great use in ascertaining the features of agricultural economy. The Tenancy Register shows all leases and rents, in cash, kind or otherwise, and the Mutation Register shows all sales, the settlement officer examines the statistics in detail and excludes from them those which represent abnormal transactions and so gets a trustworthy and probable sale value and rental value (in terms of multiples of the assessment) which is of great assistance to him in indicating a suitable assessment. The information available in the registers has, however, to be searched for as it is not compiled. The settlement officer has this as his chief task: all else is ancillary. If he orally checks only 20 transactions a day for 4 months, that is 2,000 authentic figures, which would give a very fair basis for valuation. Though he has only one clerk, village and *Taluka* officers and the Land Records staff are also called upon for contribu-

V.—Survey and Miscellaneous.

23. The original survey number in Bombay was an artificial unit constituted by dividing village lands into areas of reasonable size based on some fixed principles. This principle as laid down in the Joint Report was that the unit should be the area that could be cultivated by a pair of bullocks, as farming could not be prosecuted at all with a less number than this. As already mentioned the standard unit in the Deccan varied from 20 acres of light dry crop soil to 4 acres of rice land. While the majority of the original survey numbers represented individual holdings or property units, many of them contained several small holdings lumped together. The subsequent history of the "survey number" has been given in connection with the Record of Rights and need not be repeated here. As to the method of survey, the measurement of the survey number at the original settlements was carried out by chain and cross staff and, except for improvements in the style and finish of the work done, there was no change in method from start to finish. Notable advances were however made in the methods of measuring whole villages and in the construction of village, *taluka* and district maps. The chief improvement in the village map was effected by the introduction of a system of measurement of the village-tracts upon main "base lines" run through the village from one boundary to another with subsidiary base lines branching off therefrom. By setting up such lines with the theodolite and plotting the survey numbers through which they passed, a skeleton map was formed into which the remaining numbers could be fitted. In this way the accuracy of the village map was much increased and it became a fairly correct topographical record. Until 1864, however, no attempt was made to construct an accurate *taluka* or district map; in that year the system of traverse survey of village boundaries by the theodolite was introduced. This enabled a highly accurate *taluka* map to be constructed by fitting together the traverses of individual villages. Later the topographical value of the maps was greatly enhanced by connecting them by measurement with the stations of the great trigonometrical survey. At the earlier revision settlements, it was necessary to make an entirely new survey of the whole settlement area. In all tracts however the survey of which was carried out subsequent to the introduction of the Joint Report system, a test showed that the original work had been done so accurately that no general re-survey was necessary. The work was conducted on the system of "partial re-measurement" by which fields not needing re-measurement for particular reasons were compared with the village map and only measured again if the boundaries on the field were found not to agree with those delineated in the map.

The recognition of the subdivision of a survey number as the unit of holding has necessitated the mapping and measurement of all subdivisions; Section 135 of the Land Revenue Code, Amendment Act IV of 1913 made provision for the recovery of the cost of measurement from the occupants. The survey of subdivisions is now being carried out on the plane table system. A base line of, say, 5 chains is laid down along any level ground free from obstruction.

within or without the survey field. Flags are planted to mark the property limits or periphery of the subdivisions and these are sighted by rays drawn on the plane table map by the sighting rule from each end of the base line on the mapping paper which are centred over the corresponding ends of the base line, and the map base line is kept truly aligned along the ground base line. Thus the intersection of a pair of rays exactly fixes the position of each point in the periphery. The measurements are not recorded as no measurements are made or required except for the base. There is now no minimum limit for subdivisions. Until recently the law required that survey numbers should be kept permanently distinct but the amalgamation of adjacent subdivisions of different survey numbers is now permissible, if they are owned by the same person. Hitherto it has been regarded as essential to maintain every field demarcation mark, but in consequence of the adoption of the plane table system of survey, it is proposed to reduce the number of survey marks to a few pivotal pillars in villages where these have been established at a new survey. In such villages, the numerous marks set up at the chain and cross staff survey will be replaced by marks at field corners only: with the aid of the plane table maps of the subdivisions of survey numbers the smallest bends and curves of fields can be identified or restored. The cultivators will be at liberty to remove the remaining survey marks if they choose.

The village map, which may be in two or even three sheets for a large village, shows the whole survey numbers but not subdivisions. The map is always printed, the number of copies struck off depending on the size of the village and the probable demand. The usual number is from 10 to 15. The map printing is done by the Photographic office at Poona, which is under an expert recruited from England; the work of this office is under the general control of the Commissioner of Settlements. In addition to the village map, field atlases are prepared in which the subdivisions of survey numbers are shown on a much larger scale. Sometimes only one survey number is given to a page or sheet; sometimes a block of survey numbers is shown on each page. The main difference between the Field Atlas and the Field Measurement Book of Madras is that the latter gives measurements. The field atlas is prepared by hand. Two copies are prepared one of which is kept by the village accountant and the other in reserve.

24. Bombay has no Board of Revenue or Financial Commissioner and there is thus no revenue authority for the Revenue organization. whole Province. There are four Divisional Commissioners (including the Commissioner in Sind). Below the Collectors are Assistant and Deputy Collectors in charge of subdivisions; these are stable administrative units though the officers in charge of them do not reside within the limits of their jurisdiction but at the district headquarters. The subdivision consists of one or more *talukas* (townships) in charge of a Mamlatdar (the tahsildar of other parts of India). The Mamlatdar occasionally has an Assistant or Deputy known as a Mahalkari. Subordinate to the Mamlatdar as far as their revenue work is concerned, and the District Inspector of Land Records so far as their land records work is concerned, are the Circle Inspectors of whom there are two to four to a taluka. These

inspectors have about 40 villages each. The principal village officers are the headmen and the accountant. When the accountants are stipendiary they are known as talatis, when they are hereditary and receive their remuneration in the form of land held on *watan* right, they are known as *kulkarnis*. The talati until recently received Rs. 14 to Rs. 24. Their pay has recently been raised to Rs. 20 to Rs. 30 but they were still unsatisfied and many of them struck unsuccessfully for a minimum pay of Rs. 30, the minimum for clerks in taluk offices. The *kulkarni* right is often held jointly, in which case the rightholders hold office in turn for periods of five years. This is often reduced by illness, resignations or misconduct and in any case the shortness of the period renders it impossible to train them as surveyors. Efforts are being made to bring the *watan* system to an end by commutating the *watan* right.

The Commissioner of Settlements is in charge of Settlement, Land Records and Registration. Subordinate to him on the settlement side are usually five or six settlement officers. Their reports are noted on by the Collector and go from the Commissioner of Settlements to Government through the Divisional Commissioner. On the Land Records side, the officers immediately subordinate to the Settlement Commissioner are the four Superintendents of Land Records, one to each Commissioner's Division. Of these usually two are Indian Civil Service officers and the others are recruited from the Deputy Collector's cadre. In each district there is a District Inspector of Land Records, an officer of Mamlatdar's grade who is subordinate to the Collector. Under him is a survey staff comprising of a head surveyor on Rs. 70 to Rs. 90 and measuring circle inspectors on Rs. 35—80. It is by this staff that the mapping and measurement of subdivisions is being carried out. On the Land Records side, therefore, the Commissioner of Settlements and Land Records is an inspecting and advising officer.

THE LAND REVENUE SYSTEM OF THE CENTRAL PROVINCES.

(This Note does not apply to Berar unless expressly stated.)

1.—*The Basis, Standard and Principles of Assessment.*

1. In the Central Provinces, except for a few ryotwari villages in which Government deals directly with individual cultivators, the system of land revenue is zamindari; Government deals ordinarily not with the individual cultivator, but with the holder of a property cultivated by tenants. He may be a zamindar, holding a large estate, but is, typically, a man known as a malguzar, holding or owning a share in one or more properties (mahals) of some 500 to 1,000 acres each. The mahal and the village are generally in effect identical; one and the same unit is a village in its administrative aspect and a mahal for the purpose of assessing land revenue. Single villages are, however, sometimes "perfectly partitioned" at settlement into two or more mahals.

2. The conditions of occupancy in the Central Provinces are so distinctive and complex that a brief account of them at this stage appears necessary for a clear understanding of the revenue system. It would seem that a malguzar was originally a collector of revenue, but the British Government converted him into a landlord responsible for the land revenue of the village. A village usually covers 500 to 1,000 acres, though villages of 2,000 acres and more are not uncommon.

For the most part a village is cultivated by the malguzar's tenants. Of these there are three classes, absolute occupancy, occupancy, and tenants at will called "sub-tenants." Absolute occupancy right is heritable and transferable subject to pre-emption by the malguzar. Occupancy right is heritable within certain limits and can be transferred to certain heirs. Transfer to others requires the malguzar's consent and if made without such consent is voidable. It can also be annulled through the Deputy Commissioner on application by the heirs of the transferring tenant. If an occupancy tenant wishes to dispose of his right to an outsider, he has therefore not only to pay consent money to his malguzar but also to secure the acquiescence of his heirs, if any. Occupancy tenancies may not be mortgaged, but sub-letting for a year is permissible.

Absolute occupancy and occupancy tenants cannot be evicted so long as they pay rent and do not use their land for non-agricultural purposes. The rents of absolute occupancy tenants are fixed by the settlement officer and can only be enhanced during the currency of the settlement in very exceptional circumstances. The rents of occupancy tenants are also fixed by the settlement officer but may be enhanced at

intervals of not less than ten years during the currency of the settlement, either by agreement with the landlord, or by a revenue officer on an application by the landlord, showing that the rent fixed at settlement was less than the full rent assessable, or that, since settlement, there has been a rise in prices, or a permanent increase in the total area under cultivation within the holding. Enhancement of occupancy rents between settlements is now exceptional.

Land cultivated by a malguzar himself is called his home farm. Home farm is of two kinds, "sir" and "khudkasht." Continuous self cultivation for six years entitles home farm to be called "sir." This may be let to tenants at will and hence, to avoid excessive creation of such tenants, the area of "sir" permissible is limited to 25 per cent. of the occupied area of the village. Khudkasht cannot be leased, even for one year, without the lessee acquiring occupancy right in it. Sir land is highly valued as it gives a chance of rack renting. The typical village contains both sir and khudkasht.

Although the malguzar is the proprietor of the village there may be independent plot proprietors in it who are separately assessed to land revenue and hold, not from the malguzar but from Government. These are known as malik-makbuzas. Their revenue is fixed by the settlement officer at the same time as he fixes the rents to be paid by the malguzar's tenants. The malguzar is responsible for its collection and for its credit to Government except for the drawback of 10 to 20 per cent. which he retains as remuneration. He may recover arrears of malik-makbuza revenue either by a civil suit or through the Deputy Commissioner under section 157 of the Central Provinces Land Revenue Act. In practice he resorts freely to either alternative.

3. The revenue is based on the assets of the mahal. The "gross assets" include the payments of plot-proprietors; the "net" or "malguzari assets" do not. The malguzari assets consist of (a) the rents of tenants (not sub-tenants), (b) the rental value of the home farm and (c) *siwai*, i.e. forest and miscellaneous income. In typical villages the "assets" consist chiefly of "rent"; but both terms of this statement have a purely technical significance and unless carefully interpreted are apt to prove misleading.

The rents *actually paid as such* are customary and rarely have any close relation with the economic rent, while there is a general and increasing tendency on the part of malguzars to leave them at the same *nominal* figure from one settlement to the next, and to take advantage of the rise in land values by exacting heavy premium on new leases of surrendered holdings or the leasing of new land. Thus the revenue, if based on rents, actually paid, would tend to remain stationary. It is therefore necessary for the settlement officer to fix rents, and this is one prime operation of settlement. The rent resembles a ryotwari assessment fixed for a period of years by the settlement officer.

Even the rents fixed by the settlement officer bear no systematic relation to the economic rent. It is the accepted policy and ultimate aim of rent fixation that rental disparities based on custom shall be abolished and rents fixed solely with reference to economic considerations; but it is equally an unquestioned tradition that this must be accomplished gradually. Although a time is contemplated when the

rents actually paid shall be in some degree proportional to competitive economic rents, the prospect is so remote that no standard has yet been laid down, and economic rent grows so rapidly that settlement rents always tend to lag behind still further. General conditions such as the rise of prices and the pitch of those rents which have been determined in part by competition, indicate the degree of enhancement suitable; but the main task of the settlement officer is to fix a new rent for every holding, bearing in mind, not only such general considerations, but also the existing pressure of rent and other individual circumstances particular to that holding.

When the settlement officer fixes the rents to be paid by tenants he also fixes on a similar scale the rental valuation of the home farm and of land held free of rent by village servants in lieu of pay, and estimates the miscellaneous income (siwai) from fisheries, water dues, fruit trees, grazing and timber rights, riparian dues, etc.

The "Malguzari" or "Net" Assets thus comprise:—

- (a) rents fixed by the settlement officer to be paid by tenants;
- (b) rental value of land cultivated as the home farm by or on behalf of the malguzar, or rent free by village servants.
- (c) the miscellaneous income (siwai) from fisheries, water dues, fruit trees, grazing and timber rights, house sites, etc.

Of the Assets as thus calculated 50 per cent. represents the normal proportion to be taken as land revenue; in practice the proportion may exceed half, or, for good reason, be less than half. But if the fraction taken at the last settlement was less than half, it is never raised above one-half.

The revenue from plot proprietors is calculated as if they held from Government at the same rate as prevails among the tenants of the estate.

Thus, so far as rents are concerned, the revenue is based, not on the net assets, the rent which under competitive economic conditions could be paid; nor on the actual assets, the rent which actually is paid; but on the rent which the settlement officer, having regard to general and particular circumstances, considers a reasonable enhancement on the rent already paid, and therefore fixes as the rent which shall be paid.

4. The bulk of the revenue assessment is fixed. In malguzari villages extensions are not assessed between settlements. In ryotwari villages the revenue is fixed on the survey numbers, but fluctuates according to the survey numbers under occupation. Water rate for water from Government irrigation sources varies with the area for which water is supplied. Apart from this and a few cases of shifting cultivation in forests, the only fluctuating ryotwari revenue is that assessed on impermanent alluvium in ryotwari areas, such as temporary patches of melon cultivation; shifting alluvial cultivation of this kind is of little importance in malguzari villages as regards assessment because it is reckoned among the miscellaneous assets (siwai).

5. The rent or rental valuation is assessed as a lump sum per holding, which is calculated with reference to acre rates framed for the different classes and qualities of soil. Unculturable land is excluded in calculating the rental

value, similarly an allowance is made for such fallow as may be incidental to good husbandry, considering the class of soil. But, if good soil is left fallow, no allowance is made merely on the ground that it has been left uncultivated for a long period; formerly it was the practice to exempt such land as "old fallow" but this is now regarded as a premium on laziness and, indirectly, a tax on industry.

6. The necessity for temporarily deferring the full enhancement of revenue at re-settlement is partly obviated in the Central Provinces by the attention paid to the current demand in framing the new assessment; but, partly for the same reason, the provisions relating to this point are rather complicated. Deferred enhancements may be employed when the *net* enhancement, that is, the gross revenue enhancement minus the rent enhancement, exceeds 33 per cent. of the old revenue. A net revenue enhancement not exceeding 33 per cent. should be taken at once, the balance up to 66 per cent. after five years, and anything beyond 66 per cent. after ten years. By recent legislation it has become permissible similarly to defer the enhancement of rent.

7. Private improvements by embankments or irrigation works are exempted at the next following settlement from enhancement on account of the improvement, provided as regards embankment that the work has cost Rs. 50 in all and not less than Rs. 15 per acre; minor improvements are dealt with by classification. Allowances may also be made for improvements, such as drinking wells, intended to promote rural amenities rather than to yield profit. The instructions prescribe that the rules should be liberally interpreted, and for large works which cost not less than Rs. 5,000 special terms may be applied.

8. Expenditure by Government on irrigation is recouped in two ways, by a rate for the use of water, and by the enhancement of revenue which is justified by the increased stability of assets resulting from the construction of an irrigation work.

For each work a schedule of water rates per acre for different crops is prepared by the Executive Engineer in consultation with the Deputy Commissioner, and notified after consideration by Government. The rates are not fixed with mathematically accurate reference to the increase in production resulting from the use of water, but are intended to encourage people to use water; the rates should be as remunerative as possible without discouraging the spread of irrigation. The rate varies with the crop, but for rice the water may either be taken on an annual agreement before cultivation, or on demand, as water is required, at a considerably higher rate. By a recent innovation villages may enter into a long term agreement by which they undertake, for a period, usually of ten years, to pay a water rate on the whole cropped dry rice area within their village which the work commands. The long term agreement is only for rice. If a man were to grow cane or other crops in his rice area he would be charged separately for it but such a case has never been known. Panchayats or Village Committees usually under the mukaddam (headman) as sir-panch have been appointed to assist in the assessment and collection of irrigation dues, and a Canal Deputy Collector has been appointed as

revenue assistant to the Executive Engineer and "liaison officer" between the Irrigation Department and the people and revenue authorities.

The improvement of land by Government irrigation is considered by the settlement officer in fixing rents. For improved land he can fix a higher rent than otherwise would have been possible; all the land has been rendered secure, and some, prior to irrigation, would have been uncultivable. The settlement officer estimates this so-called indirect increase of revenue due to the improvement and for statistical purposes this revenue is placed to the credit of the Irrigation Department, but in the provincial accounts it appears as land revenue from irrigation. In ryotwari villages the practice is similar, but land newly brought under cultivation is immediately assessed to revenue and it is unnecessary therefore to delay until settlement the credit of the revenue as due to irrigation.

9. Local Cesses are calculated at $5\frac{1}{2}$ per cent. on the revenue; formerly they comprised a charge of 3 per cent. for roads, 2 per cent. for schools and half per cent. for the Post Office and there was an additional rate of 6 per cent. for the pay of patwaris, but now this cess has been abolished and the remainder have been amalgamated to form one general local fund.

II.—Settlement.

10. A settlement roster is maintained showing the routine order of districts for re-settlement. Two years before operations are due to begin the Settlement Commissioner reports whether there are grounds to extend the existing settlement. Unless sufficient grounds to the contrary exist arrangements are made for re-settlement.

The operations of settlement in the Central Provinces, as elsewhere, fall under three heads; the collection of data, the approximate determination or forecast of the revised demand, and its distribution. The material is examined, a forecast is framed, the general lines and limits of assessment are laid down, but the whole process of distribution is dominated, and the demand itself in no small degree determined, by the minute attention bestowed on the rent-paying capacity of each cultivator. This is the distinctive character of settlement procedure in the Central Provinces; within the general limits indicated by the group, the particular circumstances of each village are considered, and within the general village limits the circumstances of each cultivator, thus gradually building up the aggregate demand. It is perhaps a natural corollary of this practice that more than elsewhere the operations are broken up into separate stages and closely scrutinized. Hitherto, an important preliminary of settlement has been an extensive revision of the survey, but with the survey operations the settlement officer has no immediate concern. The first stage is the preparation of the Forecast Report. For about six months the settlement officer is studying the district, arranging his plan of operations and supervising the compilation of statistics. He summarises his results in a Forecast

Report containing his proposals for the conduct of the settlement and his estimate of the financial results. The report is published for unofficial criticism and submitted for orders. As it is submitted about June there is little for the settlement officer to do until the next field season begins in October or November, and he may be temporarily employed on other duty, for example, as an officiating Deputy Commissioner.

In the second stage, after receipt of orders on his forecast, the settlement officer works out his detailed proposals for the fixation of rents by holdings and villages. This corresponds to the stage of distribution in other systems; but, as just remarked, in the Central Provinces there is no distribution of an aggregate demand. The analysis conducted in the forecast shows that in a certain tahsil an enhancement of, say, 30 or 40 per cent. would be justified; this estimate is framed on general considerations. For any single group of villages within the tahsil an enhancement of 30 per cent. may be expedient, for another 35 and for another 45; for any single village an enhancement of 25 per cent. or 50 per cent. may be suitable; for any individual holding an enhancement of 10 per cent. or 100 per cent. may be required. In many villages no rental enhancement at all is imposed as rents are already high enough. The forecast only gives wide limits and the general line; in the second stage the forecast is put aside and the settlement officer works from detail to aggregate. The principal operations of the second stage are the attestation of the annual record, and the fixing of individual rents. Attestation is the basis of the record as a legal document but does not bear on the settlement of the revenue. As regards this, the settlement officer submits for approval proposals for the formation of groups, for classification of the soils, and for the relative valuation of his soil classes. On these points he obtains the orders of the Settlement Commissioner as he proceeds. Then, group by group, he classifies the soil and, by applying the soil unit system described below, he gauges the pressure of rent and proceeds to fix new rents. As he works out his proposals for each group he submits them for orders.

On receipt of orders he announces the assessments; announcement is the last stage of field work. But office work remains. As the settlement officer completes each tahsil he furnishes a statement of the financial effect and at the end of the settlement, when all the rents have been announced and all the tahsil figures submitted, he compiles an elaborate report explaining and justifying his settlement.

11. The Forecast Party comprises the settlement officer—
The settlement estab- designate with four clerks. The strength of a
lishment. Settlement Party is tabulated below:—

One settlement officer, normally from the Commission.

Five assistant settlement officers, of whom one is usually of the Provincial Service and the others tahsildars and naib-tahsildars.

Ten additional revenue inspectors on Rs. 40—60.

About fifty temporary additional revenue inspectors on Rs. 30 and 35.

Up to twenty paid candidates on Rs. 15.

There is also an office and clerical staff of fifteen men, including a head clerk and a statistical superintendent each on Rs. 80—2—100, a record keeper, and clerks. During settlement the settlement officer is in charge of the district land records establishment.

12. The settlement officer is not required, for the practical purpose of assessment, to determine the competitive economic rent, representing the value of the produce less the cost of cultivation, and only needs this information to assist him in fixing rents with regard to their existing pressure; elaborate enquiries into outturns, prices and cost of cultivation are, therefore, unnecessary.

Standard outturns for the main crops in each district have been compiled by the revenue staff aided by the Agricultural Department; these do not recognize any distinction by soil classes but are assumed to represent the whole area. Experiments are conducted annually, and, during the forecast year, the settlement officer is expected to examine the results, and to perform personally a few careful experiments. But the results of a few experiments over a wide area with numerous distinct qualities of soil can only justify very wide and general conclusions as to the probable course of deterioration or improvement, and beyond this so little weight is attached to such experiments that the settlement officer may omit to mention them in his forecast report. Outturns recorded in estates under the Courts of Wards may also be examined. For the principal crops a table of prices is compiled from official printed returns, from the examination of account books, and from enquiries among cultivators. General considerations affecting the cost of labour are then examined.

On the foregoing material the settlement officer calculates to what extent the rents fixed at last settlement might, in theory, be enhanced; but he makes no pretence of ascertaining with any degree of accuracy the net value of the total tract or district outturn, or of comparing it in any detail at settlement and at revision. He aims solely at obtaining general figures indicating the maximum limits for enhancing rents.

13. Another important feature of the forecast is the examination of the land values and rental history. Here the scrutiny of rents. again the settlement officer is not expected to make any systematic enquiry over the whole settlement area. He is instructed to collect a certain number of specific cases rather than to accumulate with the assistance of the land records staff a mass of statistics of doubtful accuracy and uncertain content. Indebtedness is similarly dealt with. Enquiries in the field are supplemented by inspection of the land records and registration offices. Just as the enquiry into produce values and cost of cultivation indicates the maximum enhancement on the rents, as fixed at last settlement, which could in theory be taken; so this enquiry into land and rental values indicates the maximum enhancement on the rents, as they now stand, which it will be expedient to take. Suppose that prices would justify an enhancement of 33 per cent. on rents fixed at the former settlement, whereas a comparison of the rental then and now shows in the aggregate a rise of 10 per cent., a further enhancement on the original rental is justified.

On this material the settlement officer prepares his forecast. This has hitherto been submitted through the Local Administration to the Government of India for sanction and any subsequent divergence from the sanctioned estimate by more than 15 per cent. must be reported for further orders.

14. In the next stage of settlement the formulation of assessment proposals and the fixation of rents are effected by Grouping and Soil Classification. These operations correspond with the distribution of the assessment in other systems of settlement. It is more convenient to describe the process of classification first. The main classification relates to the inherent properties of the soil, but there are subordinate heads dividing the soils into sub-classes according to their crop capacity and position.

Ordinarily eight or ten classes of soil are recognized as typical of the district; for example at the settlement of Nagpur in 1890-95 there were, nominally, six types of soil: recent alluvium (*kachhar*), black clay (*kali*), brown loam (*morand*), gravelly or sandy loam (*khardi*), gravel (*bard*) and sand (*retari*). These were graded in 8 qualities, two qualities of black clay and of brown loam being recognized. Abnormal varieties and qualities of soil were fitted into these eight classes according to common sense and the discretion of the settlement officer rather than with strict reference to their physical or chemical composition. The so-called "soil classes" were not rigidly distinguished by soil differences but were rather "assessment classes" of which the contents were ordinarily determined by the nature of the soil.

Crop capacity signifies the particular fertility of certain soils for certain crops: a typical example is sand with an impenetrable sub-soil which, given ample water, will yield good crops of rice, but is naturally and in general infertile. Similarly there may be two soils, possibly even two soils indistinguishable in appearance, one of which yields excellent wheat or cotton and the other will not grow these crops. For an equitable assessment it is necessary to distinguish between such qualities of soils where they are on a scale deserving consideration. Land is subdivided therefore according to its crop capacity, for example, as Rice land, Wheat land, Garden land and Minor Crop or Open Field land; the Rice land may be further differentiated as Dry Rice land and Irrigated land. (It will be noticed that the distinction by crop capacity corresponds approximately to the Burma practice of recognizing different Main Kinds.)

The conception of position classes does not seem ever to have been very clearly defined; classification by position is in practice a modification of the soil class value by a variety of advantages and defects, some of which relate to the position relative to the general level, some to the position relative to the village, some to the nature or position of the surface, and some to the water advantages. Thus in Nagpur, wheat lands were differentiated as low-lying (*laun*), level (*sadharan*), or high-lying or cut up (*pathar* or *wahuri*), and also as *khari* (land well manured owing to its proximity to the village site) or *ran* (jungle land), and also they might be irrigable, or embanked, with large embankments (*bandhan*), or with small embankments (*bandhia*).

Similarly Rice land was classed as Irrigated or Unirrigated, and the latter as low-lying (*jhilan*), level (*saman*), or high (*tikra*). Garden land was classed as Irrigable or Unirrigable, and as near to or far from the village. In modern settlements there is a tendency also to recognize three zones, modifying the soil value according as it is near or distant from the village; under this scheme the jungle position (*ran*) is abolished.

Formerly it was the practice only to note the classification in a register but now every feature is illustrated on a map. Ordinarily the soil class boundaries are outlined in red, irrigation limits in blue and position limits in green, the names or appropriate symbols of the soil classes and other distinctions are entered in pencil.

15. Obviously classification on these principles renders minute "The soil unit" system. refinement possible and full advantage has been taken of this; a simple device for estimating, recording and utilizing these numerous shades of value is therefore essential. Such a device has been found in the soil unit system. A soil unit is a measure of the productive capacity of soil, just as an area unit; a square foot, is a measure of area. In the soil unit system the relative value of different soils is expressed by soil factors of a varying number of soil units. The value of land is assumed to depend on the average net profits of cultivation, and for each class of soil in every position a factor is assigned expressing its value relative to other soils. For example, with five soils, A, B, C, D, E, let the factor 32 be allotted to C; then if the value of A be double that of C, and B occupy a median position, and similarly E half that of C, with D between, the relative values will be 64, 48, 32, 24, 16. The relative values can be altered for different positions, thus A in a defective position can be reduced from 64 to 56 and B in a favourable position raised from 48 to 56. If, as is ordinarily the case, soil values vary with crop capacity the particular fertility of any given soil under a certain crop can be recognized by varying the factors. It is claimed that on this system, by careful enquiries over wide areas, and particularly by examination of the figures of sub-rents, or new rents, of holdings which are homogeneous in soil, the relative values of all soils in all positions can be established with a considerable degree of accuracy, sufficient at all events for practical comparison between villages and groups, and even to a certain extent for comparing one district with another.

16. For convenience the matter of grouping has been reserved until the soil classification had been described; Grouping. in practice the formation of groups precedes classification. Both grouping and classification have one object: to facilitate the comparison of rental pressure. Suppose that one holding is found on classification to contain 436 soil units and another 296 units, if both let for Rs. 21 or 336 annas the rent per unit or unit-incidence on the first is .77 and on the second 1.13. If the unit incidence for the village as a whole be 1.00, the former is lightly and the latter heavily rented. But if the latter holding be in a village where land values are high and the former in a jungle tract the pressure of rent may be less on the holding which has the higher unit incidence. Such anomalies are forestalled so far as possible by dividing each tahsil into groups of villages more or less similar in character, each group

ordinarily containing from 50 to 80 villages. As will be seen below there is a further classification of the villages at a later stage.

17. The processes just described, grouping, the selection of soil classes and positions and the allotment of their relative values or soil factors are disposed of by the settlement officer under the orders of the Settlement and Financial Commissioners between the forecast and the first submission of detailed proposals. They are dealt with in correspondence and the printed reports do not contain any justification of the system of grouping and classification but in certain cases the settlement officer has left on record for his successor suggestions for improvements at the next revision.

18. The settlement officer is now in a position to fix the standard unit rate for the whole group, and to propose unit rates for each village and rents for each holding.

a. The group rate. This he does as follows.

For each group the total number of units in each cash-rented holding is determined by compilation and addition, and similarly the total cash rental. Dividing the number of annas in the rent by the number of soil units he arrives at the rent per soil unit over the whole group expressed in annas; this is the unit incidence for the group. He takes this as the basis of his proposals for enhancement. Suppose that the existing rent per unit, *i.e.*, the unit incidence, is 75 anna. The settlement officer, after examining general conditions in the light of particular circumstances, proposes a new standard unit rate for the group, say, 100 per unit. The forecast has given the probable enhancement for the tahsil, determined by general considerations; this is further considered and may be modified during detailed inspection, but if the forecast is maintained the settlement officer must decide whether the group under consideration is typical of the tahsil, or can stand a higher enhancement than the average, or requires lenient treatment. He will consider the pressure of rents, the rental history during the expiring settlement, the stability of the tract in bad years, the general character and condition of agriculture and the cultivators, markets, the demand for land, and *lastly* the forecast estimate. These general considerations suggest a suitable standard unit rate, but before framing any proposal he will test its detailed application in a few villages. This examination of general conditions and particular circumstances will enable him to propose a standard unit rate for the group. (It may appear in the course of these enquiries that the villages should be divided into two or more classes and if so this is permissible.)

The next stage is to consider village rates, the rate suited for each village in the group. Any one village may have better soil, be closer to the market or the railway, or the existing rents may be above or below the average. The settlement officer has to determine what percentage of enhancement should be taken in each village. At the end of this stage he fixes the unit rate which will give the desired result and applies this to his soil factors to give acre rates which are rounded to the nearest anna. (It will be noticed that the acre rate for the same soil class differs from village to village with the variations in the village unit rates.)

The settlement officer has fixed the group rate with reference to the general conditions of the district and the particular circumstances of the group, he has fixed the village rate with reference to the general conditions of the group and the particular circumstances of the village; it remains for him to fix the actual rent of each holding with reference to the general conditions of the village and the particular circumstances of each cultivator. The application of the acre rate to each holding gives what is known as the "deduced rent," but in practice the deduced rent is frequently not that actually fixed. The rent fixed may be above the deduced rent, if the existing rent is already above it (in which case it is not enhanced); or below it, if the deduced rent is too heavy to be applied. Using the deduced rent as a guide the settlement officer fixes the rent of each holding on a consideration of the existing rent and *all* the other circumstances of the holding and the tenant. In fixing these the settlement officer relies principally on the *fard mazariem*, a confidential document classifying the cultivators into five classes according to their rent-paying capacity; for example a man with a money lending or cotton growing and pressing business, or a big pension from Government, can pay a higher rent than a man who has mortgaged his cattle, or a widow who supplements the income from her holding by labour for other people.

The settlement officer then submits his proposals for the assessment of the group as a whole and for each village which it contains. These proposals are printed with a brief report and go through the Settlement Commissioner to the Financial Commissioner for orders. The Financial Commissioner can alter the rate for the group as a whole or for any particular village; if he alters the rate for the group he will probably alter the rates for certain villages so that the general effect is to give the demand produced by the group rate as revised by him. In every village for which the unit rate is altered it becomes necessary for the settlement officer to re-calculate all the individual rents.

19. The last stage of field work is the announcement of the new rents and revenues. This is conducted group by group as the orders of the Financial Commissioner are received. The rents for each holding have already been calculated and entered in pencil; if the Financial Commissioner approves the group and village rates the pencilled figures are inked up. The cultivators are summoned to convenient camps and the assistant settlement officer in the presence of the settlement officer presents each cultivator with a patta or rent certificate containing full details regarding the registration of his land, its area and the rent fixed. As shown below the cultivator has an opportunity for objecting to the contents of his patta or may even refuse to accept it on the rent stated and surrender it, but there is very rarely any difficulty on this score. Similarly the payments to be made by malik-makbuzas are fixed and an acceptance taken, and the revised assessment is then offered to the malguzar and his acceptance (*kabuliat*) is taken. As each tahsil is completed the settlement officer submits an Assessment Statement comparing the forecast and results, and after the last tahsil statement he submits his report on the whole operations.

This report is printed for the general public and they can also obtain the tahsil reports on payment.

20. Objections to settlement proposals can be raised at two stages.

The publication of settlement proposals.

Under section 57 of the Land Revenue Act it is obligatory on Government, before notifying the inception of settlement, to publish proposals for the standard enhancement of rents, the percentage of assets to be taken as revenue and the term for which the settlement is to be made. To this end the officer responsible for the forecast draws up a resumé of his proposals, in which he explains, as simply as possible, the proposals and their effect, with illustrations giving the present and proposed acre rates on typical soils. This is published and brought to the notice of the people interested, after which the deputy commissioner and the settlement officer convene a representative public meeting where the proposals are explained, discussed and criticised. This provides for effective criticism of the general considerations underlying the proposals; the same material on which Government will pass orders is before the people who will be affected by the orders.

But while this procedure guarantees a convenient opportunity for discussion of the proposals in general, and the facts and arguments on which they rest, the application of these principles is a particular interest and provision is also made for the consideration of individual representations. When the subordinate staff and junior officers visit the land every individual has an opportunity of discovering all the facts relating to the registration, survey, classification of his holding and a further opportunity when the settlement officer comes round. Ordinarily people are little interested however until they receive their patta at announcement, when, as a matter of course, a show of objection will be made, even before the details are examined. If there is any serious grievance the cultivator will maintain his protest, the settlement officer will then see informally whether there has been any obvious mistake in classification, calculation of area, or otherwise, and rectify it if discovered. The applicant if not satisfied can present a written petition on which the settlement officer will pass a formal order. Any matter relating to the record may be a subject of complaint; there may be a complaint that unirrigated land has been classed as irrigated, that sand has been classed as clay, or poor loam as good loam; there is no restriction. But usually the complaint is, vaguely, that the land has been over classed. Against an order by the settlement officer an appeal lies to the Settlement Commissioner, and so on upwards by appeal or revision. Thus in the second stage objection may be taken to the particular application of the general principles which have been formulated and accepted in the first stage.

21. The procedure described above has been found rather elaborate

A simplified system.

for backward tracts. The soil unit system is complicated and difficult for the people to understand, and it involves a long delay between the settlement enquiries and the announcement of the rent. Under the simplified system lately introduced the settlement officer varies the factor scale from village to village and announces the rents provisionally before they have been reviewed by the Settlement Commissioner

or approved by the Financial Commissioner. This system is considered suitable for any area where the limits of enhancement are governed by the low pitch of existing rents.

III.—The Collection of Revenue.

22. Land revenue receipts fall under three heads—

The annual demand. (i) Ordinary Land Revenue on the Roll, *i.e.* the fixed collections,

(ii) Ordinary Land Revenue not on the Roll, *i.e.* chiefly ryotwari collections and fluctuating revenue.

(iii) Miscellaneous Land Revenue.

As regards Land Revenue on the Roll, the procedure of collection and account, so long as there are no suspensions or remissions, is very simple; a register called kist bandi is maintained showing the revenue as fixed at settlement and this entry remains unaltered until (*e.g.* by acquisition for a road) the total alters. From this a Register of Demands and Collections (the Khationi) is prepared, showing the demand for the current and three preceding years. On the fixed date or dates the headman (lambardar) is required to produce the revenue fixed at settlement as payable by him and his co-sharers and by the plot proprietors for whom he is responsible. In most villages, there are two harvests, the autumn (kharif) and the spring (rabi), and, for the convenience of payees, revenue is collected in two corresponding instalments. The settlement officer proposes these with reference to the harvests of each village. The revenue may be collected entirely after the kharif harvest or entirely after the rabi harvest. Half may be collected after each harvest or the proportions may be $\frac{2}{3}$ and $\frac{1}{3}$ or $\frac{1}{2}$ or $\frac{2}{3}$. If, and for example, the village were almost entirely under wheat, the revenue would be collected at the end of the rabi season.

In the case of Land Revenue not on the Roll, due from ryotwari cultivators, the patwari is required, annually during November, to prepare an Assessment Roll (Jamabandi) in which he includes all holdings under cultivation. An abstract is furnished to the headman who collects the money and pays it into the treasury on a chalan, which serves also as a record of the people who have paid. The abstract and chalan are filled up by the patwari on his visit to the village.

As regards most of the revenue, it is unnecessary to furnish the cultivators, with a notice of the amount due, as the demand is fixed at settlement or, in the case of ryotwari extensions over new lands, is made known when the land is taken up. The tenants and cultivators should, and mostly do, obtain receipts in receipt books with which they are supplied on payment. The receipt books contain on a fly leaf full particulars of the settlement registration and assessment and in the body a series of double-paged entries showing on one side the details of the annual demand including arrears, and on the opposite side the details of collections and the balance outstanding. The entries regarding demand are written up by the patwari, usually about October, before the first instalment of revenue falls due; entries regarding payment may be made by the patel or lambardar at time of payment but are usually made by the patwari at some convenient time, usually

during the rains, after all the revenue for the year has been paid. Thus the cultivator remains for some time with no written acknowledgment for revenue which he has paid.

23. The procedure in recovering arrears differs in malguzari and ryotwari areas. In malguzari areas no one is responsible for the revenue but the lambardar and his co-sharers in the estate; if the lambardar wishes to recover revenue from a plot proprietor he must file a civil suit or apply to the Deputy Commissioner under section 157 of the Central Provinces Land Revenue Act. The revenue payers are few and will ordinarily be personally known to the tahsildar. A register is maintained therefore in which the character of each lambardar is placed on record, and showing whether the action for recovery should be strict or lenient. Where a man pays regularly it will be sufficient in case of an arrear to issue a notice of demand; where he is casual in payment the tahsildar may, without previous notice, issue a warrant attaching his moveable property, or even a warrant of arrest. No one has power to attach immoveable property except the Deputy Commissioner who may attach and take under direct management any land in respect of which an arrear has accrued but may not sell it without sanction from the Local Government. The procedure in ryotwari areas is similar; warrants of attachment may issue but action under the warrant is rarely necessary. Thus in the township office visited there were 137 processes last year for ryotwari defaults, in 18 cases notices of demand were issued, in 118 warrants issued to attach moveable property and in 1 case a warrant of arrest issued; but no attachments or arrests were necessary.

24. One minor point deserving notice is that the survey number in ryotwari areas is ordinarily indivisible. With permission one ryot may admit another ryot as a partner, but the original occupant remains solely responsible for the whole revenue.

25. The collection of water rate proceeds on quite different principles. The matured area is measured up by the canal patwari or amin who gives a demand statement or tax-ticket to each cultivator. The amount due is collected by the sir-panch or irrigation headman who pays it into the treasury. For lands where no irrigation amin is appointed the patwari, under the supervision of the revenue inspector, performs the duties of the amin. For this they receive commission at a rate not exceeding 6 pies in the rupee. The irrigation panchayat is remunerated at the rate of 3 annas per acre irrigated.

26. In years of crop failure revenue may be suspended or remitted. Revenue which has been suspended for three years is ordinarily remitted. But there is a stage beyond cure by remission, when settlements break down and abatements become necessary. An abatement is a remission of rent and revenue which is due to extreme deterioration, such as may result from a series of famine years, and must therefore be extended over a term of years, so that the country may recover. The period of abatement may be for two or three years or for the whole remaining period of settlement. Thus the whole round of settlements

between 1898—1900 broke down. An instance has been known in which abatement was made immediately after the announcement of rents as people offered to surrender their land rather than pay the rent (or revenue) demanded. But it is very doubtful whether they would have carried out this threat, and such an occurrence is of extreme rarity.

IV.—Land Records.

27. The Record of Rights in the Central Provinces comprises the following documents which are drawn up at settlement and revised at each succeeding settlements :—

(a) The Statement of Proprietors (Khewat) showing the name of each share holder (including lessees and mortgagees in possession but not plot proprietors) together with the nature and extent of their interests;

(b) the Field Book (Khasra) in serial order of field numbers, showing for occupied land, the name of the person cultivating, his rights and the rent, if any, paid; also, for every field, the soil classification, cropping, and new and old fallows; and for unoccupied land the area and description, e.g. as nala or waste;

(c) the Holding Register (Jamabandi, columns 1 to 10) a list of persons cultivating or occupying land, with their fields grouped by holdings, and the rent they pay—

(d) the Field Map, and

(e) the Village Administration Paper (Wajib-al-arz).

The record as thus defined, unless challenged in a civil court within one year of completion, obtains an evidential value; on certain matters, generally speaking, those of public interest, the entries form conclusive proof, on others, of private interest, they carry a legal presumption of accuracy. This generalisation must not be pressed too far; the law is contained in section 80 of the Land Revenue Act of 1917 of which the broad effect is that the civil courts must accept as conclusive proof of what they state practically all entries except those regarding rents and *muafi*, or freedom from payment of land revenue.

Certain of these documents, the Field Book, Holding Register and Field Map are carried on as "Annual Papers" and are brought up to date annually, but these annual corrections have no legal value except as secondary evidence. (In Berar they have, and annual corrections form part of the record of rights.)

The following paragraphs describe first the compilation of the record of rights and then its maintenance.

28. The two stages in the preparation and correction of the record are map correction and attestation; the correction of the map has hitherto been a separate operation, antecedent to attestation, carried out by a special map-correction staff. This staff provides the attestation parties with accurate maps and these rarely have to make further map corrections. The map correction party enters a district a year before settlement begins. It is hoped in future to keep the annual map correction so up to date that special map correction as a preliminary to settlement will be unnecessary. The work of attestation is one of the two chief operations of settlement, and it is important not only intrinsically as

the compilation of a valuable legal record but also indirectly as the basis of assessment. The object of attestation is to record the area, the tenure, occupant and owner of each field or, in ryotwari villages, each survey number.

A field is ordinarily the whole of any single parcel of land held by the same person on the same tenure; an aggregate of such parcels forming a single property or occupancy is termed a holding. On open field land, corresponding with *ya* land in Burma, the field would cover 5 to 15 acres, and might extend to 50 or 100 acres. Formerly a single field, comprising both rice land and open field land, might have been surveyed as two separate fields though contained in a single parcel, but even then the practice varied, and now the two would always be included in one field, the rice land being separated by a dotted line and indicated by a conventional symbol. A single field may and ordinarily does contain several different classes of land assessed at different rates. There is no distinction between a field and a survey number, except that the former term is used in *malguzari* areas, and the latter in *ryotwari* areas. In the assessment registers prepared at settlement, the acre rates are quoted separately against each soil found in the holding but are not allocated to the individual fields in the holding. The rent is fixed on the holding as a whole, not separately on each field in it. The separate agricultural plots, the actual fields as this term is understood in Burma, are not distinguished on the map; although this was formerly the practice in the case of rice land, even then no survey number was allotted to each plot and now the survey of these plots has been discontinued and rice land is indicated conventionally.

For attestation, unless the village has been re-surveyed, the additional revenue inspector works on the annual papers of the *patwari*. The entries are all verified by the additional revenue inspectors and checked and signed by the assistant settlement officer; this gives them legal validity, but the records are not regarded as complete until the settlement officer has passed them. Thus at re-settlement the record of rights is based on the annual papers of the *patwari*, after preliminary re-survey if necessary, verified by the settlement establishment, and attested as correct.

29. The maintenance of this record is the duty of the district and land records establishment. The *patwari* is required to keep it up to date annually on the basis of actual possession. He is not assisted (nor is he encumbered) by reports from the Registration Department or from Civil Courts, nor are occupants of land required under penalty to notify him of changes. Although the Transfer of Property Act is in force, many transfers are unregistered, especially partitions, but the legal effect of a transaction is no concern of the *patwari*. Similarly certain transactions are illegal and can be nullified within the year, but the *patwari* is expected to record the transfer, with a note during the first year that the transfer is provisional. The *patwari* is not expected to register legal rights but to record the facts existing on the ground as evidenced by occupation and the admissions of the parties.

Ryotwari areas form a partial exception. In such areas mutations can only be effected before the *tahsildar*; the *ryot* cannot take up a

new survey number without formal orders of the Deputy Commissioner or relinquish one without giving formal notice. Two men, if they obtain permission, may jointly occupy one survey number, but only one is responsible for the revenue.

The record of rights is considered very accurate. But extensive check and correction of existing maps are still necessary before re-settlement, "this work proved very necessary, even in a district like Nagpur, which is much more developed than some." The need for this is ascribed chiefly to survey errors or changes and with the exception of partitions the record of mutations is held to be remarkably correct, so that a week's inspection might fail to reveal a single material error of registration.

30. The records prepared by settlement and maintained by the Land Records Department provide detailed and up-to-date information regarding the ownership and occupancy of agricultural land and its produce. Statistics are annually published showing for the province as a whole and for each district the area held by the several classes of landlords and tenants, the revenue and the rent paid and the area of land transferred by sale, mortgage or otherwise. But the utility of these masses of statistics is vitiated by the fact that none of the terms mean what they seem to mean. It is perhaps impossible to cope with the complexity and artificiality of tenures in the Central Provinces by any statistical apparatus. To adopt the words of the latest Nagpur settlement report, in discussing the economic of agriculture in the Central Provinces one must forget all that one has read elsewhere on the subject, discard experience and buy a new dictionary. What is termed "rent" in the statistics is not rent, but a ryotwari payment; in many cases but not in all, the tenant is a raiyat. True rent exists in the form of interest or under the name of sub-rent (it may even by accident be recorded under the name of rent). In undeveloped tracts, even "sub-rents" are far from representing the true rent using the term to signify the most that a tenant could afford to pay. Cotton land in the Chanda district, for example, is so plentiful that it is sublet over large areas at under Rs. 2 per acre. Rent in the form of interest is not recorded and rents under the name of sub-rent are not compiled. Moreover, the severe restrictions on rental enhancements by landlords have obscured land values. It is impossible therefore except by a course of special study to ascertain the conditions of agricultural economy. But it should be noted that one school of thought, possibly the school now predominant regards the peasantry as spoon-fed, protected to such an extent that they have lost their native vigour and are helpless now in spite of their protection, perhaps have become the more helpless on account of it.

V.—Survey and Miscellaneous.

31. The fixed demand remains unaltered from one settlement to the next and failure to maintain survey does not affect the revenue. Probably for this reason, the maintenance of survey has always been unsatisfactory and prior to re-settlement re-measurement has been necessary. In order to bring the survey up to date an assistant settlement officer for Map Correction has hitherto been posted to a district due for settlement with a

staff consisting of a Settlement Superintendent, two Assistant Superintendents of Land Records and eight additional Revenue Inspectors. With the object of keeping the maps up to date so as to avoid special map correction, four officers of superior status have recently been appointed as Deputy Directors of Land Records and a great improvement is believed to have resulted.

The original traverse was performed by the Survey of India Department and in two districts the cadastral work also. But as cadastral work on this plan proved too expensive, it has since then been handed over to a local staff. The traverse is maintained and extended as required by an officer on deputation from the Survey of India Department. The cadastral details are mapped and corrected on the basis of the traverse. For areas where accuracy is expensive and unnecessary a simpler scheme has been devised; this is explained below in the section dealing with undeveloped areas.

32. The Financial Commissioner has hitherto been the chief revenue authority under Government, and in general Revenue Organization. control, through Commissioners and Deputy Commissioners of the Divisional and District Revenue Administration; the Settlement and Land Records Department, subject to his control, are administered by one officer who is both Commissioner of Settlements and Director of Land Records. As the result of the Reform Scheme, the post of Financial Commissioner has been abolished and his work has been taken over by the Revenue Member of the Governor's Executive Council.

There are four Divisional Commissioners and 18 Deputy Commissioners (or 5 and 22 respectively, reckoning in Berar). Below the Deputy Commissioners are Assistant or Extra Assistant Commissioners in charge of subdivisions; these however are not stable administrative units, but aggregates of tahsils, differently constituted as convenience may require and the officer in charge almost without exception resides at the Headquarters of the district. The district is divided into tahsils each under a tahsildar charged with the revenue and magisterial administration of the tahsil, assisted by one (rarely by more than one) deputy or naib-tahsildar and sometimes supported by an additional tahsildar. The unit of revenue administration, as already mentioned, is the estate or mahal under a lambardar, except in ryotwari areas where Government deals directly with the actual cultivator aggregated for administrative purposes into the village under a patel. The lambardar receives no commission from Government on the payments of the revenue assessed on the malguzari or net assets, but is entitled to receive a commission of 5 per cent. from the other co-sharers in the mahal on the revenue he collects from them. On collections from plot proprietors he receives a drawback or commission of 10 to 20 per cent. The patel is paid by a similar commission on ryotwari payments. The lambardar is generally also the headman (mukaddum). If the lambardar is an absentee, his duties as head of the village are discharged by a nominee known as the mukaddum gumastha. The Commissioner of Settlements is in charge of settlement operations and land records work. He is assisted in traverse survey by a Survey Officer and by a Deputy Director for survey work; in land records

1. These have now been reduced to one as the outcome of a Resolution by the Legislative Council that they were an unnecessary extravagance.

work (in the Central Provinces only) there are four deputy directors, one for each Division. The Commissioner of Settlements appoints, promotes and removes Revenue Inspectors (in the Central Provinces but not in Berar) but otherwise, on the land records side, he is primarily an inspecting and advising officer. The district land records staff comprises one Superintendent of Land Records (in one district there are two), one to three Assistant Superintendents and on an average 15 Revenue Inspectors, about three to a *tahsil*. There is one patwari for every 7 or 8 villages.

33. The relative position of the village officers is rather complicated. A patwari, though nominally a village accountant, is charged on an average with 7 or 8 villages and the number may rise to 10 or more. A village however need not contain a residential area (*abadi*) but may comprise solely agricultural lands. Such an unoccupied "village" is also termed a "rith". For each rith, as well as for each inhabited village, there must be a *lambardar* who will also be the headman or appoint an agent. The *mukaddum* and all the cultivators of the rith may live in one or more of the adjacent villages. Similarly every village and rith is in the circle of a *kotwar* or village policeman; the circle of a *kotwar* usually comprises two or three villages.

34. The Revenue Inspectors are promoted from among patwaris. The ordinary course of promotion is from patwari to Settlement Additional Revenue Inspector and from that to a permanent post as Revenue Inspector. The Settlement Commissioner is in close touch with the men as Additional Revenue Inspectors and is thus able to select the fittest for promotion. The superintendents are recruited from *tahsildars* who join the land records department on deputation for three years. The *tahsildar* appointed to the land records department has hard out-door work and no executive influence; he does not become expert in land records work until at least a year has elapsed and when his three years are up his future career will be little influenced by his work in the land records department. According to rule the patwari is subordinate to the *tahsildar*, but that officer knows very little about land records work and is hardly capable of supervising him. The real controllers of the patwaris' work are the revenue inspectors, the superintendents of land records with their assistants and the deputy directors of land records. These report patwaris for reward or punishment to the Deputy Commissioner.

The Deputy Directors draw Rs. 250—25—600; the Superintendents draw Rs. 175—275 with a deputation allowance; Assistant Superintendents draw Rs. 80—5—120, and Revenue Inspectors draw Rs. 40—1—60 with a horse allowance of Rs. 15 to Rs. 20 and a good conduct allowance of Rs. 5 to Rs. 10 which may be granted to not more than one-third of the total number. Patwaris draw Rs. 17 to Rs. 23 in three districts, Rs. 14 to Rs. 20 in two districts and Rs. Rs. 12 to Rs. 18 in all other districts, together with an allowance of Rs. 4 per mensem as compensation for high prices.

35. Patwari candidates are usually men with relatives in the land records service as patwaris or in some higher rank. They have rarely passed any examination.

higher than the IV Standard Vernacular. Annually during the recess a survey class for patwari candidates is formed at the headquarters of each revenue inspector. At the end of the rains they are examined by the superintendent in survey and the patwari rules. They receive no further training but wait until an officiating vacancy occurs which does not ordinarily take long.

Revenue inspectors are selected patwaris who receive ample practical training while additional revenue inspectors on settlement. Assistant superintendents of land records are promoted revenue inspectors. Every tahsildar and Extra Assistant and Assistant Commissioner receives a course of land records instruction, and every Assistant Commissioner is also supposed to receive two month's training on settlement; Superintendents of Land Records are taught their work by doing it under the supervision of the Deputy Director of Land Records.

36. The general procedure both of settlement and land records work has been simplified for remote and backward areas. The simplified system of settlement has already been mentioned. The simplification of survey consists essentially in surveying independently of traverse stations until cultivation extends sufficiently to justify accurate survey. In certain areas the system is even more primitive and some villages in the Melghat area in Berar are assessed without survey on the yoke assessment system according to the number of cattle used.

THE LAND REVENUE SYSTEM OF MADRAS.

1.—*The Basis, Standard and Principles of Assessment.*

The system of land revenue in Madras outside permanently settled estates is known as the ryotwari system. Under Tenures and the basis and standard of assessment. this system the person whose name is registered in the revenue accounts as holding any land is liable to pay the assessment on that land direct to Government. He is known as the pattadar. Though a patta is no document of title, the pattadar is actually the owner of the land wherever the revenue registry is up to date. In many cases he is also the actual cultivator, but land is sometimes leased to tenants, especially in rich wet tracts. Until 1915 the assessment, in theory, represented half the net produce, *i.e.*, the balance left after deducting the cost of cultivation from the value of the gross produce. In practise however the assessment represented a much smaller fraction and in 1915 it was laid down that a half should represent the maximum limit and not the normal standard.

2. The land revenue of each district or part of a district is settled Fixed and fluctuating assessments. for a term of thirty years. During this period, although the water rate, where this is charged separately, fluctuates from year to year, the revenue demand on assessed land which is occupied does not vary except—

(a) where a general suspension or remission of the assessment is granted owing to famine, drought and general failure of the crops, floods;

(b) where individual remission of assessment is granted to lands irrigated from a Government source owing to failure of the water supply;

(c) where the irrigation of land is improved at the cost of Government subsequent to settlement;

(d) where land classified at settlement as dry land, which includes all land whether embanked or unembanked not irrigated from a Government source, is reclassified, at the request of the pattadar, as wet land, or land classified as single crop wet land is transferred to double crop wet land.

3. A cultivator who improves land is entirely exempted from any Improvements and future enhancement of the revenue on that account. enhancements.

Where the settlement results in the assessment payable on any individual holding being enhanced by more than 25 per cent., the increase in assessment is imposed gradually, *i.e.* by increases spread over a series of years. An enhancement equal to 25 per cent. of the old assessment is imposed in the first year and the remainder is generally levied by instalments equal to 12½ per cent. of the old assessment.

4. Irrigated land which has a secure supply of water from a Government source is classed as wet land and pays a consolidated charge for water and land revenue; a share is subsequently credited to the irrigation department. If the supply is insecure the land is classified as dry land and pays a water rate if water is taken. Similarly land classified as single crop wet land is liable to an extra charge if a second crop is grown.
- Water rate.
5. A cess for local purposes is levied on the land revenue at a rate which differs in different districts. The cess is levied on the gross demand, including water rate, without regard to any remission which may be granted. Suspension of land revenue does not ordinarily carry with it suspension of cess.
- Local cesses.

II.—Settlement.

6. An original settlement comprises three distinct processes in two separate stages :—
- The processes of settlement,

- (a) the classification of soils and the collection of the data required for the determination of the demand ;
- (b) the determination of the demand ;
- (c) the introduction of the settlement.

During the first stage the settlement officer classifies the soils and collects the data required for the determination of the demand. The results of the classification and of the enquiries made by the settlement officer are embodied in a Scheme Report and on this basis the demand for the settlement area is determined. In determining the demand the settlement officer attempts to minimize any abnormal increase or decrease in the existing demand which will follow from a too rigid application of the data collected by him. The report is then submitted to Government through the Collector of the district and the Board of Revenue. After orders are passed by Government on the scheme report the settlement is introduced in each village. During this stage the pattadars are afforded an opportunity of preferring objections to the demand fixed on their holdings at the settlement and their objections are heard and disposed on their merits.

7. At an original settlement the data for determining the demand fall under two heads :—
- The determination of the demand.

- (a) the calculation of the net produce, and
- (b) the general economic condition of the tract.

The calculation of the net produce comprises four elements, the selection of standard crops, the determination of the outturn, the valuation of the produce and the cost of cultivation. As the outturn varies with the fertility, the soils have to be classified with reference to their nature, composition and properties. The general principles on which the soil classification have been carried out in the various districts are indicated in the next paragraph.

8. The soils are divided into five main series—alluvial, regar or black, red or ferruginous, white or calcareous, and arenaceous. Each main series is divided into classes according to the mechanical composition as clay, loam or sand. The distribution of these classes is shown in the following table:—

Alluvial—

I.—Clay; II.—Loam.

Black (Regar)—

III.—Clay; IV.—Loam; V.—Sand.

Red (Ferruginous)—

VI.—Clay; VII.—Loam; VIII.—Sand.

White and grey (Calcareous)—

IX.—Clay; X.—Loam; XI.—Sand.

Arenaceous—

XII.—Loam; XIII.—Sandy loam; XIV.—Sand.

Each class is generally divided into five sorts—1 best, 2 good, 3 ordinary, 4 inferior and 5 worst. For purposes of classification the land is divided into survey fields. Each survey field is classified generally on its merits according to its place in the system described above. Thus a survey field consisting of ordinary red loam is classed VII-3, while a field of best black clay is classed III-1.

It will be seen that the Schedule provides for nearly 70 sorts of soil. From experiment and enquiry it has been found unnecessary to frame a separate rate for each sort of soil and they are therefore grouped together in "*tarams*" or assessment classes. Thus for dry cultivation in Tanjore the worst black clay (III-5) inferior black loam (IV-4), ordinary red loam (VII-3), good black sand (V-2), good red sand (VIII-2), good arenaceous sand containing from one-third to one-tenth clay (XIII-1) are grouped in the same *taram*.

The relative productivity of different soils does not remain constant when irrigation is applied. This fact has been recognized and the grouping of soils in the assessment classes is therefore different for wet and dry lands. Thus clayey soils, which retain moisture for a long time, are classed higher than loams for dry cultivation, but the position is reversed in regard to wet rates, as the former soils are rendered very soft by irrigation and are consequently difficult to plough. Thus in the case of wet lands in Tanjore, worst black clay (III-5) has been placed two *tarams* lower than ordinary red loam (VII-3), although both these soils have been grouped together in the same *taram* in the scale for dry cultivation.

Ordinarily land is classed as wet, only if it is irrigated from a Government source. As the success of wet cultivation depends largely on the certainty of the water-supply the assessment on wet lands is based not only on the soil classification but also on the nature of the irrigation source. Irrigation sources are classified according to the nature and the quality of the water-supply. The classification has varied but the following grouping is now generally adopted:—

First class.—Large perennial rivers, and well supplied tanks connected with them.

Second class.—All sources, river-fed or rain-fed, ordinarily affording a supply for eight months and upwards.

Third class.—All sources, river-fed or rain-fed, which ordinarily afford a supply for less than eight months but not less than five months.

Fourth Class.—All sources, river-fed or rain-fed, which ordinarily afford a supply for less than five but not less than three months.

Fifth Class.—All other sources.

In theory lands with the same soil classification, which are irrigated by the same source, should be assessed at the same rate. Lands remote from the irrigation source are however less likely to receive water than those which are nearer. This hardship is generally allowed for by adjusting the soil classification; thus soil which would strictly be classed as good red loam, VII-2, might be classed as ordinary red loam, VII-3, or, it would seem, that a black soil might be classed as red, or a loam as a sand. Only lands classed as wet have a right to water from a Government source of irrigation, outside the areas classed as wet, water-rate is levied in addition to land assessment in the years when water is supplied from a Government source of irrigation.

Only in Malabar and South Kanara is there any considerable area of wet land which is not irrigated from Government sources. Wet lands in these districts are classified on principles similar to those applied elsewhere, but the facilities for irrigation are determined by the level of the lands and not by the supply in the irrigation source. Thus in South Kanara first class wet lands are those which yield two wet crops and are ordinarily irrigated by direct flow. The second class comprises lands which yield two wet crops, the second irrigated mainly by baling; lands yielding one wet and one dry crop; and other low lying wet lands which owing to their position have an unfailing supply of water for the first crop. All less favourably situated wet lands have been placed in the third class.

Apart from such exceptional conditions, land is classed as wet or dry according as it is normally irrigated from a Government source or not. Dry land may be embanked (*manavari*), or unembanked. Embanked dry land may, and often does, grow a dry crop, but can also grow a wet crop; it is classed according to its value in the dry scale, but is generally assessed one *taram* (assessment class) higher. Thus in the first group villages of Tanjore ordinary black clay (III-3) and ordinary black loam (IV-3) which have been placed in the sixth and seventh *tarams* respectively in the dry scale, will, if embanked, be assessed at the rates applicable to the fifth and sixth *tarams* respectively; whether a wet or dry crop is grown on embanked dry land the rate of assessment remains the same.

(iv) Wet lands are classed as 'single crop,' 'registered double crop,' or 'compounded double crop.' 'Single crop' wet lands are lands for which in all ordinary seasons the supply of water is sufficient to grow only a single wet crop. 'Registered double crop' lands are wet lands which in all ordinary seasons have an unfailing supply of water for two crops and are therefore compulsorily registered as 'double crop,' the charge for the second crop being one half of the single.

crop assessment. 'Compounded double crop' lands are wet lands for which the supply of water is not ordinarily unfailing; on these the ryots are permitted to compound the charge for the second crop at rates varying from one-third to one-sixth of the single crop assessment according to the classification assigned to the irrigation source.

9. For the determination of outturns food crops alone receive consideration; industrial crops are excluded and among food crops those most widely cultivated are selected as standards on which to base the relative valuation of the soils. The instructions contemplate that the relative productivity of the different soils in each series under the standard crops shall be determined by measurement and enquiry. From the outturn as determined on this basis an allowance of 15 to 25 per cent. is made for vicissitudes of season and unculturable patches.

10. The outturn per acre for each assessment class is converted into money at the average price of the last 50 years excluding years of famine. A deduction, ordinarily about 15 per cent., is allowed for cost of carriage and merchants' profits. The result is taken as the cash value of the gross produce for the purpose of calculating the assessment.

11. From the gross value calculated in this manner the cost of cultivation deducted. According to the instructions the cost of cultivation should be calculated on the assumption that all the labour is hired; thus it included an allowance for the labour of the cultivator and his family. The balance remaining after the cost of cultivation has been deducted represents the net produce on which the rate of assessment is calculated.

12. These rates of assessment apply only to the most favourably situated villages. The villages are grouped according to their natural advantages and in the groups less favourably situated or naturally poorer the rates are reduced.

13. Thus in an original settlement the rates of assessment were in theory determined by mathematical calculations on a scientific basis of experiment. But almost every factor contained an element of convention and the rates of assessment arrived at in accordance with the principles enunciated above were sometimes varied with reference to local conditions and the existing demand.

The theory and practice of settlement. The original scheme of classification was drawn up in 1858. In 1879 it was thought that the relative valuation of the different varieties and qualities of soil had definitely been settled and from 1882 to 1889 crop experiments were suspended. The standardisation was premature and in 1889 it was laid down that further experiments should be conducted. But the Tanjore Scheme Report shows that the outturns finally adopted for that district were not based solely on crop measurements and that the results obtained by such experiments were modified with reference to the outturns adopted for adjoining districts. Similarly in the South Kanara Scheme Report of 1898, it is not possible to trace any close relation between the assumptions

and the experimental results, and the officer who introduced the settlement is of opinion that not much reliance was, or could have been, placed on the experiments. Even where the experiments were utilized in framing assumptions for the better qualities of soil the outturns assumed for the inferior qualities were based on a conventional reduction. In the same way conventional reductions were made for inferiority in the water-supply.

Similarly the classification has become conventional. As mentioned above a standard scale of relative valuation was drawn up in 1879. In this scale all the different varieties of soil were arranged with fixed relative values and, although in 1884 it was abandoned as a standard of exact relative valuation, it remained until the end of the series of original settlements as a normal scale, showing not the relative values of different *tarams* but the grouping of soils in *tarams* and the order of the groups. For sufficient reason it might be varied, but ordinarily it was generally accepted as ranging the different soils according to their relative productivity. The classification included another element of convention. Any soil say ordinary black clay (III-3) will be more productive near the village and less productive further off. Near the village it may be classed III-2, at a little distance it may be classed III-3 and still further off III-4 or even III-5. Similarly, when cultivated with a wet crop, it will be more productive near the source of irrigation with ample water and less productive further off, and identical soil will be classed differently according as it is near to or far from the source.

The estimation of the expenses of cultivation "used to be one of the more difficult and most conjectural of the various steps in connection with a settlement. . . . The usual practice was to work out the expenses for the best soil and then to proportionally diminish this standard." 1. The cost was not determined by averaging the results of enquiry from cultivators but by recording separately each item of ordinary expenditure. This gave the cost for the best soil; the cost of cultivation on inferior soils was reduced by making deductions proportional to the reductions in the assumed outturn.

The grouping is also to a certain extent a matter of convention. Ordinarily the highest assessment in the second group will be the same as the second assessment in the first group, and the highest assessment in the third group will be the same as third assessment in the first group, and so on. Corresponding reductions are made in the lower assessment classes. In practice the grouping (which is not applied in the case of wet lands) is determined chiefly by market facilities and it is rarely found necessary to form more than two or perhaps three groups.

The assessment of wet lands adopts a similar convention. Ordinarily the highest assessment under a second class source corresponds to the second assessment under a first class source with corresponding reductions in the lower assessment classes.

14. The procedure in classification and framing rates has been described as follows: The classifier first of all Settlement procedure: blocks out the lands according to its series as The scheme report. Black or Red, Loam or Clay. He then asks the

cultivators to point out their best soil ; this may be a black clay which he will class as best (III-1) or good (III-2) according to his estimate of its quality. - He continues on the same lines until all the land in the village has been classified. Rates are then calculated on the classification of this village and if the result appears likely to produce an equitable assessment the classifier proceeds from village to village, keeping the line as uniform as possible. When a suitable area, for example a taluk, has been completed, the settlement officer examines the results village by village in comparison with the previous assessment. If any village shows a conspicuous enhancement or reduction on any abnormal feature, he scrutinises the classification. The discrepancy, between the new and old demand may be due to erroneous classification. He can then change the classification, reducing III-1 best black clay to III-2 good black clay, or he can change the series from clay to loam or sand. This reduction of the highest class entails a corresponding automatic reduction of all the classes in the village. This is all done before the Scheme Report is submitted. Another method which is sometimes adopted for the purpose of mitigating abnormal differences between the old and the new demand is to alter the grouping of the villages in which such differences are noticed.

The general effect of the whole initial stage of an original settlement is that the land is blocked out into a certain number of assessment classes mainly but not entirely with reference to the nature of the soil ; the relative productivity of these assessment classes is estimated as the result of experiments and enquiries and on the results obtained in similar adjacent districts. The assessment is distributed over these various classes in correspondence with their relative fertility so as to produce such an aggregate demand over the whole area as is justified on general considerations with particular reference to the existing assessment. That is the first stage which terminates in the Scheme Report summarising the proposals.

15. As regards assessment, the essential feature of the second stage, the Introduction of the Settlement, is the opportunity which is given to every assessee for filing an objection against the demand to be imposed on his land under the proposed rates. Already the effect of the proposed settlement has been considered village by village before the preparation of the scheme report ; during the introduction every individual can represent his case, singly or in groups. After orders have been passed by Government on the scheme report a notice called a 'rough patta' is issued to each pattadar through the village headman ; this shows for each field or subdivision included in a holding, the area, assessment, description of land, etc., both according to the revenue accounts and according to the settlement. Where a holding is registered jointly in the names of two or more individuals notice is issued to all of them. Absentee pattadars are required to make their own arrangements for receiving the pattas. In South Kanara (and presumably in other original settlements) objections were numerous ; there were 58,000 petitions out of less than 84,000 cases. Many of them were frivolous but all definite complaints not evidently frivolous were given for enquiry. Where the classification appeared too high it was reduced, and the total relief

granted during the introduction of the settlement amounted to Rs. 1,08,173 or representing a decrease of 4.4 per cent. on the assessment originally proposed. The settlement officer was not required to obtain the orders of Government before making this reduction of the demand contemplated in the scheme report.

16. Re-settlements are conducted in the same two stages.

Re-settlement. In the first stage the settlement officer collects the data for his proposals. He tours through the district examining in detail the working of the last settlement and its effects and enquiring into the cost of cultivation and general economic conditions in several villages. The results of his enquiries are compiled and tabulated and on these, and on his personal impressions, he frames his proposals for revision of the settlement. No crop measurements are conducted; the classification of soils is ordinarily left unchanged. Even although the relative valuation may be incorrect on account of mistakes in the original classification, or has been rendered inappropriate by the introduction of new crops, the classification would be left unchanged unless a serious mistake affected a large area. If the settlement officer considers that any reclassification of soils is essential he has to give full justification for his opinion. Reclassification of irrigation sources has however been a more common feature of re-settlements. The proposals for the revision of assessment are generally based on the variations in the prices of the staple grains of the tract. The economic position of the holders of agricultural land in the tract, as evidenced by rents and land values, is also taken into account. Other important points to which the settlement officer directs his attention are the effect of any large improvements in the means of communication or in the sources of irrigation, the increase or decrease of population, the extension or contraction of cultivation the increase or decrease in area under the more valuable crops, the extent to which it has been necessary to resort to coercive measures in the collection of land revenue, and the general character of recent seasons. As the result of these enquiries he submits in the scheme report his proposals with regard to revision of the classification or grouping, the enhancement, if any, and its distribution over the various assessment classes by revision of the rates. Thus if he proposes an enhancement of 20 per cent. over the district as a whole he may propose 25 per cent. on the two highest assessment classes, on the lower classes 20 or 15 per cent. and in the lowest classes he will probably propose that the rates be left unchanged. In the Bellary Scheme Report a precedent has been created by the proposal of the settlement officer that an enhancement of 3 annas in the rupee be taken on the black soils and only two annas in the rupee on the red soils which he considers less secure. The proposals are published, and the people affected have an opportunity, of which they avail themselves, to represent their case before Government passes orders. Their representations are considered and orders are passed.

The settlement is then introduced. Any revision of classification sanctioned by Government is carried out and in such cases individuals again have an opportunity to object against the new classification and the rates. In other cases no objection to the rates

is entertained; the classification was confirmed at the original settlements, the enhancement only takes the form of a percentage-increase which Government has already approved and no grounds for an objection lie.

III.—The Collection of Revenue.

17. The revenue on ryotwari lands is payable in two to four monthly instalments which vary in different districts. The annual demand fixed at settlement on individual fields, as explained above, ordinarily remains unaltered during the currency of the settlement. This demand is intimated to the pattadar in the patta issued to him during the introduction of the settlement. In the usual course he receives no further intimation of the amount due each year except a verbal demand from the headman as each instalment falls due. But if the demand varies he is entitled, on application, to obtain a statement of the account, showing how much is due under every head, land revenue, water-rate, arrears, if any, and cess or other miscellaneous items. For each instalment he obtains a receipt in a receipt book. According to the rules he may inspect the village accounts and, if he wishes to dispute the amount, he has an opportunity for doing so at the annual overhauling of the accounts conducted by a gazetted officer and known as *jamabandi*.

Water-rate, second crop charge and remissions are fluctuating items. If land classed as 'dry' is cultivated with the aid of water from a Government source of irrigation or if a second crop is grown on land classed as 'single crop wet' with the aid of Government water, there is an addition to the demand fixed at the settlement. The pattadar is also liable to pay an extra charge on 'single crop wet' land if he grows a crop such as sugarcane which occupies the land for more than six months. These additional demands are made on the report of the village accountant whose work is checked by the revenue inspector. If, owing to deficiency of water, dry crops are cultivated on wet land, only the dry assessment is charged. On 'registered double crop wet' lands only the 'single crop wet' assessment is levied if only one irrigated crop is secured and, owing to excess or deficiency of water, the other crop fails. This concession however is not applicable to 'compounded double crop' lands. Remission of the assessment is granted in respect of all classes of wet lands if, owing to deficiency or excess of water, no crop is grown or the crop is a total failure. A ryot who desires remission must apply for it in writing and his application is disposed of on the report of the revenue inspector. Ryots who fail to apply do so at their own risk. Individual applications are not however required in very exceptional circumstances as when famine, drought, or flood, entails a general remission of dry assessment.

18. If each instalment of the revenue is not paid by the 10th of the month in which it falls due, a written notice to pay may issue from the taluk office on the application of the village headman. This notice is an order to distrain the moveable property of the defaulter.

If the arrear of revenue is not paid on presentation of this order, moveable property, as nearly as possible proportionate to the amount of the arrear, is distrained. If the amount still remain unpaid, the property so distrained is sold. Should any arrear still remain, the landed property of the defaulter may be attached and sold after the prescribed notices are issued. It will thus be seen that although the land does not prescribe any order in which moveable and immovable property should be proceeded against for the realization of arrears of revenue, steps are taken against immovable property only as a last resource.

IV.—Land Records.

19. In Madras there is no record of rights. The villages are divided into survey fields ordinarily comprising not more than five acres of wet land or ten acres of dry land. A survey field may contain several properties and each property forms a subdivision ; as a rule no survey field should contain more than 20 subdivisions and where such divisions are minute the survey field may be less than 5 acres. At survey each of these fields is demarcated, surveyed and separately plotted in a field measurement book which shows each subdivision. On the basis of these field plots a Village Map is prepared. At original settlement a Diglott Register is compiled purporting to show the person in actual ownership of each subdivision. Subsequently, during the period of settlement, the village accountant is supposed to report changes as they occur and on receipt of orders, to enter them in an annual register, the Adangal. Although there is no record of rights this register ought to show at any time the existing position as regards ownership. Owing to various causes it has not however been found possible to maintain the registry up to date, but more attention is now paid to this branch than formerly.

20. One of the principal operations carried out in connection with and verification at re-settlement. resettlement is the revision and correction of the village permanent register. The work involved necessitates the prolonged employment of a large staff of subordinates. The survey is ordinarily conducted by a survey officer independent of the settlement officer. In two recent experiments an attempt has been made to conduct the work by a branch of the settlement party. In Tanjore, a closely populated delta district, the experiment has definitely failed and been abandoned : in Bellary, an upland district of dry cultivation, the experiment, still in progress, promises to be successful. Similar experiments have been fairly successful in Coimbatore and Vizagapatam. The work of revising the registers is conducted with the most scrupulous regard for the interests affected. When the enquiries have been completed, the settlement officer, as, already explained, issues to each pattadar a notice called 'rough patta'. This notice shows the time and place at which objections to entries in or omissions from the patta will be heard by the settlement officer or one of his assistants. It is generally considered that after this enquiry the resettlement register shows with substantial accuracy the persons in

actual enjoyment of each holding; but it does not purport to show their legal title and does not pretend to be a record of rights. It has recently been decided that an attempt should be made to develop a system of registry of titles through the agency of the Registration Department. This system has been introduced in an experimental and tentative form in selected areas.

21. Although there is no record of rights, communal and public lands are protected with the most punctilious care. These are demarcated by stones at every bend and plotted in the field measurement book which contains a record of all the measurements taken. The village-site and land pertaining to it, tanks, burial grounds, roads, waterways and paths are recorded so that any encroachment on communal or public property can at any time be detected and resisted.

22. There are two alternative methods of conducting economic enquiries. The enquiry may be extensive, directed to obtaining a general survey over a wide area, or intensive, confined to the detailed examination of a limited area or of selected features. In Madras the extensive method is not employed; it has never been the practice to collect annually information regarding the agricultural economy. Such information is only available in settlement reports describing the enquiries conducted during settlement, or in the reports on special investigations conducted when occasion may require. There are no statistics to show the proportion of land held by agriculturists, and non-agriculturists, residents and non-residents, or to show the area mortgaged at any given time, or the area alienated during the year by sale or mortgage, or the area rented, or the pitch of rents. The only feature of the agricultural economy for which there are annual statistics covering the whole province is the area cultivated with the different crops.

23. Even at resettlement the enquiries into such matters and even into the cost of living and cost of cultivation are not exhaustive. The settlement officer does not attempt to collect or compile statistics of this nature dealing with the district as a whole. His enquiry is not extensive, but intensive. He selects villages or areas which he considers representative and collects such information as he considers necessary to provide him with the material for revising the assessment. Thus in Tanjore, Mr. Jackson chose six Registration Offices, and tabulated all the documents relating to sales, mortgages and leases for certain periods, chiefly with a view to examining the change in land values since settlement. He suggests incidentally that the best land pays four-fifths of the produce to the landlord and the poorest land one-half, but there are no figures to show even for the villages taken as representative the area rented and the pitch of rents. In Bellary although the settlement officer has made a very detailed investigation of economic conditions in about 5 per cent. of the villages and in another 15 per cent. has enquired into indebtedness, in the remaining villages no enquiries have been held. The only economic feature which generally receives systematic treatment in resettlement reports is the position as regards indebtedness. To this a great deal of attention is devoted.

V.—Survey and Miscellaneous.

24. As mentioned above the unit of survey is the survey field separately surveyed and demarcated, with a subdivision for each property or class of land which it contains. Although all the subdivisions are surveyed only public lands are demarcated. The survey fields are connected up with theodolite stations, so that at any time the exact position of each demarcation stone can be accurately determined. The whole province been surveyed except some of the large estates on which the interior detail is no concern of Government. These are now being brought under survey.

25. The maintenance of the survey and demarcation devolves primarily on the village accountant, but he has not been found capable of maintaining them satisfactorily. The check of the demarcation stones, and their replacement or repair if missing or damaged, has within the last few years been allotted to a special officer, the land records inspector, who does no other work. Since this appointment was created the maintenance of demarcation stones has been considered satisfactory. The maintenance of the survey by the measurement and record of new subdivisions is the duty of the revenue inspectors. It is however now proposed to entrust these officers with the duty of maintaining the demarcation also and to abolish the land records inspectors.

26. At the head of the executive revenue department is the Board of Revenue consisting of four members, one of whom is in charge of Land Revenue and another, as Commissioner of Settlements, in charge of Settlements, Land Records, Survey and Famine. The settlement officers are immediately subordinate to the Commissioner of Settlements. The Survey Department is administered by a Director under the general control of the Commissioner of Settlements. This department is only concerned with original surveys or such resurvey as is required in connection with resettlement; it has nothing to do with the maintenance of survey. For the maintenance of survey and land records there has hitherto been a separate Land Records Department administered by a Director under the general control of the Commissioner of Settlements. Under the Director there were five Assistant Directors each charged with the supervision and inspection of maintenance in about five districts. In each district there was a Land Records Tahsildar who was primarily charged with inspecting the maintenance of registers and demarcation work and over-checking the maintenance work of Revenue Inspectors and Land Records Inspectors. He was under the administrative control of the Collector of the District and under the technical control of the Assistant Director and the Director of Land Records. The officers of the land records department also devoted much attention to the maintenance of a correct and up to date revenue registry; they scrutinized the several registers kept in taluk offices bearing on the maintenance of the revenue registry, survey and demarcation and reported defects in their maintenance to the Collector. On the abolition of the land

records department with effect from 1st May 1921 the technical supervision of the land records work has devolved on the Collectors, Divisional Officers and Tahsildars. In each district there are two or more Divisional Officers between the Collector and the Tahsildar (Township Officers) and ten or more taluks (townships). In each taluk there are ordinarily four to five revenue inspectors each with about 30 villages. A village ordinarily comprises about 1,000 to 1,500 acres of occupied land. The village officers comprise a headman who collects revenue and a village accountant (sometimes with an assistant) for maintaining the registers and preparing the assessment. The revenue inspector enquires into changes of registration and, in undisputed cases which do not involve the formation of new subdivisions, effects the mutation; he also inspects land assessed, or liable to assessment, at the wet-rate. Any matter connected with the ordinary revenue routine which the Revenue Inspector cannot dispose goes up to the Tahsildar of the taluk which in Madras is the primary unit of general revenue administration.

Note on the Standard Scale in Madras.

1. A scheme for the classification of soils was first laid down in the Manual of Classification prepared in 1858. By 1879 this scheme had been adopted in 23 settlements, but the different settlements exhibited great diversity in the grouping of soils and the framing of rates.

2. The scheme provided for five series of soils containing 14 classes and 66 sorts. The sorts of soil recognized in each district were grouped under a certain number of *tarams* or assessment classes, but the contents of each assessment class varied from district to district; only in three districts, Chingleput, Coimbatore and North Arcot was there any degree of uniformity. In these three districts the soil classification had been conducted by a single officer on the basis of experiments in Chingleput, and for some reason his grouping was accepted (with one small exception) as the most suitable basis for a standard scale of relative values.

3. The rates of assessment exhibited equal diversity. In the districts settled up to 1879 thirty-five rates varying from Rs. 12 to Re. 1 an acre had been adopted for wet lands and rates varying from Rs. 20 to As. 4 an acre for dry lands. The standard scale was framed with a view to standardise the values of the various classes and sorts of soil. This was effected by omitting rates which had rarely been adopted and were unlikely to be required in future. This process left 13 standard rates for wet lands ranging from Rs. 12 to Rs. 2 and 13 standard rates for dry lands ranging from Rs. 5 to As. 4.

4. Thus the standardization comprised two processes—

(a) the standardization of soil groups; and

(b) the standardization of the relative value of the groups.

The idea was that in future it would be necessary to determine (by experiment or otherwise) a suitable assessment for any single soil-group or assessment class, and that the suitable rates for the remaining

assessment classes would follow by applying the relative values of the standard scale.

5. The method of application was as follows. The 13 rates for wet lands were distributed in five groups, each group containing 9 of these rates. These groups were based on the classification assigned to the irrigation source and must not be confounded with soil groups or assessment classes. The second rate of the first group was the highest rate of the second group; the third rate of the first group was the second rate of the second group and the highest rate of the third group. This is illustrated in the marginal table. During the

Group	1		2		3		4		5	
Rates	Rs.	A.	Rs.	A.	Rs.	A.	Rs.	A.	Rs.	A.
	12	0	10	8	9	0	8	0	7	0
	10	8	9	0	8	0	7	0	6	0
	9	0	8	0	7	0	6	0	5	0
	8	0	7	0	6	0	5	0	4	8
	7	0	6	0	5	0	4	8	4	0
	6	0	5	0	4	8	4	0	3	8
	5	0	4	8	4	0	3	8	3	0
	4	8	4	0	3	8	3	0	2	8
	4	0	3	8	3	0	2	8	2	0

settlement of the Madura District the rates of assessment arrived at by the application of the standard scale were verified by comparison with those worked out by the adoption of (a) the outturns and cultivation expenses of the sanctioned settlements of adjoining and similarly situated districts, and of

(b) a commutation rate deduced from the price returns of the Madura District. This comparison showed that the standard scale of relative values gave too low a rate for the better and too high a rate for the poorer soils. The idea of determining relative values by a standard scale was therefore abandoned.

6. But this did not involve the abandonment of the standard grouping of the soils into assessment classes. This has remained as the standard system and been generally adopted, with local modifications where necessary. But the attempt to standardize the relative values of the assessment classes was abandoned.

THE LAND REVENUE SYSTEM OF THE PUNJAB.

1.—The Basis, Standard and Principles of assessment.

1. The system of land revenue in Punjab is, in theory, zamindari }
Tenures, Government does not collect revenue from individual cultivators, but from the holders or joint holders of a large estate, normally coinciding with the administrative village. Ordinarily, however, the proprietary body consists of a group of families, not necessarily of common ancestry, who occupy severally quite small holdings, often of no more than a few acres ; and, although the heads of these families are recognised as joint owners, in theory jointly responsible for the revenue and represented by one of their number as headman or lambardar, in practice, the share of revenue due from each proprietary family is severally distributed and separately recoverable. Thus as a general rule the so-called landlords are in fact peasant proprietors each cultivating his own land.

2. The land revenue is settled by periodical enquiries into the }
The basis and profits and circumstances of agriculture and the standard of assessment, agricultural population. The assessment is fixed according to circumstances but may not exceed half the value of the net assets of cultivation, the average surplus which the land may yield after deducting the expenses of cultivation from the value of the gross produce. This surplus is generally estimated on the basis of recorded rentals, whether in cash or in kind, most frequently the latter. The net assets and rent are not identical, but generally for purposes of assessment a full fair rent paid by a tenant at will is regarded as a sufficiently near approximation to the net assets and the safest guide and measure in estimating them. So that in effect assessments are based on rents. Proposals to take less than half the value of the net assets were formerly supposed to require justification. The rule now is that the assessment must be according to circumstances but must not exceed half the net assets. In practice the assumptions made in calculating the net assets are very cautious ; in recent settlements, during last 12 or 15 years, the half net assets standard has scarcely ever been reached and the assessment represents a much smaller fraction than one half, often falling below a quarter.

3. The demand may either be fixed, or fluctuating, or partly fixed }
Fixed and fluctuating and partly fluctuating. During the period of a settlement the fixed revenue remains un- assessments, changed from year to year, unless exceptional circumstances render suspension or remission necessary, or a permanent reduction of revenue is granted for loss of land by fluvial action ; the fluctuating revenue varies from year to year with the area cultivated or the area harvested. The comparative merits of these two

systems have been the subject of a prolonged controversy. Originally the whole demand was fixed. But this was found to entail a needless loss of revenue in areas where cultivation was extending. Also in precarious areas, dependent on inundation or hill torrents, or on a and extensive suspensions and remissions; the demand had to be scanty and capricious rainfall, a fixed demand necessitated frequent pitched low to be recoverable in poor years, and suspensions and remissions were still found necessary. The alternative of a fluctuating assessment was long regarded with suspicion and disfavour, not only by revenue officers but by the cultivators. Fixity of demand was appreciated and every one mistrusted annual assessments on measurements conducted by subordinate officials, particularly if they were to estimate and assess on matured areas. But experience, and improvements in the records of crops and in the crop recording establishment, have gone far to rebut these objections and it has been found that, whereas people may accept a system of fluctuating assessments with reluctance, they prefer this system when they have grown accustomed to it. Thus fluctuating assessments are now a normal feature of the revenue system and the revenue annually collected on this principle approaches $1\frac{1}{2}$ crores and exceeds one-third of the total land revenue.

4. In calculating the fixed demand an allowance is made for uncultivated and unculturable areas and the assessment on the normal cultivated area is the principle constituent of the demand; but profits from the waste, from spontaneous products of cultivated land and from water power are also liable to assessment if they constitute an important item in the income of the proprietary group, although assessment on waste land in respect of pastoral profits is now very rare.

5. The duration or period of a settlement varies according to the stability of agricultural conditions; the last operation of settlement is the announcement by Government of the period for which it is to be in force. Where conditions are unstable the period (as for the Thal and Mohar Circles in Shahpur) may be no longer than 15 years; where conditions are stable the period (as in the rest of Shahpur District outside the Jhelum colony) will ordinarily be 30 years. Under the new constitution there are signs of a movement for extension of the period.

6. There is no prescribed limit to the enhancement which may be taken on re-settlement, but it is accepted as a principle that deferment, if granted, should not be too short. As a matter of practice the enhancement would usually be restricted, for a period of five years, to an addition of one-third to the previous revenue; then, if necessary, to an addition of another third; and the full demand under the new settlement, if it exceeded the old demand by more than two-thirds, would not be reached until the end of the tenth year from the first introduction of the settlement.

7. Improvements by landowners during the currency of a settlement are protected, if the demand is fixed, by the terms of settlement; at re-settlement, as regards newly sunk wells and in some other cases, this

The exemption of improvements.

protection is continued until the improvement has been working effectively for twenty years. Thus, if a well be sunk, converting dry land into wet, and be first brought into work ten years before a settlement elapses, the assessment will not be raised on account of the improvement during the remaining ten years; at re-settlement the land will continue for another ten years to be assessed at the rate sanctioned under the new settlement for dry land, and, on sufficient grounds, the period of twenty years may be extended. It is proposed to introduce a considerable degree of differentiation in the period of protection with reference to the varying cost of well construction in different tracts. For unlined wells no exemption is ordinarily granted, but partially lined wells may receive a concession. Other expensive irrigation works, such as canals, permanent dams, or reservoirs, are treated similarly. The same principles are applied in the case of fluctuating assessments. But no exemption or concession is granted for improvements other than irrigation works, except where land is reclaimed from waste with the aid of a loan from Government. The general spirit and purport of the rules is to grant concessions in cases where a considerable outlay has been incurred and such cases in effect consist solely of improvements in irrigation. In one village visited, Saidpur, the demand fixed at settlement in 1916 was Rs. 401, but at the time of our visit the actual revenue was only Rs. 389, the difference representing the balance of exemption due on wells constructed before re-settlement.

8. Where land is improved by Government irrigation a share of

Water rate.

the enhanced yield is taken as a water rate, a service payment for the use of water; this is levied on the occupant of the land who uses the water. A share of the enhanced yield is also taken, as water advantage revenue, from the enhanced rent or increment of the surplus produce (*i.e.* net assets or economic rent) which accrues to the owner by reason of the improvement of his land. In some cases land has been improved by private irrigation; in such cases the occupant is not liable to Government for any water-rate, but the owner is liable to pay revenue on his land in its wet aspect as water advantage revenue.

The water-rate is assessed on the sown area according to the crop grown, the actual rates for different crops varying with the different irrigation systems. Remission is granted on application if there is an almost total failure. The settlement officer is not concerned with the assessment of water-rate although he will frequently be asked for an opinion. The water-rate on major canals is fixed by Government in the Public Works Department, and by the Deputy Commissioner with the sanction of Government on minor canals and other irrigation works which are under the care of the revenue department. If, as often happens, occupiers' rates are varied at settlement, the settlement officer invariably frames the initial proposals on which orders are passed by Government after the views of the irrigation department have been considered. In any case the proposals emanate from the revenue and

not from the irrigation department. For several years back the rates have been fixed empirically with reference to the rates current on systems previously in existence. There is no definite standard for occupancy rates; but it is now usual to consider the proportion which such rates, as proposed, bear to the estimated value of the tenants' share of the produce.

9. The water advantage revenue is assessed by settlement officers.

Water advantage revenue.

The water-rate is treated as part of the cost of cultivation, and the net assets form, as usual, the basis of the revenue demands. But even after allowing for water-rate the net assets are larger on irrigated than on unirrigated land and a revenue demand based on these net assets will be proportionally higher. The difference between the revenue on irrigated and unirrigated land represents the water advantage revenue. On works maintained by the irrigation department the water advantage revenue is credited to the department by book transfer.

10. Where canal irrigation has become certain the water-rate is consolidated with the water advantage revenue.

Assessment by the irrigation department.

Elsewhere both the water-rate and the water advantage revenue are assessed on the fluctuating system, according to the irrigated area matured (or in some cases according to the irrigated area sown). The water-rate (but not the water advantage revenue) further varies according to the crop cultivated. On systems under the charge of the irrigation department the demand on individual fields is calculated by the irrigation surveyor (canal patwari). In areas where a fluctuating water-rate predominates, any other portion of the demand which may be fluctuating is also assessed by the irrigation surveyor. On systems under the charge of the revenue department the demand is calculated by the village surveyor, but pre-audited in the district office before collection. The procedure of assessment and collection is described below; the point of immediate importance is that on the large perennial canals and on some inundation canals the assessment of irrigation dues by irrigation officers has long been and still is, the accepted principle. The expediency of using professional engineers as tax collectors, and the degree of confidence attaching to assessment statistics prepared by irrigation subordinates, are matters which have been long in controversy, and from remarks in settlement reports they are regarded by many revenue officers as still open to question.

11. The Cesses levied in addition to the land revenue fall under

Local cesses.

two heads; the cesses imposed by Government, and the *malba*, or fund raised by customary contributions towards village expenses. The cesses imposed by Government comprise a cess of 5 per cent. on the land revenue for the remuneration of the headman (lambardar) and of one anna to two annas in the rupee for local amenities provided by the District Boards, such as hospital and educational facilities and local communications. With customary contributions it has been the policy of Government to interfere as little as possible; out of this common fund the village pays for the cost of repairing survey marks, fees due on warrants for default of revenue, expenditure incurred by the headman when paying in the revenue, the cost of taking the

Page 346, (line 6).—After "produce" insert " or to the estimated value of the gross produce."

*Page 346 (paragraph 10).—Cancel first sentence, and substitute " Where canal irrigation is of old standing and there is comparative fixity of supply and its distribution, the water advantage is sometime' assessed at a moderate rate (*nahri parta*) as a fixed sum which is liable to periodic adjustment to permanent changes in the irrigation.'s*

Page 346 (paragraph 10), line 9.—Before "calculated" insert "generally."

Page 346 (paragraph 10), line 13.—After "department," insert "and on certain others."

census, the entertainment of strangers who put up in the village rest-house. The settlement officer records the local customs regarding contributions to the *malba*, and the method of spending it, but in his official capacity he does not go beyond the making of this record.

II.—Settlement.

12. A settlement of the land revenue, purely in its fiscal aspect and apart from the incidental preparation or revision of land registers, comprises three distinct processes; the collection of data for determining the demand, the determination of the demand by the analysis and application of these data, and the distribution of the demand over individual villages and holdings. Incidental to these proceedings are the measurement or re-measurement of occupied or cultivated areas, and the registration or scrutiny of occupancy and titles. When complete and accurate maps have been prepared at the previous settlement and changes in boundaries have not been excessive, the measurement or re-measurement is not properly a survey but an amendment of the existing field map. There is no system of registration of titles in the strict sense of the term. The entry of a right in the record is presumptive evidence, not a complete title. In the Punjab a re-settlement is preceded by a forecast in which the district officer estimates the probable financial results of settlement operations, and discusses other grounds, if any, for re-settlement; orders on the forecast are usually determined by financial considerations. The actual settlement is conducted in two separate stages. During the first stage the Settlement Officer makes a close personal study of the area for settlement and at the same time carries out any re-measurement which may be needed, and collects, compiles and analyses the material which will form the statistical framework of his proposals for assessment. On the more important matters, as will appear below, he obtains preliminary orders as the work proceeds, and at the conclusion of his enquiries he submits an Assessment Report dealing ordinarily with a single tahsil. This Assessment Report gives an account of his proceedings, a review of the statistical and other material bearing on the assessment, and his proposals for assessment. An abstract of his proposals with a brief statement of their basis is published for information and public criticism. The Assessment Report is then submitted through the Divisional Commissioner to the Financial Commissioner who considers any objections which may have been received and drafts orders for approval by the Local Government. In the second stage, after the orders of the Government have been received, the settlement officer introduces the settlement, distributing the demand over individual villages and holdings. This introduction of the settlement is an important matter but it takes very little time as the bulk of the work, all the re-measurement and registration, has been done before the submission of assessment proposals. Ordinarily in each tahsil a year is allowed for re-measurement and about six months for inspection; in practice the settlement of each tahsil seems to take about two years, but the work overlaps, measurement in one tahsil coinciding with inspection in another. The second stage need only take

a couple of months from the date on which orders are issued by Government, but if orders have been delayed, as happened in one tahsil of the Shahpur District, extensive re-measurement may be required and introduction would occupy five or six months. When the new settlement has been introduced in all the tahsils a final report describing the operation is submitted.

13. A Settlement Party normally consists of the Settlement Officer and one Assistant Settlement Officer, with one Tahsildar and three to five Naib-Tahsildars for each tahsil and about one kanungo to every four patwaris. The kanungos include those of the ordinary revenue establishment but about four times as many settlement kanungos are introduced. These is also a staff of temporary patwaris and a small office staff.

14. The net assets of the landlord form the theoretical basis of assessment and half of these may in theory be taken as the revenue. The Settlement Officer is required therefore to calculate the net assets and to analyse the the general economic conditions with a view to determining what proportion to the net assets should be taken. The procedure which he adopts and the principles on which he acts derive ultimately from the methods of settlement in the North-Western Provinces before English rule extended over the Punjab. In the early days the procedure was complicated by "elaborate calculations to ascertain what the landlord's assets should be. It was not till nearly 1833 that it occurred to Government to ascertain what the net assets actually were." But the convention that a full fair rent may be taken to represent that net assets has simplified the calculations. The estimation of the average net rental (*i.e.* surplus produce or economic rent) of land based on actual data enables him to avoid calculations which must necessarily be based on nebulous and more or less conventional data. It is still necessary to estimate the value of any contribution by the landlord towards the expenses of cultivation but the settlement officer need attempt no detailed estimate of the actual cost of labour, cattle and material in the various processes of agriculture. In place of estimating the net assets by calculating and deducting the expenses of cultivation the settlement officer is required to estimate the true rent. But in the Punjab about half the total occupied area is cultivated by the owner and of the rented area more than two-thirds is leased on the share produce system. Thus little use can be made of cash rents as a basis for determining the rental value and an estimate of the rent is a compound process with three factors: the outturn, its value and the share taken by the landlord.

15. On certain points of prime importance it is possible, and therefore convenient, for the settlement officer to obtain preliminary orders. The fixed demand under the old settlement rests on the old survey; it has to be decided how far the old measurement, as maintained and brought up to date during the expiring settlement, can be used without re-measurement as a basis for the new demand, and

how far re-measurement will be required. The conduct and results of the settlement will also depend largely on the framing of classification categories and assessment circles. To choose any single year as the basis for estimating the area under different crops would be unsound; if the whole area was under sugarcane one year and under rice the next, the value of the gross produce would differ greatly in the two years. Records of cropped areas during recent years must therefore be scrutinised to arrive at a normal figures as basis for the outturns, for the areas under various crops and for the ratio of matured to cultivated areas. The demand will depend also upon the prices at which the produce is valued. On these points therefore the settlement officer is required to obtain orders of the Financial Commissioner as early as conveniently possible.

The first operation undertaken by a settlement officer (it may even be taken up before his arrival) is a special Re-measurement. girdawari or crop inspection to determine what re-measurement is needed. Riverine areas always need re-measurement, in other areas partial lines are run and percentages calculated to show:—

- (a) the number of field unchanged;
- (b) the number of field where only the tenancy has changed;
- (c) the number of mutations involving no change in the external boundary;
- (d) the number of mutations involving a change in the external boundary.

These statistics form the basis of the preliminary report which the settlement officer submits containing recommendations about re-measurement.

In an area of mixed crops it is not sufficient to determine the outturn per acre for each crop, it is necessary also to determine the normal proportions sown and matured under each crop. The settlement officer therefore selects a cycle of years which he thinks will give a true normal, regard being had to the pace at which cultivation is expanding, and, excluding obviously abnormal years, frames a preliminary report on the years to be chosen as the basis for the produce estimate.

To ascertain the value of the produce the settlement officer examines the fortnightly reports published in the Produce Prices. Gazette, the records of trade prices at the principal markets, and local prices as ascertained by himself and his assistants. These figures are used to support his recommendation concerning the commutation prices to be used in the produce estimate. (Further analysis is still required to ascertain the general change, *i.e.* the effective rise in the prices of agricultural produce since the last settlement.)

16. The outturn varies with fertility and it is required therefore to classify the land into categories within each of which, for purpose of assessment, an average or normal outturn may be assumed. In the Punjab however there is no soil classification as this term is understood in other parts of India; irrigation is considered all important, and qualities of soil as comparatively

negligible. Thus the land is classed according to the source of irrigation as—

Canal irrigated	...	...	(Nahri)
Well irrigated	...	...	(Chahi)
Spring irrigated	...	...	(Abi)
Inundated	..	...	(Sailab)
Other unirrigated or 'dry' land	...	...	(Barani)

Unirrigated land would include not only dry cultivation on unembanked uplands, but also cultivation in fields embanked to impound and store water for the cultivation of the wet crops, for example, rain-fed rice. Such embanked and unembanked lands might be differentiated, or all dry barani land might be included in one class and assessed at a uniform rate. Large portions of the Province are arid or semi arid, and the presence or absence of irrigation over-shadows all other distinctions, while on the other hand the actual differences in soil texture, chemical composition, etc., are not great. Thus in such tracts the soil classification follows irrigation. Elsewhere—in the hills and submontane tracts—where irrigation is not of such paramount importance and rainfall fairly abundant, considerable physical differences exist which are of importance and are used as a basis of classification. The assessment resulting from classification is adapted to local conditions by the formation of assessment circles, and is further adapted to individual villages and holdings in the subsequent distribution of assessment during the second stage of settlement. Thus although a greater degree of refinement in classification formerly obtained and is still advocated the need for it is not considered urgent. In the arid or semi-arid plain districts anything like a general minute classification based on physical difference would be decidedly unpopular. Such differences, where they occur, affect large blocks generally and not individual fields or holdings and adjustment, so far as necessary, can be, and is, made in the internal distribution.

17. Besides this classification of land according to the kind of irrigation, the country is also divided into assessment circles which are more or less homogeneous groups of villages normally in continuous blocks. The distinctive characteristic of an assessment circle is that throughout the circle the rates by classes may be utilised as guides to the actual rates to be imposed for these classes in each constituent village. From village to village the normal circle rates will require, adjustment, but they should be capable of application as a guide and basis for the village rates.

18. In the determination of outturns all crops which cover an appreciable area, whether food or non-food, industrial or non-industrial, are taken into consideration, and an outturn is fixed for each crop for every class of land on which it is cultivated. The assumption for outturns depend on:—

- (a) the estimates of the previous settlement ;
- (b) the records of crop measurement conducted during the expiring settlement by local officers ;

(c) the assumptions approved in recent settlement of similar or adjacent districts;

(d) the outturns estimated for the district by the Director of Agriculture (which are revised from time to time in accordance with annual crop measurement and with information regarding exports),

(e) the recorded outturns over large areas from the accounts of large estates, such as those managed by Courts of Wards, or owned by the wealthier zamindars, or military farms, and

(f) crop measurements conducted by the settlement officer and his assistants during the course of operation.

Very little weight is attached to crop measurement as a means of determining the outturns. "Since the attempt to record soils with any minuteness has been abandoned it is quite usual to find all the land dependent on rain in a large circle put into a single class. Obviously the thousands of acres so classified will vary widely in natural fertility and the average outturn will be affected by the degree of skill and industry possessed by the cultivators. The yield of different harvests also varies to an extraordinary extent, especially in the case of unirrigated crops." Crop experiments therefore are primarily regarded by most officers as means for defining and correcting their personal estimates and they are used in the Reports to illustrate rather than to prove or support their assumptions. Thus in the settlement of the Shahpur District, Statement XIII in the Assessment Report on the Khushab Tahsil, which summarises the data for determining the outturns, contains figures to show the outturns arrived at by experiment; but for many crops there were no experiments, for some the experimental result differs widely from the outturn adopted, and in no case is any information given regarding the number of experiments or the area which they covered. In the Assessment Report on the Berar and other tahsils of the same district, although outturns are discussed in some detail in the body of the report, the table of produce estimates gives no information whatever concerning the basis for the outturns assumed. There is however a more or less definite system of crop experiments (see Financial Commissioner's Standing Order No. 9, paragraph 8) but the results are not as valuable as they might be. This is due to the paucity of the agricultural department staff, and to the fact that the attention of district officers has for many years past been necessarily devoted to matters other than revenue administration. Owing to frequent accidents of season and other causes the short period occupied by settlement operation does not give settlement officers sufficient time to form satisfactory conclusions on the experimental data which they collect. Such data are inevitably scanty as, generally, the settlement officer has one or at the most two years to collect them before he has to frame his assessment. What is really needed is systematic, scientific and continuous experiment, and collection of the resulting data by agricultural experts, not only during settlement but also between settlements. It is considered useless to expect much from comparatively spasmodic experiments conducted only during settlement operations.

19. These preliminary operations provide material for estimating the money value of the gross produce, Calculation of the rental value. The landlord ordinarily takes a definite share of the gross produce, usually, a half, one-third, or two-fifths, but in certain cases he makes contributions towards the expenses of cultivation, especially the water rate, and on the other hand the tenant may make payments in addition to the share of produce, especially towards the water advantage rate. By adding or subtracting such miscellaneous items from the landlord's share, the true net assets can be calculated; half of these net assets represents the maximum which may theoretically be taken as the revenue demand. The rent calculated by this process is checked by comparison with the rents statements of estates, under the Court of Ward, with the accounts of Military farms, and with such trustworthy figures for fixed cash rents or fixed produce rents as may be available. By this procedure the settlement officer is enabled to frame an estimate of the net assets over the whole of each assessment circle. The assessable capacity as thus determined has to be further considered with reference to general economic and political conditions which have always received great attention, and to local circumstances.

20. It deserves notice that so far as possible, and ordinarily to a very large degree in practice, the assessment Revision settlements. circles, the classes of land and the estimates of outturn are left unchanged. The frame work of settlement is based on natural physical conditions, and, once these have been accurately interpreted, is little less enduring than the physical elements on which it rests. The classification is entirely based on obvious unquestionable facts; only the accuracy of the record can be questioned. This is made known to each landowner at the time that the registration and re-measurement of his land is notified, so that, if there is any error in

Page 352 (paragraph 21).—Cancel second sentence and substitute "For each village he prepares an abstract, which is a sheet rather than a book, though the sheets of all villages are subsequently bound up in book form."

sheet rather than a book. This contains such elements of his estimate regarding the assessable capacity as he can put on paper. For each village he has a detailed village assessment statement containing (in the form which we saw in the Montgomery district) figures for:—

- (i) the area cultivated and uncultivated, irrigated and unirrigated;
- (ii) the cultivation and rents,
- (iii) the number of wells,
- (iv) the status of owners and other particulars of ownership,
- (v) the land revenue paid,
- (vi) the population, man and beast,
- (vii) the transfers of land, and
- (viii) the averaged cropped areas during the years selected as the basis for the produce estimate.

The abstract is illustrated by a sketch to show the sources of irrigation, *e.g.* wells, and at least such classes of land as are differentiated under the existing distribution over holdings. Thus the settlement officer might note that in the north there was a block of good or average or poor friable loam under dry cultivation, in the south, well-irrigation, and the south of this inundated land. He would especially note whether the land in each class was good or bad as compared with the average of that class over the assessment circle. In theory the principal object of these inspection notes is to facilitate distribution of the assessment over villages *after* Government has sanctioned the proposals for assessment. But in practice they are taken into consideration when the proposals are originally framed. The inspection of individual villages and the consideration of their circumstances, revenue paying capacity, etc. (with the totals thus attained for a whole assessment circle) constitute a most essential element or guide for the settlement officer in finally deciding the total assessment appropriate for the circle with reference to its statistics and the results of his theoretical calculations of its half net assets. Briefly the work of assessing a circle is a gradual movement from a general view (yielded primarily by the circle statistic and data) to a view of the included particulars (yielded by the result of individual inspections) and then again from the latter view to the general view, both views mutually modifying each other in the process.

The effect of this procedure is that when the settlement officer is framing his proposals for assessment he has full command of the theoretical data for assessment in each class of land not only over the assessment circle as a whole but for every village, and has also framed already and recorded a rough but considered opinion of the practical effects of his proposals for each class of land in every village. He has also received orders on the main chief theoretical factors, assessment circles, classes of land, crop proportion and prices, and it would rarely happen that his proposals for assessment would diverge widely from the intentions of Government. At the same time he can adjust the rates with full knowledge as to the effect of the adjustment in every village which it affects. He can therefore make proposals with some degree of confidence that they will, at least as regards their general effect, meet with acceptance, and with certainty that the distribution over circles and villages will in practice correspond closely to his intentions.

22. Under recent orders, after the settlement officer has submitted his report, a brief abstract is prepared and translated into the vernacular. This gives —

(i) a short explanation of the distribution into assessment circles ;
 (ii) the main data on which the half net assessment estimate is based ;

(iii) the general consideration on which the pitch of the amount of the assessment proposed are based, and

(iv) the assessment actually proposed and the actual average revenue rates for adoption.

A period of one month is allowed from the date of publication during which anyone affected is allowed to submit representations or objections for consideration by the Commissioner

who will, if necessary, obtain the opinion of the settlement officer on them before reviewing the report and take steps to bring them to the notice of the Financial Commissioner. This procedure has only recently been introduced, and in fact has so far been applied in the case of one district only.

23. After Government has passed orders on the rates, the settlement officer is introduced. In this stage the settlement officer distributes the assessment over villages and over individuals. He is allowed to vary the total assessment of the circle to a limit of 3 per cent. above or below the sanctioned aggregate. As regards the assessment on individual villages the settlement officer has a free hand in putting any village as much above or below the figures brought out by the circle rates as he pleases. Ordinarily he distributes the assessment over the villages in accordance with his estimates previously formed of their assessable capacity. When he has finally decided what the village ought to pay he announces the demands and signs a statement certifying the amount. Objections may then be lodged. They are presented to the settlement officer from whose orders an appeal lies to the Financial Commissioner.

The further distribution of the assessment over individual properties is regarded as the most important part of settlement, but as a rule it presents little difficulty. Before this stage is reached the subordinate settlement staff has been discussing individual distribution with the village and assisting the people to arrive at a satisfactory result. All sorts of internal distribution are in vogue. The commonest is probably based on the assessment classification with perhaps a further subdivision especially of wells. Flat rates on unirrigated cultivation and cultivated areas are common in the plains districts, and indicate how little importance is attached in practice to physical difference of soil; there may even be a flat rate over the total area, including uncultivated land. Some villages assess on shares according to the geneology; some assess on ploughs or on wells (so much per well, disregarding the catch crops on rain fed lands); if the people desire a differential rating of soils (*e.g.* good and poor) even though separate rates have only been framed for classes of land (*e.g.* chahi, barani) the settlement tahsildar may be directed to classify the village on the lines desired. A special case of great importance occurs in the distribution of assessment on well-irrigated land. Ordinarily the land is assessed at the dry rate, or at some rate between the dry rate and the full chahi rate; the balance is placed in a lump sum on the well and remitted if the well goes out of use. Where grazing areas are large some of the revenue is often levied on the cattle. This can be done in two ways; either the cultivated area is assessed at a low rate per acre and the balance divided up proportionally over the cattle every year; camel, oxen and sheep or goats paying, say, in the proportion of 8 : 4 : 1 per head; or each head of cattle pays so many annas per head for each class and the balance, if any, is spread over the cultivated areas. The people generally express the distribution over soils in proportions, *e.g.* annas 8 in the rupee for the most valuable soil per acre annas 6 for the second and annas 2 for the third. These systems of internal distribution do not apply where

Page 354 (paragraph 23), line 14.—After " lies to " insert " the Commissioner and, subsequently, to."

Page 354 (paragraph 23), line 38.—Cancel " often" and substitute " occasionally, and in the past was often."

fluctuating assessments are adopted. With these the sanctioned assessments are in the forms of rate per acre sown or matured, and these rates are applied to the actual area of each harvest. With the exception however, of the fluctuating assessment, the settlement officer almost invariably accepts the distribution made by the village unless any group or any individual objects. Should there be any objection he enquires into the matter and endeavours to effect an agreement by mutual consent. In the last resort, if the people cannot agree, he himself fixes the assessment and his orders are open to appeal.

III.—The Collection of Revenue.

24. The year of assessment begins on the 1st October. During September an Annual Demand Statement is prepared in the Tahsil and District Offices for each estate or village. The tahsil copy has to be checked with the district office copy and returned before the 1st October. The Patwari about the same time prepares the annual demand statement for the village, the *farad dhal bachh*. After the kharif harvest this statement is made over to the headman for collection and a fresh statement is prepared after the rabi harvest. The demand may contain a fluctuating element. If so this fluctuating portion may be assessed either by the canal patwari, or subject to the orders of the Deputy Commissioner, by the village patwari. The water rate assessed by the canal patwari is entered by the village patwari in the demand statement until the orders of the Deputy Commissioner have been received. This is the procedure also with regard to the water advantage revenue, assessed by the canal patwari, and also with fluctuating chabi and barani if assessed by the canal surveyor. The headman collects the revenue according to the amount entered in the demand statement. For every payment he makes or is supposed to make an entry in a Receipt Book maintained by the cultivator, but the entries in these receipt books are understood not to be made very regularly and the specimen examined, although apparently complete, was certainly not very clear. The cultivator receives no certain intimation of the amount due excepting in the case of fluctuating assessments by the canal patwari; for such items he receives a tax ticket showing the crop grown, the rate per acre, the area under crop and the total water rate. Apparently, except for this item, the headman merely tells the cultivator how much is due and the cultivator pays up and obtains an entry in his receipt book. As regards the fixed portion of the demand each land owner is supplied at measurement with a *parcha*, a statement showing the area of his land and its classification, and at the distribution should receive a paper showing the old and new assessments. These *parchas* remain unaltered between settlements, even though there may be changes in the holdings. The settlement officer should also publish the distribution by preparing a record showing full details of which one copy is given to the headman and one to the patwari. If the assessment is fluctuating a similar statement, showing the area, rates, previous and current demands for land revenue and cess, has to be published in the same manner every year.

25. The headman is personally liable for the revenue and a reduction is made from his commission if it is not paid punctually in full. He therefore ordinarily pays up the full demand and applies to the tahsildar for assistance in recovering outstandings from defaulters. The tahsildar thereupon issues a writ or notice of demand directing the defaulters to pay up by a certain date. If this notice is not complied with the defaulter is liable to arrest and may be confined in the Court Lock-up for 10 days, but if detention for over 24 hours is necessary the matter must be reported to the Deputy Commissioner. No order for the attachment of property can issue without sanction from the Deputy Commissioner. In the first place action is taken against moveable property and only after this has proved infructuous is action taken against the land which is the subject of default. When land is attached it may either be transferred to another person in the village on payment of revenue and such premium as is thought necessary, or it may be sold. But in practice it rarely happens that action has to be taken against land at all and it is rarer still to proceed beyond attachment. In Dipalpur Tahsil last year 50 warrants of arrest were issued but only one man was actually arrested, and there were only five attachments of moveable property.

Revenue may be paid by Revenue Money Order through the post; these orders, however, may not be issued to anyone but the headman, although it would seem that absentees and defaulters may pay revenue by money order. This is placed on deposit and paid out to the headman when he next attends at the tahsil headquarters.

26. One feature of the procedure for collecting revenue that deserves attention is the control over fluctuating assessments (except those assessed by the Canal Surveyor). Demand statements are submitted after each harvest to the Commissioner and Financial Commissioner for scrutiny. The object of this precaution is to ensure that the revenue annually collected approximately corresponds with the estimate framed by the settlement officer.

Scrutiny of fluctuating assessments.

IV.—Land Records.

27. The Record of Rights in the Punjab is a standing record compiled at settlement. It comprises the following documents:—

- (i) An opening proceeding giving the authority for the record a list of documents comprised, etc.
- (ii) A field map.
- (iii) A genealogical tree (the Shajra Nasb).
- (iv) A register of holdings, occupancy and assessments (the Jamabandi).
- (v) A list of revenue assignments and pensions.
- (vi) A statement of rights in wells.
- (vii) A statement of rights in irrigation, if any, from other sources.
- (viii) A statement of village rights and customs (Wajib-al-arz).
- (ix) The order determining the assessment.
- (x) The order distributing the assessment.

On the basis of this Standing Record a quadrennial edition is prepared consisting of the Jamabandi, the list of assignments and pensions, and the field map corrected up to date ; although known as the annual record it is only prepared every fourth year. The following paragraphs describe first the preparation of the standing record of rights at settlement and re-settlement, and secondly the maintenance of the annual records.

28. The correction of the record is referred to in settlement. Measurement. procedure as "measurement"; as above mentioned it is one of the two main branches of work in the first stage of settlement operations. The object of measurement is to record the area, classification, occupant and owner of each survey field.

A survey number is a single parcel of land separately occupied which should not be too large for harvest inspection purposes. Every parcel separately owned by one individual or jointly by a group is given a separate survey number, as also is every parcel separately occupied, even although held of the same owner ; where any such parcel greatly exceeds one acre a separate survey will ordinarily be given for each acre which it covers. The boundaries of survey numbers follow cultivation ridges or occupancy limits. But where a single parcel, separately occupied although not exceeding one acre, is subdivided by cultivation ridges, which divide the property into portions smaller than one acre, these ridges will not be surveyed nor plotted. (Financial Commissioner's Standing Order No. 16.)

Measurement thus comprises three processes :—

- (a) The registration of owners.
- (b) The registration of occupancies.
- (c) The classification and survey of land.

29. A Register of Owners is compiled by the patwari in the form of a genealogical tree (Shajra Nasb) of all people with a proprietary right in the village. At original settlement the genealogical tree traces back their rights for three generations or, if possible, to their common ancestor. At revision settlement it traces them back to their predecessors in interest at the previous settlement. If the record at the time of revision settlement is incorrect owing to non-report of a mutation the necessary correction will be made in the mutation register before the new Shajra Nasb is prepared ; in the event of a dispute the entry will be made after summary local enquiry and usually will follow possession. As already mentioned there is no system of registration of titles in the strict sense of the term. The entry of a right is a record of presumptive evidence not a complete title. Conventional symbols are used to distinguish the lambaridar, absentees, females, and people who are deceased. Where a son holds a share separately from his father's share the name of the son is entered in red ink. The patwari then requires then each owner of land to furnish detailed information regarding its occupancy and all rights in it. For each separate occupancy he prepared in duplicate a khatauni slip, numbered serially, showing the names of the owner and tenant, the number and name of the field or fields, the name of the well or other source of irrigation, the area and class of land ; the rent, sales, and mortgages with possession,

are shown as in the record of rights, mortgages without possession are not usually shown. In revision settlements the khatauni slip gives a reference to the last jamabandi number, the former number and name of the field, and the number in the mutation register. Certain of the foregoing entries can only be made after measurement but the slips are filled in so far as possible and copies (*parchas*) distributed to the owners and occupants; each owner, mortgagee and tenant receiving a *parcha* for each parcel of land held.

The patwari then proceeds to measure and plot each field. He numbers it, enters each number on the Shajra Kishtwa, works out the area, classifies it, informs the owner and cultivator of the result, and considers their objections, if any. He then writes up the Field Book which shows the number of the field, the former number, if any, the number of the khatauni and the area, and also completes the entries in the khatauni. Village-sites and roads are also measured; if any road has no distinct bound it may be taken as 3 kadams (about 16 feet) wide, if it shifts from year to year a note should be made in the khatauni against each field it crosses. Village-sites, roads, etc., are distinctly coloured in the village map. Three copies of the village map, which is usually on the scale of 220 feet to the inch or 24 inches to the mile, are prepared. One (on cloth) is for the use of Patwari in crop inspection, one for tahsildar office, is and one for the district office. A fourth copy is also prepared for the irrigation department in canal areas, and also copies for any other department or local body concerned.

After these records have been checked and finally passed the patwari prepares the jamabandi or register of the holdings of owners and tenants showing the fields comprised in each, the revenue for which each owner is responsible, and the rent payable by each tenant. This is in the same form as the annual jamabandi, with the addition of a column to show the former field number. At the same time the patwari prepares a list of revenue assignments and pensions, a statement of rights in wells, and other sources of irrigation, and a statement of custom respecting rights and liabilities on the estate (the *wajib-al-arz*.)

These proceedings and documents are inspected by the kanungo, naib-tahsildar and tahsildar. The kanungo and naib-tahsildar are expected to verify every khatauni and the tahsildar 25 per cent. of them.

Settlement officers are particularly enjoined to bear in mind that their record work is of even more importance to the welfare of the people than the assessment, and not to sacrifice the accuracy of the record merely for the convenience of their assessment work.

30. The basis of the annual record is the jamabandi prepared at settlement. For many years an attempt was made to compile an annual record embodying all mutations but this was found impossible and, after an unsuccessful attempt to abbreviate the jamabandi, it was decided that the annual record should only be prepared anew every fourth year. The villages of each tahsil have accordingly been divided into four groups, if a patwari has four villages, each of these would be placed for this purpose in a different group.

Page 359, line 19.—Cancel "The plan of the mutation" and substitute "In mutations affecting the survey a plan of the area involved."

Mutations fall under two heads:—

(a) Those affecting rights, which may or may not affect the survey, e.g., sales, partitions, and

(b) Those affecting survey without affecting rights.

Landowners, mortgagees and occupancy tenants are required under penalty to report to the patwari any right acquired. These are entered by the patwari in the register of mutations and should be publically notified in the village, but this is not done in practice. The patwari is also required to ascertain and record (in his Harvest Inspection Book) undisputed changes of tenants at will. All other changes are reported through the kanungo to the revenue officer (usually a naib-tahsildar) competent to sanction and attest the mutation. Every year it is found necessary in some districts to sanction one or more extra naib-tahsildars for attesting these mutations; thus much of the work is done by officers of small standing and little practical experience and must be done rapidly. "These are matters of reflection considering that each Jamabandi now possesses the same authority as a record of rights drawn up at settlement."

The plan of the mutation is entered on the back of the entry in the mutation register, the new lines being shown in red ink. The area calculations are also shown on the back of the sheet. The measurements are recorded and must be checked by the kanungo; the attesting officer only sees that the plan is drawn to scale. One copy of the report and of the plan is retained by the patwari.

The attesting officer is required to take special precautions that no order affecting the share of any right holder is passed without his having an opportunity to appear. His order should show on the face of it the date, the place where it was passed, which ought to be either the village concern or somewhere quite close, that all parties interested were present or that an absentee had an opportunity to attend and that interrogatories have issued. No mutation may be incorporated in a jamabandi until it has been duly attested and special efforts are therefore required every fourth year to complete the mutations. (In Lahore 118,928 mutations were effected during settlement as compared with a total of 208,003 during the previous 20 years.)

Mutations not affecting rights are distinguished in the Harvest Inspection Book by a red cross. Every fourth year the kanungo compiles a list of these fields which is made over to the patwari for the preparation of a supplementary map, a small extract from the settlement map to be filed in the Jamabandi. Every fourth year when the new jamabandi is prepared, the patwari brings the village map up to date. He files the original map in the tahsil office and takes a tracing of it on which he proceeds to work as above.

31. The records prepared by settlement officers and maintained by the land records establishment provide detailed, and generally up to date, information regarding the ownership, occupancy and produce of agricultural land. Statistics are annually published showing for the province as a whole and for each district the area of land owned by agricultural tribes

1. Land Revenue Administration Manual, paragraph 530.

2. Final Report on the Settlement of the Lahore District, 1916, paragraph 32.

and others, the areas of land transferred by sale, mortgage or otherwise, and the area of land rented. The value of land as evidenced by sales and mortgages is also calculated but no figures are published to show rental values, nor the duration of tenancies. It is considered by the Director of Land Records that the "checking of annual records is not so careful as it should be, that the instructions regarding the annual testing of the work of field Kanungos are not being duly observed, that a sufficient supervision is not exercised over Kanungos by the superior officers, and that the diaries of district Kanungos are not examined with sufficient care", but that while there is considerable room for improvement the revenue records are on the whole maintained in a satisfactory state.

V.—Survey and Miscellaneous.

32. The fixed demand remains unaltered from one settlement to the next except for the disturbing factors of diluvion and the protection of new wells, and in areas of fluctuating assessment; thus the revenue is not affected by neglect in maintaining the survey. Formerly maintenance was considered waste of money and the survey was left unaltered until the re-settlement, but for many years the alternative policy has been adopted and endeavours have been made to maintain the survey in such condition that at re-settlement, re measurement will prove unnecessary. This goal appears to have been obtained in some, but by no means in all, districts.

The method of survey or resurvey is as follows. A base line of 200 kadams (double paces) is laid down, accurately measured, surveyed, plotted on a map and permanently demarcated. (The kadam or pace varies in different districts from 60 to 75 inches but 66 is regarded as the standard. On this is built up a square with sides of 200 kadams. This is plotted on a mapping sheet on a plane table. On each side of this another square is laid down and plotted and so on until the village lands are divided into blocks of 200 kadams square. Only the base line of the first square is permanently demarcated, the angles of the others are temporarily fixed with pegs until the survey is completed. When the villages were first laid out the trijunctions were demarcated and the trijunction stones are shown in the trigonometrical survey of the Survey of India. The position of these trijunction marks relative to the square is determined by survey and their position relative to one another can be calculated. The distances between each pair of marks as calculated are compared in the settlement office; if the figures are approximately correct, the survey squares can be accepted as accurate, if there is any serious discrepancy between the distances as calculated on the basis of the squares and as given by the Survey of India the laying out of the squares must be verified and if necessary corrected. On the basis of these squares the boundaries of these squares and the boundaries of the village and interior details are then surveyed and plotted as described above in connection with measurement.

33. There are two Financial Commissioners. The Financial Revenue organization Commissioner who has most experience of settlement work takes charge of Land Revenue, Settlement and Land Records. This arrangement dates from 1910 when the appointment of Settlement Commissioner, which had existed since 1897, was abolished. The Financial Commissioner is in general control, through Commissioners and Deputy Commissioners, of the divisional and district revenue administration, and through the Director of Land Records controls the administration of the land records department. He is in immediate control of settlement.

There are five Divisional Commissioners, and subordinate to them are 29 Deputy Commissioners. Below the Deputy Commissioner are Assistant or Extra Assistant Commissioners who are usually grouped at Headquarters but often reside at outstations in charge of subdivisions. One Assistant Commissioner, ordinarily drawn from the provincial service, is the Revenue Assistant and is entirely or principally occupied with the land revenue which he administers on behalf of the Deputy Commissioner; but Subdivisional Officers are usually the Revenue Assistants of their own subdivision. The district is divided into tahsils (townships) each under a tahsildar (township officer) charged with the revenue and magisterial administration of the tahsil. A tahsildar is assisted by one or more naib-tahsildars who ordinarily perform such duties as the tahsildar assigns to them but are usually allotted a definite part of the tahsil. The rule is for the tahsil to be divided into circles, the tahsildar taking charge of one (and general supervision of all) and the naib or the naibs taking the remainder: they are supposed to change circles every harvest.

The unit of revenue administration is the estate (mahal) usually identical with the village (mauza). These are grouped under zaildars (group headman) paid by Government out of the land revenue, about 1 per cent. of which is allotted for the purpose, and each village is represented by one or more (sometimes by many) lambardars (village headman) paid by a cess of 5 per cent. on the land revenue.

34. The Director of Land Records is appointed to assist Divisional Commissioners and Deputy Commissioners in maintaining the record of rights and revenue registers and to advise the Divisional Commissioners and Local Government. His principal duties are supervision of the district land records staff in connection with the preparation and maintenance of the records and subsidiary registers; he controls the measurement operations of settlement, and supplies the additional staff required in a district during settlement, but has no connection with the assessment work of settlement. The Director of Land Records is also Inspector-General of Registration. He has two personal assistants. The province is divided into two circles; and each personal assistant supervises both the land records and registration work of the circle in his charge.

In each district there is a district kanungo (revenue inspector), for each tahsil an office kanungo and three to five field kanungos. Each field kanungo is in charge of about 20 patwaris (village registrars), one for every four or five villages or possibly two to a

village. Hitherto the patwaris have drawn Rs. 12 to Rs. 16 a month, the field kanungos Rs. 35 to Rs. 40 with a horse allowance of Rs. 5 to Rs. 10, the tahsil office kanungo has drawn Rs. 50 and the district kanungo Rs. 75— $\frac{1}{2}$ —100. Under a revised scale of pay recently sanctioned the patwaris will draw Rs. 22 to Rs. 26, the pay of the field kanungos remains unaltered but the horse allowance will be raised to Rs. 20, and the pay of the tahsil and district office kanungos be raised by Rs. 10. The provision of office and house accommodation for patwaris has been sanctioned and the constructions of these buildings is now being systematically taken into hand. Patwaris also receive a proportion of the fees charged on mutations.

During settlement operations some of the duties and responsibilities of the Collector are made over to the settlement officer, including the appointment and removal of headmen, and suspension or dismissal of kanungos and patwaris and all business connected with records, assessments, surveys, boundaries and partitions.

35. Candidates for the post of patwari are only eligible if they have passed the Middle School Final, unless they have special hereditary claims as sons of a patwari or of an agriculturist. Before joining the patwari school the candidate must attend the rabi crop inspection (girdawari). He then enters the school opened annually from time to time in each district from 1st April to end of August. If successful at the August examination the candidate may attend kharif crop inspection and after this is entitled to a pass certificate; the rules however are not always strictly observed. He may spend about three years in the reserve, occasionally officiating, and finally is selected for a permanent appointment. Some draw pay as assistant reservists on Rs. 7 or 8 during this period. Two-thirds of the kanungos are promoted patwaris; they may also become tahsil revenue accountants. The patwari is required to live in the *patwar-khana* if habitable, but this is rarely the case. The work of the Patwari comprises Registration of the crops; maintenance of Records of Rights, writing up statistical registers, reporting calamities, outbreak of infectious diseases, encroachments, deaths of pensioners emigration and immigration and assisting in collection of revenue by preparing the *fard dhal bakh* and preparing receipts. Also the census of men and beast, electoral rolls, and much miscellaneous work connected with transport registration, recruiting, etc.

One-third of the kanungoes are men below 25 who have passed the Entrance examination; two-thirds are promoted patwaris. Those recruited by direct appointment serve two years as patwaris or apprentices and then sit for an examination held by Director of Land Records. They are eligible for promotion to naib-tahsildar and tahsildar. During settlement the kanungos work under the settlement officer, who also employs additional settlement kanungos.

All naib-tahsildars and tahsildars start their training with a period of 9 or 10 months in the settlement department during which they work first as patwari and then as kanungo. Assistant and Extra Assistant Commissioners are trained on similar lines.

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