

THE  
SURVEY AND SETTLEMENT MANUAL.  
VOLUME II.  
RELATING TO THE  
SYSTEM OF MEASUREMENT AND  
CLASSIFICATION UNDER THE REVENUE SURVEY  
OF THE  
BOMBAY PRESIDENCY.

Compiled by Order of the Government of Bombay.

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## PREFACE.

The present compilation is designed to be a supplement to the Survey and Settlement Manual published in 1882, and together with it to form a complete and authoritative book of reference on all matters connected with the Bombay system of Survey and Settlement. The fundamental principles on which the system was established are expounded in the well-known Joint Report of 1847, which, together with the interesting correspondence in connection with it, is contained in the existing Survey and Settlement Manual. The present compilation is devoted to explaining in detail the methods of working and the rules of procedure under which those principles were carried out in the varying circumstances of different districts both at Original and Revision Surveys. The materials used in the compilation have been (1) the published Settlement Selections, (2) the Departmental Rules of the several Survey charges, (3) authoritative publications such as "The Land Revenue of Bombay" by A. Rogers, Nairne's Hand-book, Cordeaux's Compilation, the old Circular Orders, and (4) the records of the Survey and Settlement Commissioner's office.

For the sake of convenience, the compilation has been divided into two volumes, Volume II and Volume III—the existing Survey and Settlement Manual forming Volume I of the whole work.

The compilation consists of four Parts, viz. :—

- Part I—Measurement.
- „ II—Classification.
- „ III—Settlement.
- „ IV—Miscellaneous.

Parts I, II, are contained in Volume II, and Parts III and IV in Volume III.

Part I—Measurement—has been compiled by Mr. F. B. Young, Superintendent, Land Records and Agriculture, C. D.; Section I—Deccan and S. M. C. Classification—of Part II has been compiled by Mr. J. C. Whitcombe, Superintendent, Southern Marátha States Survey; the remaining Sections (II—North Kánara, III—Gujarát, and IV—Konkan) of Part II and the whole of Part III have been compiled by Mr. H. V. Sathe, Assistant Superintendent, Konkan Revenue Survey on Special Duty, and Part IV by the office of the Director of Land Records and Agriculture.

All available information bearing on different points either directly connected with Settlements, or forming the routine of the Settlement Branch of the Department, has been carefully collected, and that relating to each point has been compiled in a separate chapter in historical sequence. All matters which have no direct bearing on the subject-matter of the chapter or which are not required for immediate reference, such as Departmental rules, forms, statements, &c., are relegated to appendices, which are arranged and paged separately under separate headings.

It is hoped that the compilation, together with the exhaustive introduction which is given at the beginning, will be found to contain a complete record of the chief functions of the Bombay Revenue Survey and Settlement Department.

H. V. S.

*Poona, 31st August 1900.*

## INTRODUCTION.

These Volumes (II and III) of the Survey and Settlement Manual have been compiled under the instructions conveyed in Government Memorandum No. 7738, dated 30th November 1898, in order to provide, as far as possible, a complete record of the methods of working and the rules of procedure of the Bombay Survey and Settlement Department, in view of the final closing of the Department and the transfer of its records to the Land Record Staff of the Revenue Department. The general principles on which the operations of survey and settlement have been carried on have been described in the following introduction, which includes an historical summary showing the origin of the system of measurement of the land, classification of the soil and settlement of the revenue, and their development down to the present time, when the two former operations are no longer necessary on an extended scale, while the revision of the revenue settlements does not call for the maintenance of a special department.

2. About the year 1828 the Deccan was in a state of great impoverishment and exhaustion, partly in consequence of wars and natural calamities and partly of the continuous fall in prices of agricultural produce and of the consequent yearly increasing pressure of the State demand on the land. With the view of providing relief for the agriculturists Government determined to introduce a regular survey and assessment, and measures were proceeded with under the denomination of the "Survey and Assessment of the Deccan," and placed under the direction of Mr. Pringle of the Civil Service.

3. Mr. Pringle's Survey comprised a field measurement of all the cultivated and culturable lands of the village accompanied by a regular classification of the soil. He prepared elaborate estimates of the produce of the different kinds of soil, and after allowing for expense of cultivation, a certain percentage (55 per cent.) of the net produce was taken as the assessment of the land.

4. The execution of the different operations of Mr. Pringle's Survey was entrusted entirely to native agency which did not possess either the experience or integrity needed for the task, and at a subsequent period the results obtained were found to be nearly worthless. The preliminary work of measurement was grossly faulty and the estimates of produce which formed such an important element in the determination of the assessment and

which had been prepared in the most elaborate manner were altogether erroneous.<sup>1</sup>

5. From the outset the assessments based on such a system proved to be quite unworkable without heavy adjustments and large annual remissions. In some districts the assessments were not even introduced at all, in none were they retained in their integrity, and in some instances after being introduced they were abandoned, and the former assessments again adopted. Things now went rapidly from bad to worse. Every year brought its addition to the accumulated arrears of revenue and the necessity for remissions or modifications of rates. The state of confusion in the accounts engendered by these expedients was taken advantage of by the native officials to levy contributions for themselves. Every effort, lawful and unlawful, was made to get the utmost out of the wretched peasantry. Numbers abandoned their homes and fled into neighbouring Native States. Large tracts of land were thrown out of cultivation, and in some districts not more than a third of the culturable area remained in occupation.

6. It was when matters had reached this crisis that, at the end of 1835, an examination and correction of the operations of Mr. Pringle's survey in the Indápur Taluka of the Poona Collectorate were ordered with a view to revise the settlement in that district. The duty of conducting the work was entrusted to Mr. Goldsmid of the Civil Service, then an Assistant Collector, and Lieutenant Wingate of the Engineers. With these gentlemen Lieutenant Nash of the Engineers was subsequently associated. This was the real commencement of the "Bombay Survey and Settlement System," which has since formed the ground-work of the Revenue administration of the entire Presidency.

7. The Department thus organized, which was called the "Poona Survey," commenced its operations in the beginning of 1836. As the operations progressed the extremely defective character of the original survey became apparent. Much of the measurement had to be undertaken *de novo*; but where areas were not faulty to any great extent they were accepted as the basis of the new assessment. All attempts to arrive at a theoretical ideal of assessment by endeavouring to discover the yield of different soils and assigning a certain portion of this as the Government demand, were abandoned and a simpler method of classing the

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<sup>1</sup> The causes of the failure of Mr. Pringle's system will be found described in detail in the Revision Settlement Compilation of the Indápur Taluka and in the discussion in the Legislative Council which preceded Act I. of 1865 at pages 127—130, Survey and Settlement Manual, Volume I.

lands with regard to the character and depth of soil in each field was adopted. A land register was framed, and assessments were fixed on purely practical considerations as to the capability of the land and the general circumstances of the district.

8. This new survey and settlement, which was first introduced experimentally into the Indápur Táluka, proved so successful<sup>1</sup> that its operations were rapidly extended to other districts, the same results following everywhere. In the course of a few years, *i.e.* about 1840, a separate survey was organized for the Násik District under the charge of Lieutenant Davidson, who had been one of the early Assistants of Lieutenant Wingate in the Poona Survey. A year or two previous to this a somewhat rough survey of the Násik Dáng or hill country had been commenced under Mr. Fraser Tytler, C. S., the Assistant Collector in charge. This survey after the completion of Násik proceeded with the survey of the Ahmednagar Collectorate, and was afterwards entrusted with the survey and settlement of Khándesh.<sup>2</sup>

9. A year after the formation of the Násik Survey, that is August 1841, another separate survey was organized for the Southern Marátha Country and placed in charge of Mr. Goldsmid, C. S., and afterwards in charge of Captain Wingate on his return from furlough, in the beginning of 1844. Captain Wingate at once brought his former experience to bear and set to work to devise systematic procedure in every branch of the work. The duties of every officer were clearly defined in writing, and the two field operations,—measuring and classing,—were separated and kept quite distinct under separate officers. In all matters of test by the European officers, whether of measurement or classifi-

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<sup>1</sup> In the second year of the Indápur Settlement the Revenue Commissioner reported to Government as follows:—"The sum *actually collected has never been so great* except during the first four years of our occupation, when, it is generally acknowledged, our demands were much too high;" and again, "the outstanding balances *have never yet been so low at the end of the official year as they were last year.*" A marked extension of cultivation was one of the immediate results of the settlement; nearly 68,000 acres of waste land having been brought under the plough by the end of the second year besides more than 3,000 acres reclaimed by immigrants from other districts, attracted to Indápur by the revived prosperity of the táluka. (Extract from paragraph 6 of the Government Selections entitled "Character of Land Tenure, &c. &c.")

<sup>2</sup> In 1847 the Nagar Survey was, on the departure of Captain Davidson, the first Superintendent, placed under the charge of Lieutenant G. S. A. Anderson, hitherto an Assistant Superintendent in the Southern Marátha Country Survey, and on his vacating his appointment by departure on furlough in 1854, his Assistant, Mr. F. Davidson, succeeded to the charge of this Survey, which by that time had moved into Khándesh. (Appendix B. to Colonel Anderson's No. 1045 of 1880.)

cation, a precise form of procedure was established, and the use of native agency for purposes of test was reduced to a minimum.

10. In 1851 Captain Wingate became Survey Commissioner, and Lieutenant W. C. Anderson succeeded him as Superintendent, Southern Marátha Country Survey, having served in that survey from the commencement of active operations in 1842. A considerable extension of the Survey Department was then effected as shown below :—

(1) The Poona Survey, which was then drawing to its completion, was placed under the charge of Lieutenant Francis, who had been for some seven years in charge of a classing establishment in the Southern Marátha Country Survey. On completion of the work in the Poona Collectorate, the survey of the Thána Collectorate, including Kolába, was assigned to this survey.

(2) In the same year (1851) a separate Survey Department was created for the Ratnágiri District<sup>1</sup> and another for Gujarát. The former was placed under Lieutenant Kembball, an Assistant detached from the Southern Marátha Country Survey, and the latter under Captain Fanning, also an Assistant Superintendent transferred from the Southern Marátha Country Survey, with an officer of the Civil Service associated with him to aid in settlement duties on account of the peculiarity of some of the land tenures in Gujarát.

(3) The Ahmednagar Survey (which was afterwards amalgamated with the Survey of Khándesh) had, in 1847, as previously stated, been placed under the superintendence of Lieutenant G. S. A. Anderson, an Assistant transferred from the Southern Marátha Country Survey.

11. Thus by 1852 (*i.e.* within about a year after Captain Wingate's appointment as Survey Commissioner) all the surveys in the Presidency were under the immediate charge of officers who had been trained under Captain Wingate in the Southern Marátha Country Survey.

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<sup>1</sup> This survey was placed in abeyance as a separate Survey Department in 1856, doubt and difficulty having surrounded the work from the first, partly connected with the legal position of a large portion of the landholders of the Collectorate—the Khots—and partly from other causes, not the least of which was Lieutenant Kembball's health after a year or two compelling him to leave the Survey Department. No settlement had been effected and little progress of any kind made. This survey was afterwards absorbed in the Poona and Thána Survey. (Extract from clause 2nd of paragraph 9, Appendix B, to Survey Commissioner's letter No. 1045, dated 7th October 1880.)



12. It has been stated above that the first introduction of the system in Indápur in 1836 having proved a signal success, the survey operations were rapidly extended to other districts, the same results following everywhere. As experience was gained improvements were introduced in the methods of procedure, with the view of rendering them as simple and susceptible of thorough check and control as possible as well as to adapt them to the varying circumstances of the districts which successively came under the survey. But it was not till 1847 that a definite and permanent form was given to the system of survey operations. In that year, in accordance with the orders of Government, the Superintendents<sup>1</sup> of the three Surveys met at Poona and drew up a Joint Report<sup>2</sup> setting forth what they considered to be "the best means for bringing the somewhat diversified operations of the several Revenue Surveys of the 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 Superintendents besides defining the objects of a Revenue Survey, and the general principles on which the assessment on land should, in their opinion, be conducted, submitted a body of rules for (1) definition and demarcation of fields, (2) the settlement of boundary disputes, (3) the classification of soils, (4) the interior regulation of surveys and the administration of settlements, which having received the approval of Government, became an authoritative Manual for the conduct of all future survey operations. Up to this period, though there had been a general adherence to main principles, some diversity of practice had prevailed in different surveys. A greater degree of uniformity and completeness was now given to the system by these rules which are generally known

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<sup>1</sup> (1) Mr. Goldsmid, (late) Superintendent of the Revenue Survey and Assessment in the Deccan; (2) Captain G. Wingate, Superintendent of the Southern Marátha Country; (3) Captain Davidson, (late) Superintendent of the Ahmednagar Survey.

<sup>2</sup> The rules and regulations laid down in this report were framed entirely on those then in use in the Southern Marátha Country Survey. It has been often erroneously supposed that those rules were not only in main principles but also in all particulars intended to be applied in all Surveys, whether in the Deccan or elsewhere. Such was however not the case. Those rules were never intended to apply in detail otherwise than generally to Deccan Surveys, in the circumstances then existing in the Deccan, as explained in paragraph 79 of the Joint Report. General "principles and results" were alone laid down "without entering into details upon points which are not of general application." To have attempted greater minuteness would, without answering any useful purpose, have fettered the operations of the Survey by enjoining particular methods of procedures which local circumstances might render inapplicable (paragraph 7 of Appendix B. to Survey Commissioner's letter No. 1045, dated 7th October 1880).

as the "Joint Rules."<sup>1</sup> The system as propounded in the Joint Report comprises three principal operations, *viz.* (1) Measurement; (2) Classification, and (3) Settlement. Each of these operations may be divided into the following sub-heads:—

*I.—Measurement.*

- (A) Sub-division of village lands into fields.
- (B) Determination and settlement of village boundaries.
- (C) Demarcation of village boundaries, erection of boundary marks.
- (D) Construction of maps.
- (E) Preparation and examination of measurement records, or Barsát Tapásni.

*II.—Classification.*

- (F) General procedure followed in classification.
- (G) Modifications subsequently introduced.
- (H) Test of classification.
- (I) Collection of statistics.
- (J) Barsát Tapásni of classification work.

*III.—Settlement.*

- (K) Pôt Paháni, and submission of settlement proposals for Government sanction.
- (L) Detailed calculation of rates.
- (M) Announcement of rates or Settlement Jamábandi.

13. As these operations have been treated of in detail in the respective parts of this work, a brief sketch of the principal features of each operation and of the procedure followed will suffice here.

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<sup>1</sup> These will be found published in Vol. I. Survey and Settlement Manual, pages 31—45.

Six years before the submission of the Joint Report an interesting correspondence passed between the Bombay Survey officers and those of the North-Western Provinces on the subject of the advantages resulting from the system of Surveys followed in the two Presidencies. This correspondence will be found published as Appendix No. 1, pages i. to xxxv. of the Survey and Settlement Manual, Volume I., and a complete resumé of it will be found given in pages 117—124 of Volume II. on the "Land Revenue of Bombay" by Mr. A. Rogers.

I.—*Measurement.*

14. This operation is performed by native subordinates called measurers. The measurement is done by chain and cross-staff. The standard of measurement adopted is the English acre<sup>1</sup> with its sub-divisions—gunthas and annas. Before commencing the measurement of a village an order is sent to the village authorities intimating that on a certain day a measurer will arrive at their village for the purpose of effecting its measurement and directing them to give every assistance to him in carrying out the operation. A measurer is then sent to the village provided with the necessary measuring instruments, writing materials, &c. In commencing his work the measurer selects a field adjoining the village site and enters it in his Field Book as No. 1. He then measures the field and after entering the measurement details in his field book in the manner laid down in the

<sup>1</sup> The English *sub-division* of the acre has been rejected in favour of that adopted by Sir Thomas Muuro and Mr. Pringle, viz. :—

Annas.	=	Guntha.		
16		1		
			40	=
				1
				Acres.

The measuring chain (of 33 feet) is composed of sixteen links. The chain multiplied by one of its links is an anna. The chain square is a guntha, and forty square chains equal an acre. Regarding the advantage for calculation of these divisions of the acre Lieutenant Nash, previous to the commencement of the Survey, favoured me with the following remarks:—"The division of the acre into gunthas and annas seem to me to be one in every way accordant with the spirit of Indian calculation, and at the same time well adapted for the multiplication of the contents of the field by the rate, to find the amount of assessment. By having sixteen links in a chain measuring one side of a square guntha, you are enabled, without having an awkwardly long chain, to preserve the favourite native proportion between the divisions of the superficies of a field

$\frac{1}{4} + \frac{1}{16}$ , or as they write it, ४१—\* which, I think, it would be difficult to effect in any other way, also by dividing the acre into 40 gunthas you are enabled with ease to find what the amount at 1 rupee per acre comes to (on which according to the native custom you calculate the proper sum by taking so many sixteenths of it), for instance, if your rate is 7 annas you take  $\frac{7}{16}$ .

Thus if your field measures 5 acres 16 gunthas by merely placing different points and adding a nought, you are enabled to say, without altering a figure, that at 1 rupee per acre the assessment is 5 rupees 1 qr. 60 reas. That in a field measuring 7 acres 25 gunthas, it is 7 rupees 2 qrs. 50 reas. These advantages are of great importance with natives, and, I dare say, Mr. Pringle had them in view when he made choice of this division. I think also, that if you find it necessary to introduce a new system of measurement into the Násik District, unless outbalanced by the recommendations which the Káthi or some other native system of measuring may possess they ought to weigh much with you for the introduction of the anna chain. [Note (a) on page 20 of the Chándor Revision Selection, No. CXXX., New Series.]

rules on the subject (Part I. of this Volume) proceeds to measure the next adjoining field, and so on, until he completes his survey of the village. He is required to submit to the officer (Assistant Superintendent) in charge of the establishment to which he belongs reports (called "Vardi" reports) of the nature and quality of the work done every working day. The work done by the measurer is subjected to a regular and frequently-recurring<sup>1</sup> test by the Assistant Superintendent in charge of the establishment. No fixed amount of test is prescribed,<sup>2</sup> though it has been generally the practice to subject the measurer's work to a test not less than 10 per cent. It is essential that the test should be evenly distributed between the three items of measurement work, viz. :—

- (1) the Fields or Survey Numbers,
- (2) the Vaslas or Trapezia, and
- (3) the Area.

(A) *Sub-division of village lands into fields.*

15. This is effected by measurers. The ordinary minimum field is the area which can be cultivated by a pair of bullocks. This measure varies according to the soil and the kind of culture.

<sup>1</sup> In all the Surveys after 1852, a certain uniformity of practice as regards measurement and mapping prevailed. Though no precise regulations as regards the mode of testing the measurement existed, yet the test was generally efficient, and the measurement part, so far as regards correct area of fields, was correctly executed, and great improvements were in process of introduction in the mode of constructing village maps. No regulations had been laid down in the Joint Report in regard to the mode of testing measurement; it was a simple matter of common sense and honest work. But in 1855, some laxities in the mode of taking test of measurement which had been ascertained to exist in the Thána Survey led to an order (Government Resolution No. 3207, dated 7th July 1857) by Government prescribing, among other points, that all entries of test measurements should be taken in the officer's own hand. (Paragraph 11 of Appendix B. to Survey Commissioner's letter No. 1045, dated 7th October 1880.)

2. No fixed amount of test is prescribed; the amount and time of taking it may vary according to the confidence which may be placed in the work and qualification of the measurer or classifier. It is, however, desirable, when conveniently practicable, that part of the test should be taken after the measurer or classifier has completed his operations and left the villages. Superintendents of Revenue Survey are held responsible for the sufficiency and accuracy of the tests taken.

In the case of any measurement having been accidentally omitted or mistaken in the original Test Survey, the Assistant is at liberty to send a Kárkun to re-measure the omitted or doubtful line only, where from other data of his own, he can check the truth of the measurement so obtained. When his own work does not contain such means of check he must re-visit the spot and take the requisite measurement in person. (Paragraphs 7 and 8 of Government Resolution No. 3207, dated 11th July 1857, printed on page 20, Southern Marátha Country Departmental Circulars.)

The ordinary maximum field is double this area. Every holding which falls within these limits is made a separate field; larger holdings are divided and smaller holdings can be clubbed together, but not so as to include in one field different kinds of culture or lands held on different tenures. Every field (survey number) is shown on the village map.

16. The typical survey number is a field belonging to one man just large enough to be cultivated by him with one pair of oxen. It varies in area, therefore, with the character of the land and of the cultivation, but in practice it has not been possible to adhere to the type and therefore arose the necessity of clubbing several properties to form the survey number. Theoretically, as has been stated, the Survey unit is the area of land, however small, held by the registered occupant, but as the survey tenure places no restriction on sub-division of properties it became necessary to limit the size of the unit for convenience of Revenue Administration. In 1868, a limit was recognized by Government which varied in different tracts and in different classes of land.<sup>1</sup> Fields smaller than the prescribed limit are only permissible, with the express sanction of the Survey Commissioner, which sanction is given only in special cases.

(B).—*Determination of village boundaries and settlement of disputes relating thereto.*

17. While the survey operations in the Deccan were confined to districts which had been surveyed by Mr. Pringle, the cases of disputed boundary were comparatively few and unimportant. In other districts, Lieutenant Wingate gave it as his opinion that without some definite plan for fixing village boundaries the operations of the survey must be comparatively valueless. Nothing, however, would appear to have been done in the matter until 1847. In that year the subject was again pressed on the attention of Government in the well-known Joint Report in which a set of general rules for the determination of village boundaries and settlement<sup>2</sup> of disputes relating thereto was proposed

<sup>1</sup> *Vide* the scale of minima, &c., for different districts under section 98, Sathé's Land Revenue Code.

<sup>2</sup> Boundary disputes, though generally unimportant in themselves, are a most fruitful source of ill-feeling and contention. It is therefore highly desirable to settle them expeditiously on best data available. Survey officers have the best opportunities of ascertaining the correct boundaries of the villages to which their operations extend, and they have, therefore, been able, even without the power of enforcing the attendance of witnesses, to settle many thousands of boundary disputes; but it is necessary to give a finality to their decisions, and to place them in a position to obtain all procurable evidence relative to the subject of dispute. (Para. 3, page 126, Survey and Settlement Manual, Vol. I.)

by the three Superintendents. These rules were sanctioned by Government in their letter No. 5593, dated 22nd September 1848, and afterwards remained in force till 1865, when they were repealed by the provisions of the Bombay Survey Act I. of 1865. These provisions were repealed in 1879 by sections 118 to 121 of the Land Revenue Code which contains the present law on the subject. Under this law the disputes are settled either by arbitration, or after a formal inquiry by a Survey officer, subject to the Survey Commissioner's judgment in appeal, which is final.

(C).—*Demarcation of village boundaries—Erection of boundary marks.*

18. The erection and preservation of boundary marks on village or field boundaries have, from the days of the Joint Report, been considered and insisted on as essential to the system. In the early days of the Survey the importance of these marks was not sufficiently understood, and in Mr. Pringle's survey no artificial boundary marks were made use of; rivers, nálas, &c., wherever they existed, being recorded as the boundaries of villages or survey fields. When the revision of Mr. Pringle's work was commenced by the Poona Survey in 1836, no boundary marks were erected, and it was not till some four or five years after that any attempt to put up artificial marks was made in this survey, and even then the use of stones was much resorted to. In the Southern Marátha Country Survey the work had not proceeded more than a month or two, when the difficulty and the expense of procuring stones and the probable unsatisfactory nature of such marks, induced the authorities to try earthen banks as boundaries. In the first instance continuous ridges about one and a half foot high were tried. These were at once found to involve more labour than could be promptly obtained, and, from their small elevation, to be of doubtful permanency. Next, ridges,  $16\frac{1}{2}$  feet long and 3 feet high, were ordered to be erected at the corners of survey fields and at intervals along their sides 5 chains apart. After a time the size of these marks was somewhat reduced and also the distance between them was somewhat increased. The ordinary distance between two boundary marks on a straight line was put at 10 chains or 110 yards, the length of each bándh (mound) or ridge being reduced to  $10\frac{1}{2}$  feet. By marks of this kind, supplemented by stones at the minor bends, the whole of the lands measured by the Southern Marátha Country Survey were demarcated. The distance between the bándhs (mounds) has since been somewhat increased involving the erection of fewer bándhs.

19. In the Deccan, the system of demarcation has from the beginning been generally the same as in the Southern

Marátha Country Survey, though, as above remarked, stones were largely used in place of bándhs up to 1852. In this year by a Government order,<sup>1</sup> dated 20th August 1852, the use of bándhs, supplemented by stones at bends, was generally ordered for the Deccan, and where they had not been systematically put up at the time of survey the duty of getting them erected was left to the Collectors.

20. In the Konkan Survey fields or Survey numbers were made of small area ranging from 1 to 5 acres, and a number of separate holdings were included in one survey number as Pót or subordinate Survey numbers, each being separately measured, classed, assessed in proportion to its quality, and separately recorded<sup>2</sup>; but no boundary marks were erected to define the limits of these subordinate numbers within the Survey numbers, while the boundaries of the latter were demarcated exclusively by stones. This exclusive use of stones as boundary marks encouraged encroachments on waste and varkas lands to such an extent that in 1878 it was proposed to take steps for the better definition of boundaries without waiting for the Revision survey. The magnitude of the task and the inefficiency of the agency available, however, prevented any immediate measures being taken, and it was not until the commencement of the revision Survey that any attempt was made to assimilate the Konkan Survey system of demarcation to that in force in the Southern Marátha Country and Deccan Survey.

21. In the Gujarát Survey it was the custom to demarcate only the principal corners of Survey numbers by boundary marks, the bends and angles on the boundary lines being left undemarcated. This system was in 1878 condemned by the Survey Commissioner, Colonel Anderson, who considered it "objectionable and likely to frustrate the objects of the survey at some future time." He therefore proposed to Government that the Southern Marátha Country system of boundary marks should be adopted in Gujarát. This proposal was endorsed by the Commissioner, N. D., and finally approved by Government in their Resolution No. 2608, dated 21st May 1878.

22. In this Resolution it was decided that, with the exception of the Panch Maháls in which the original Survey was then proceeding, in all districts in which bends and angles had not been demarcated, the Collectors should arrange for the erec-

<sup>1</sup> Pages 16 to 20, Part I.—Measurement—of this Volume.

<sup>2</sup> Pót numbers are not shown in the map but in the sketches called 'Gats' in the Pakka Súd. (*Vide* remarks on Pakka Súd, page 165 Section IV. Part II. Classification.)

tion of boundary marks with the help of their available *táluka* establishments. Accordingly in the Panch Maháls the work was taken in hand by the survey parties and completed; and in the other districts orders were issued by the Commissioner, N. D., that the village officers should undertake the duty, and that in the event of their failing to do so, they should be made to pay the cost of having it done by trained measurers.

23. Under these arrangements the work of demarcation on the Southern Marátha Country system was completed in the whole of the Surat and Broach Districts and also in nearly the whole of the Kaira District by 1884. In Ahmedabad, however, owing partly to the inability of the Talátis to carry out the work, and partly to the near approach of the revision survey, very little progress was made. Two years later, that is in 1886, Revision Survey was commenced in that district, but as the measurement operations were carried on on the "partial" system,<sup>1</sup> the work of demarcation had to be left over to be done by Talátis as in other districts. Very little progress was made in carrying out the work in the subsequent years, and the matter was eventually set at rest by the following orders<sup>2</sup> of Government:—

"It is stated, however, that in the Ahmedabad District there are marks at the larger angles, and as the Commissioner, Survey Commissioner, and local officers are satisfied that demarcation has already been carried out as far as is necessary to prevent encroachments, no further action appears to be required in that district."

24. The present law on the subject of erection and maintenance of boundary marks is contained in sections 122 to 125 of the Land Revenue Code and the Rules (100 to 107) passed under section 214 of that Code.

25. The different descriptions of boundary marks used in different Surveys may be enumerated thus:—

Kinds of boundary marks.	In what Survey generally used.
1 Bándhs or "Iranis" (mounds) ...	All the Surveys.
2 Burajs (cairns) ...	Konkan Survey.
3 Stones ...	All the Surveys.
4 Khunts (a masonry pillar) ...	Gujarát Survey.
5 Wooden Posts ...	Kánara Survey.

<sup>1</sup> *Vide* para. 54 *infra*.

<sup>2</sup> Government Resolution No. 2753, dated 26th April 1898.



A "vacant strip" of ground between two survey marks is also considered<sup>1</sup> a survey mark within the definition of section 3 (9) of the Land Revenue Code.

(D).—*Construction of Maps.*

26. In the early days of the Survey village maps were constructed on measurement work of the roughest description and without the aid of instruments for measuring angles. As the work advanced and stricter supervision was exercised, some degree of excellence was attained, but it was not until the commencement of revision operations in the Poona District about 1864 that an attempt to give any scientific precision to the survey, or to ensure accurate topographical results was made. The question as to the plan on which the revision survey should be conducted formed the subject of considerable discussion, and under instructions from Government, the then Survey Commissioner (Lieutenant-Colonel Francis) held a conference with the officers of the Great Topographical Survey with the special object of incorporating the work of the Bombay Revenue Survey with that of the Topographical Survey so as to produce maps based upon points fixed by the latter Department. The result of the conference was that a system<sup>2</sup> of traverse survey was first introduced as a new feature into the Bombay Revenue Survey, and Indápur, which was then being re-measured preparatory to revision settlement, was the first táluka to which that system was first applied. In reporting the results of the Traverse Survey in this táluka Colonel Francis observed as follows<sup>3</sup>:—

"From a personal inspection of the táluka map as well as from information obtained from Colonel Laughton (under whose supervision the work was carried out), I am convinced that under this system of survey we shall be able to turn out a more accurate district map than any hitherto prepared by our Department, while at the same time the village maps, owing to their being plotted in a circuit protracted with the mathematical accuracy which is obtained under this system will be more accurate than before."

Government considered these results "very satisfactory," and ordered that the traverse system should be adopted wherever found suitable<sup>4</sup>.

<sup>1</sup> Government Resolution No. 4609, dated 31st May 1892.

<sup>2</sup> For rules regarding this system, see Chapter VII.—Part I.—Measurement.

<sup>3</sup> Survey Commissioner, N. D.'s letter No. 352, dated 9th November 1865.

<sup>4</sup> G. R. No. 5006, dated 15th December 1865.

27. The plan of thus working in co-operation with the Imperial Survey<sup>1</sup> which has since been extended to other districts has proved successful, and at the present day the village map which is constructed with great accuracy and scientific precision, besides presenting a thoroughly correct delineation of field boundaries (its chief object), shows village sites, roads, paths, tanks and the physical features of the country within its limits with considerable fidelity.

28. As a rule three copies of the village map are prepared, viz. :—

(1) The kacha or original map.

(2) A copy for the use of the classer and for the Pôt Paháni (detailed field inspection).

(3) A fair copy or Pukka map to be finally sent for printing.

29. All maps of plain country are now made on the uniform scale of 8 inches to one mile, a scale sufficiently large for every purpose. In some parts where survey fields run very small, the use of double this scale is found to be advisable.<sup>2</sup>

30. Under section 213 of the Land Revenue Code, the village map is included in the "Survey Records," and all the rules and orders regarding inspections, extracts or copies of such records are applicable to the former.

(E).—*Preparation and examination of the measurement records or Barsât Tapásni.*

31. A general sketch has now been given of the operations performed by a measuring party during the 'fair' or 'field season' as it is called, which in this Presidency commences in October and continues until the 5th of June. At the close of the fair season the party returns to Head Quarters, where it is employed throughout the recess season on the "Barsât Tapásni," otherwise called the "recess examination" of the measurement records prepared during the previous field season. In the course of this examination the rough and fair field books are carefully compared

<sup>1</sup> In all the surveys preparatory to the present revision of settlement the Great Trigonometrical Triangulation has been taken as the basis of survey and the system of village traversing has been adopted, thus giving the maps when combined into taluka and district maps a topographical as well as revenue value.

<sup>2</sup> Village maps shall be prepared under the orders of the Survey Commissioner showing each survey number. The positions of the boundary marks of each survey number shall be shown on the said maps. [Rule 5 of the Rules under Rule 55, Land Revenue Code.]

in order to see whether or not the entries of the measurements of all the Waslas of both culturable and unculturable numbers have been correctly copied from the former into the latter, and also whether the boundary marks entered in the boundary sketch of the fair correspond with those in the rough field book. The lengths and breadths of the Waslas and the distances of the boundary lines as entered in the rough field book are taken off a scale and applied to the corresponding lines in the sketches of survey numbers in the fair field book and map (original or kacha) in order to see whether these are drawn correctly. The positions of temples and other buildings in these sketches and in the map, and the directions of roads and nálas shown in them are also examined by scale and compasses. In making this examination if an error is found of less than 8 annas,<sup>1</sup> it is not taken into account; an error of more than 8 annas and less than 1 chain is considered a small error, and anything in excess of a chain is considered a large error. Such errors, whether large or small, if they are found in the map are always corrected when it is possible to do so.

32. After the rough and fair books and the map have been examined in the manner above explained, the areas of the several numbers as computed and recorded by the measurer (in a Patrak statement called the Gunákar Book) during the field season are examined by calculating them afresh Wasla by Wasla and any errors found are shown to the Assistant Superintendent and are corrected under his orders. The area finally fixed in this examination is then entered in the column provided for it in the fair field book.<sup>2</sup>

33. A fair copy of the map (pukka map) is then made by pricking off the kacha or original map on a clean sheet of paper and copying every thing from it first in pencil and then in ink on the clean sheet, and also another (called the classer's map) on a tracing cloth. When the examination of the rough and fair field books has been carried out, the areas verified and confirmed, and the copies of the village maps prepared in the manner above detailed, all the operations connected with measurement are considered perfect and complete and all the papers and statements prepared in the course of the Barsát Tapásni are then sent to the Head-Quarter Office.

## II.—Classification.

34. The operation which follows Measurement is that of Classification, which has for its object "the determination

<sup>1</sup> Annas 8 = 8 links; *vide* footnote on page ix *supra*.

<sup>2</sup> Formerly a separate paper called Kacha Súd was prepared in which all the numbers of the village with the area of each number as finally fixed were shown

tion of the relative value of the fields into which the land is divided during the process of measurement." This operation is minutely technical in character, and as its results do not admit of being ascertained with anything approaching to mathematical exactness, it is greatly dependent for its accuracy and uniformity on the method of procedure, as well as on the ability, experience, and integrity of the agency employed in carrying it out. The operation is therefore entrusted to a special agency called the Classing Party composed of trained and experienced native subordinates called Classers. These are guided by a set of fixed rules (these as applied to different districts are detailed in Part II.) and their work is closely supervised and subjected to test by the European officer (or Native Surveyor or Nimtádar<sup>1</sup>) in charge of the party. In the course of this operation, while every field is again subjected to examination, and the accuracy of each entry in the measurer's field book tested and established, the varieties and proportions of soils in each field with a minute description of every well or other source from which water for the purpose of irrigation is obtained, &c., are entered by the classer in his field book, which is kept in the same manner as that of the measurer's (para. 14 above).

(F).—*General Procedure followed in Classification.*

35. The procedure followed in carrying out the operation may be explained thus:—As in the case of Measurement an intimation is sent to the village authorities that on a certain day a classer will arrive at their village to classify its lands, and directing them to give him the necessary assistance in the operation. A classer is then appointed to the village provided with the necessary books, writing materials, and classing instruments. When the classer comes to the field he is going to class, he first pricks off an outline sketch of it in his field book from the village map and according to the area divides it up into a number of squares or compartments of from one to two acres each, according to the size of the field and the difficulty of classification, but never into less than two "shares," however small the field may be. He then classes each of these squares or shares, as they are technically called, separately digging in about the middle of each to ascertain the depth of soil, and if necessary, on account of the variation in the depth of soil appearing to be great, digging also

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<sup>1</sup> Of late years the paucity of European Assistants has made a system necessary whereby each party is placed in the immediate charge of a Native Surveyor of experience, and two or more parties have been linked together under a European Assistant responsible for the test of the work of both the Surveyor and also to a certain extent of the men under him.

in other places besides the middle. Having satisfied himself as to the average depth of soil the classer notes this and the description or "order"<sup>1</sup> of the soil and any depreciating qualities (faults)<sup>2</sup> such as very undulating surface and intermixture of stones, &c., in his field book in the square or share in question, and also the class of soil, resulting, according to the rules of the district, from the combination of all he has recorded. Each class bears a certain technical valuation in annas. Having thus proceeded through all the "shares" of the entire field, he then makes up the average valuation in annas of the entire field and records it below the entry of the field in his field book.

36. The classer also notes in his field book the distance of the field from the village and from water as well as any circumstances, apart from the quality of the soil which, in his opinion, affects its value. Thus every field in the village is independently classed on its own merits.

(G).—*Modifications subsequently introduced.*

37. The general principles of classification and the scale of values as laid down in the Joint Report have been followed up to the present time, with such modifications in details as were found necessary to meet the circumstances of different kinds of cultivation or the peculiarities of the different districts, which successively came under the Survey. Thus, in the Hangal Taluka of the Dhārwar Collectorate which came under the Survey in the year following that of the submission of the Joint Report, a detailed system of valuing the supply of water to rice and garden lands was for the first time introduced.<sup>3</sup> When the operations reached

<sup>1</sup> In every district, varying with the geological formation, certain well-marked descriptions of soil are met with. These are defined in the detailed orders regarding the classification of each district.

There are three "orders" of soil recognized in the Joint Report, 1847. These are as follows:—ORDER I.—Of a fine uniform texture varying in colour from deep black to dark brown. ORDER II.—Of uniform but coarser texture than the preceding and lighter also in colour, which is generally red. ORDER III.—Of coarse, gravelly or loose texture, and colour varying from light brown to grey.

<sup>2</sup> These vary in different descriptions of soil and cultivation. *Vide* Part II.—Classification.

<sup>3</sup> The plan followed for the classification of the soil in this district was the same as that described in the Joint Report by the Superintendents of Survey, dated 2nd August 1847, which has since been approved of by Government, but a new system was adopted for valuing the supply of water to rice land, which I shall now shortly describe.

The method is very simple, and quite as systematic as that adopted for the valuation of the soil. The varying supplies of water obtainable for the irrigation of rice lands are by this system referred to one or other of the following six classes which have been found sufficiently numerous for an equitable distribution of the assessment. Consistently with the attainment of this object, it is desirable to have

the rice-growing districts of the Konkan, where the rainfall being ample and certain, the water factor was considered of as much importance as the soil in the valuation of rice lands, the Joint Report scale of values was divided between the two factors, 8 annas being allowed to soil and 8 annas to water.<sup>1</sup> The same principle was subsequently extended to rice lands in Gujarát. As regards the classification of the water-supply of garden lands, the same general principles have been followed in the different Surveys as those enunciated in the Joint Report, though modifications in detail have been introduced from time to time to meet the peculiarities of each district as it came under the system.

(H).—*Test of Classification.*

38. The mode of test to which the original classification work is subjected has always been what is called an "Independent Test."<sup>2</sup> The testing officer is required to select his field and proceed with every step of his classification proceedings in entire ignorance of what the classer has done, how many shares he has taken and how he has valued each. When he has completed his classification of the field and recorded the result, then, and then only, is he to look at the classer's field book and see what the classer's valuation has been, and in case of any marked difference from the test valuation he can go to the spots, the entries of which in the classer's field book have caused the difference in valuation, and see if the classer's entry is clearly erroneous from want of judgment, want of due care, or wilful error. In some cases in very difficult soils he may find that the classer's valuation is more correct than the test in which certain points of depreciation have escaped notice, in which case the testing officer is not allowed to alter his own valuation in the returns of differences

the number of classes as few as possible, as by this means the distinctions between each are more strongly marked, and the work at once rendered more simple and easy to test. [Extracts from paragraphs 15 and 16 of Mr. Wingate's Report No. 235 of 1848, on the Talukas of Kod, Dhárwár, and Mishrakote Division of Hubli, pages 51 and 52 of the volume.]

<sup>1</sup> In our classification scale we take 8 annas as the highest rate for soil and 8 annas for water, making a one rupee scale for the two elements combined. [Paragraph 10 of Colonel Francis' Report on the Original Settlement of the Panwel Taluka, Kolába District.]

<sup>2</sup> A test of the original classification made by the subordinate officers employed for this purpose shall be taken by the officers in charge of classing establishments, in such manner and to such extent as may be directed by the Survey Commissioner. The said test shall be an independent test, that is to say, it shall be made by the testing officer in entire ignorance of the original classer's proceedings or records until it has been completed and its results have been finally determined, when only the original classing valuation and the test valuation shall be compared and their separate results recorded. [Clause 8 of Rule 55 under section 214, Sathé's Land Revenue Code, page 293, 2nd Edition.]

between test and original classification, but is required to note that his own valuation is by so much in error. This mode of test was introduced by Captain Wingate in the Southern Marátha Country Survey, and has since been, with rare exceptions, punctiliously adhered to in all the Surveys.

39. The system of classification above sketched out is so simple and so easily worked by Native subordinates in conformity with certain established principles that the average difference between the original classification and test does not exceed six or seven pies in a maximum valuation of one rupee. The classer takes the class at intervals of about 80 to 100 yards, and then strikes the average of the entire field. The classification of a 20-acre field does not take more than 20 or 25 minutes, and 7 or 8 such fields are done in one day by one classer of whom 13 to 15 form a classing party under one officer, Assistant Superintendent, Head Surveyor, or Nimtándar. A proportion varying from 5 to 15 per cent. is done over again by way of test by the officer in charge in the manner explained in the preceding paragraph.

(I).—*Collection of Statistics.*

40. In addition to the actual field work, the classer collects a mass of statistics required for Settlement Reports. This is done in the afternoons, the mornings being devoted to field work. The points relating to which the statistical information is collected will be found enumerated in Chapter V.—Statistical Information—Part III.—Settlement.

(J).—*Barsát Tapásni of Classification work.*

41. The next and the last operation of the classing party is to examine carefully the entries in the classing books and other papers prepared in the course of the classification during the field season. As in the case of measurement, this examination is called the "Recess examination of the classification work" or the "Classing Barsát Tapásni" and is effected during the five months of the recess season. In this examination the measurer's and classer's books are compared to see whether the entries in the former as to the relative sub-division of each Survey number, its tenure, the name of the holder or occupant, &c., agree with those in the latter. When a difference is found in any of these entries, the case is referred to the officer in charge and dealt with according to his orders. The entries of culturable and unculturable (kharáb) areas are then examined, and corrections or alterations, where necessary, are made under the orders of the officer in charge.

42. After the measurer's and classer's books have been compared in the manner above explained, the classer proceeds to examine the classification of each number entered in the sketches

of Survey numbers in the "classing book" "share by share." When this is being done, if any difference is found between the entries in the sketch and the other entries in the classer's book of the valuation annas deduced therefrom, the sketch entries are considered correct and the other entries are corrected and made to correspond with them. In the case of numbers subjected to test, if there is any difference between the original and the test valuation, the necessary correction is made under the orders of the officer in charge.

43. In the case of rice and bagáit numbers, the valuation annas as well as other particulars relating to the duration of the water-supply, &c., are carefully examined, any corrections or alterations found necessary being made with the officer's sanction.

44. Of the numerous statements and papers prepared in the

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|------------------|---|--|
| 1 1. Paháni Súd. | } 3 3. Register or Akár-band (Súd <sup>1</sup> in the Konkan Survey). | course of this examination, only the three marginally noted, which are |
| 2 2. Darwari.    |   |  |

of a *quasi* permanent character, are prepared in connection with the final operation of the Survey, viz. Settlement. The remaining, which are prepared for temporary use, are either destroyed or relegated to the B. Class records after the táluka to which they relate has been brought under the settlement.

### III.—Settlement.

45. The settlement which forms the last stage in the Survey

I. Submitting settlement proposals (*i.e.* writing of the Settlement Report) for Government sanction.

II. "Pót Paháni" or detailed field inspection.

III. Calculation of assessment.

IV. Announcement or Introduction of assessment—the Jamábandi.

and Settlement operation comprises the marginally noted subsidiary operations. These operations have been treated of in detail in Part III. Volume III., and the order in which each of the operations is undertaken has been

explained in the introductory remarks to that part, so that a passing reference to them is all that is necessary in this place.

(K).—*Pót Paháni and submission of Settlement proposals for Government sanction.*

46. At the completion of the Classing Barsát Tapísni, the papers necessary in connection with the Pót Paháni operation

<sup>1</sup> *Vide* form of Paháni Súd and the remarks thereon—page 132, Section III. Part II. Classification.

<sup>2</sup> *Vide* Appendix N. to Section I. Part II. Classification.

<sup>3</sup> The Akarband is the valuation roll of the village; *vide* Chapter XXV. Survey Records, Part III. Settlement. Vol. III.

<sup>4</sup> *Vide* form of Súd and the remarks thereon—pages 164 and 165, Section IV. Part II. Classification.



(Chapter II., Settlement, Part III., Vol. III.) are made available, and the first step which the Superintendent takes is to write to the Táluka authority—through the Collector—to have that operation carried out. The Superintendent then proceeds with the settlement scheme (fixing the groups and rates, &c.). Guided by his own experience, and also by the information supplied by the Assistant Superintendents, as to local peculiarities of climate, rainfall, communications, &c., and the past revenue and the agricultural history, the Superintendent first divides the tract for settlement into groups or assessment circles, and proposes rates of assessment which he thinks suitable. When his scheme is completed and he has satisfied himself as to the suitability of the proposed rates by working them out in detail in a few cases, and calculating the revenue of each village, he submits it for the sanction of Government in a report called the Settlement Report. In this report, among other matters, the physical characteristics of the tract, its climate, population, state of agriculture, past revenue history, &c., are fully described. The report is accompanied by tables containing statistical information and a statement (now called Appendix Q.) which shows at a glance the existing revenue as contrasted with the revenue estimated to result under the proposed rates in the case of each village comprised in the tract for settlement.

47. The report is submitted through the Collector, the Survey Commissioner, and the Commissioner of Division, and it is on the joint opinion of all these officers that Government decide and issue their orders.

(L).—*Detailed calculation of Rates.*

48. On receipt of the Government orders, the detailed calculation of assessment on the data as to area and valuation of every field recorded in the Akárband is proceeded with. When the detailed calculation is completed and the assessment column of the Akárband is filled up, the papers are sent to the Mámlatdár with instructions to prepare the Vasulbáki Patrak (statement showing the original and revised assessment of each holding in the village—*vide* Chapter on Pót Paháni, Part III. Vol. III.) and other subsidiary statements required in connection with the final operation of the Survey Settlement, viz. the announcement of rates.

(M).—*Announcement of rates. The Settlement Jamábandi.*

49. In the early days of the Survey the practice was for the Superintendent of Survey to make the first Jamábandi<sup>1</sup>

<sup>1</sup> With the Register (No. 1) as a basis to go upon, the Village Accountant proceeds every year to record the actual state of the whole of the village lands

Settlement of a surveyed district. The cultivators were called up village by village and the area and assessment of his holding as recorded by the Survey were explained to each. Any objections to the entries made or the assessment fixed by the Survey were duly heard and disposed of; also lands were set apart for public or Municipal purposes according to the requirements of each village, and all questions as to exemption from Land Revenue tenures, &c., were enquired into and settled. All the village accounts were then prepared, and after the collection, according to the Survey rates, had been made for the year, a report, called the "Final Report," showing the actual effect of the Survey as contrasted with the estimated revenue shown in the preliminary report, was submitted to Government. If in their orders on the final report Government desired any amendment or alterations to be made in the grouping or rates, these were duly carried out, and the papers were then handed over to the Revenue Department.

50. Under the present practice which has originated with the Revision Survey, only one report is submitted, and any changes ordered by Government are made before the rates are finally calculated and announced in the manner described above. After the announcement has been completed and a notification fixing the period of the duration of the rates has been published in the *Government Gazette* the papers are handed over to the Collector for the future administration of the Revenue Survey Settlement.

51. Such are the chief features of the Bombay Revenue Survey system, which, commencing in the Indápur Táluka of the Poona District in 1836-37, had by 1894 extended throughout the Presidency, the last táluka brought under it being the Peint Táluka of the Násik District.

52. By 1867, the earliest settled tálukas began to fall in for revision, and as the policy of Government had always been to keep

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and the amount to be levied from various parties for their occupation. The examination and approval of this annual record by competent authority is termed the Jamábandi.

The word Jamábandi properly means the fixing of the land revenue to be levied during the year. The revenues to be assigned to Local Funds (consisting of one anna cess on items of Land Revenue and of certain items which, if not assigned, would be treated as Miscellaneous Land Revenue) are also considered Jamábandi items. Revenues other than Land Revenue and Local Funds should not be included in the Jamábandi papers (Forms 6, 7, and 10), though there is no objection to including them with proper distinction in the Village Ledger and Day Book (Forms Nos. 5 and 11). [Page 2, Introduction to Symonds' Village Account Manual.]

the preliminary field operations within the "narrowest limits necessary," only such operations were sanctioned and undertaken in each district as were "absolutely necessary to obtain a correct Survey record" as a basis for the revised Survey assessments. These operations, which are known as the "Revision Survey operations," and which were first commenced in Indápur,

have now been completed in all but the marginally noted four districts of the Presidency. Of these four districts, in the first two the revision field operations (measurement and classification) have been completed and the revised assessments will be introduced as the original leases expire. The last two districts in which the field work of the original Survey is considered sufficiently accurate for the purposes of the Revision Settlements have been declared not subject to any future<sup>1</sup> general revision. This assurance refers to the field operations only and not to assessments, which will be revised as the original leases expire on the basis of the original Survey records brought up to date by the Revenue agency.

53. The following are the principal features of the Revision Survey as distinguished from the Original Survey:—

- (1) Partial remeasurement.
- (2) Separation and formation of recognized occupancies into new Survey and Pôt Numbers, or recognized shares.
- (3) Partial reclassification.
- (4) Adjustment of original classification to present standard.
- (5) Abandonment of well assessment and substitution of a small addition in the assessment under the name of Position Class or Subsoil Water Assessment.

<sup>1</sup> Moreover, as the revised Survey record is sufficiently correct for the purposes of a standard, His Excellency the Governor in Council has resolved that it shall be accepted as final and not subject to any future general revision. This Resolution secures from any farther general alteration of the valuation of land for revenue purposes the whole of the Southern Marátha Districts, except a few tálnkas, and the greater portion of the Deccan. In the districts of Ratnágiri and Kánara, in which original Settlements are still in progress, the work of the Survey is sufficiently accurate to admit of the extension of the same guarantee to them. The power of Government to direct a re-valuation of soils will therefore be exercised almost solely in the province of Gujarát, the districts of Thána and Kolába, and in Khándesh and Sátára; and in these it is believed that a partial re-survey will suffice. (Extract para. 15 of G. R. No. 2619 of 26th March 1854, Revenue Department.)

(6) Exemption from assessment of Pôt Kharáb deducted at the Original Settlement.

(7) Limitations of enhancements in Revision Settlements and gradual levy of the enhancements resulting.

(1).—*Partial Remeasurement.*

54. In the Indápur Táluka and the other tálukas of the Poona and Sholápur Districts of which the Original Settlements were based on Mr. Pringle's Survey, an entirely new Survey was found necessary. Similarly, in the earliest settled tálukas of the Násik and Ahmednagar Districts of the Deccan, and Kaládgi (now Bijápur) and Dhárwár of the Southern Marátha Country, where the original measurement work, having been carried out by "men comparatively raw and inexperienced," and under the supervision of officers "who had not the full experience of the country," was imperfect, entire remeasurement was found necessary. In the other tálukas of the last named districts, and also in the Belgaum and Sátára Districts, which were dealt with by the original Survey after the Joint Report principles had come into full operation, the plan of Partial remeasurement was found sufficient for the purposes of Revision Settlement. Under this plan, which was first introduced in the latterly settled tálukas of the Dhárwár District, actual measurement was carried out only in cases of subdivision<sup>1</sup>

<sup>1</sup>The following are the principles on which the subdivision of the original Survey numbers was effected at the Revision Survey in the Dhárwár District:—

- 1st.—Every original Survey field or "number" of more than 30 and under 50 acres is divided into two Survey fields, every field of over 50 acres and under 70 into three Survey fields and so on, so as to secure no Survey fields ranging above between 20 and 30 acres. One acre of rice land is reckoned as equal to three acres of dry-crop land, and one acre of garden land as equal to five acres of dry-crop land.
- 2nd.—Every occupancy having already separate recognition and entry in the village accounts is separately measured and defined unless it is dry-crop land and of less than one acre, in which case it may be clubbed in one Survey field with a similarly under-sized occupancy if such is adjacent and made a "Pôt" or subordinate "number."
- 3rd.—In all cases when Inám and Government land are included in one and the same old Survey "number," the land of each tenure is to be made into separate new Survey numbers.
- 4th.—All Inám land included in one old Survey "number" and held by separately recognized and independent holders is to be divided into Survey numbers according to holdings.

Ordered by G. R. No. 4248,  
dated 24th July 1873.

- 5th.—All existing Survey fields comprising both dry-crop and irrigated land are remeasured in order to ascertain the area of the land now under irrigation.
- 6th.—All lands measured up by the first Survey into large blocks, on account of their being considered to be of such low quality as to be unfit for cultivation, are now to be divided up into Survey fields of convenient area for cultivation if they are of such quality as now is ordinarily cultivated, or if these large Survey numbers are found to be actually

of large Survey numbers or fields, and also in cases of separation of recognized occupancies clubbed into one Survey number at the time of the original Survey. Other Survey fields or numbers were not remeasured, but had their boundaries examined and compared with those recorded on the map, all cases of difference between existing and the recorded boundary being corrected after actual measurement.

55. In the district of Khândesh and the Konkan Districts of Thána and Kolába in which the Revision operations were commenced in 1882, the remeasurement was carried out on the Dhár-wár plan of Partial remeasurement, modified so as to meet the varying circumstances and local peculiarities of each district.

56. Four years later Revision operations were commenced in the Dholka Táluka of the Ahmedabad District in Gujarát. Here the original measurement work having been carried out on a system of sufficient detail very similar to that adopted in the original Survey of the Southern Marátha Country District, was found sufficiently accurate for Revision purposes and was confirmed after a careful preliminary test and after such partial remeasurement as was necessary in the case of division of large Survey numbers and separation of clubbed occupancies. Shortly after the completion of the Revision operations in Dholka, the Gujarát Survey records were destroyed by fire at Surat (in 1887), and it was for some time contemplated to carry out entire remeasurement of the fields of which the original records had been lost, but after further consideration this work was found unnecessary.<sup>1</sup> With the exception of a very few villages of which, in addition to the measurement records, the original Survey maps had also been destroyed by fire, and in which entire remeasurement had therefore to be done, the Revision measurement operations were carried out on the plan of partial remeasurement adopted in the Dholka Táluka.

(2).—*Separation and formation of recognized occupancies into New Survey or Pót Numbers or recognized shares.*

57. Up to 1887 the separation of recognized occupancies, clubbed together in one Survey number at the original Survey, formed one of the principal items of Revision operations in all the

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under cultivation, as is often the case, they will be made into Survey fields according to the provisions of Rules 1 and 2 above. [Extract from paragraph 53, page 10, Colonel Anderson's Report No. 1045 of 7th October 1880.]

<sup>1</sup> G. R. No. 1385, dated 28th February 1888, and G. R. No. 2587, dated 27th April 1888.

surveys. In this year, when the Progress Report of the Department was under consideration, the large amount of labour and expense incidental to this operation in the several Surveys attracted the attention of Government, who thereon addressed the Survey Commissioner on the subject as follows:—

The survey is primarily a *revenue survey*, and it is not a necessary part of its functions to demarcate properties except when it is charged with this duty on behalf of decree-holders and at their expense. Any subdivision of land which is not required for administrative purposes must be justified on other grounds than the convenience of the present holders. When land has been divided into the areas most suitable for revenue purposes, the presumption arises that further subdivision should be only at the expense of the parties interested. It is probable that there are well understood rules and principles laid down for the guidance of Survey officers on this question, but looking at the facts reported regarding subdivision of lands and remembering the supreme necessity for curtailing all operations and all expenses, His Excellency the Governor in Council desires to have a full report regarding the principles followed in each Survey, together with any suggestions or recommendations on the subject.

58. The Survey Commissioner, after consulting the several Superintendents, submitted a detailed report on the subject explaining that in all the Surveys the practice generally followed was “to make every recognized occupancy which is above the minimum prescribed by the Survey Commissioner under section 98 of the Land Revenue Code into a new survey number at the Revision Survey.” The Survey Commissioner further remarked: “this plan of subdividing survey numbers has gradually developed until it has been given the force of law by Rule 55, Clause 1,<sup>2</sup> of the Rules issued under the Land Revenue Code. Under this rule every separate occupancy recognized in the village accounts is required to be made into a survey number or a subordinate survey number and to be measured, demarcated, classified, and assessed on its own individual merits.” The Survey Commissioner further added that “the present rules for subdivision of lands have been gradually adopted after prolonged experience gained in all parts of the Presidency. Commencing with a system of somewhat arbitrary division of lands into survey numbers, the survey has now become actually a survey of holdings. But all that is done now in the matter of subdivision is done in the *interests of good revenue administration only* and not for the convenience of the cultivators. Any subdivision over and above that required by the rules is only undertaken at the expense of the occupants.”

<sup>1</sup> Government letter No. 4451, dated 15th July 1887.

<sup>2</sup> Every separate occupancy recognized in the village accounts shall be separately measured, classed, and assessed and defined by boundary-marks, and shall be comprised in a survey number or in a subordinate survey number.

By “Subordinate Survey Number” is meant a portion of survey number bearing a subordinate number and separately demarcated and assessed.

59. In their Resolution<sup>1</sup> passed on the above report Government, while acknowledging that the practice followed in all the Surveys in the matter of subdivision of Survey numbers had been in accordance with rule 55, clause 1, of the Rules under the Land Revenue Code, expressed doubts as to the wisdom of making this rule of "unrestricted and general application," and finally observed as follows:—

Doubtless there are many cases in which the separate demarcation and classification of recognized shares has been well worth the cost incurred, securing not only a more equitable adjustment of demand, but a better revenue than under the system of proportioning demand on each share to his interest such as is prescribed for occupancies held in common; but it is difficult to believe that in tracts of a homogeneous character there are any such public advantages in demarcation of shares as to warrant the entire cost of the operations necessary being borne by Government.

No general rule is possible, but His Excellency the Governor in Council thinks that it may be left to the discretion of the Commissioner to sanction the refusal by the Superintendent of Survey in any class of cases of the separate demarcation of recognized shares without payment of the cost or a portion thereof. This would require an addition to Rule 55, and the Survey Commissioner should be requested to put himself in communication with the Remembrancer of Legal Affairs on the subject of amending Rule 55, so as to leave it to the discretion of the Survey Commissioner to refuse, in cases in which he considers it unnecessary to go to any expense in the matter, the separate demarcation and classification of recognized shares unless the parties interested prepay the cost of such operations.

60. To give effect to the wishes of Government above specified, Rule 55 (1) was amended,<sup>2</sup> with the result that the work of

<sup>1</sup> Vide Government Resolution No. 357, dated 15th January 1889.

<sup>2</sup> (a) Every occupancy separately recognized in the village accounts if not less in extent than the minimum for survey numbers fixed in relation to such land under section 98, shall be separately measured, classified, and assessed, and defined by boundary-marks, and shall be made a survey number.

Note—[In the Phálui operations in the Konkan, the Phálui Tukdás in Varkas, and Pôt numbers in Rábi land shall not, unless the Survey Commissioner so directs, be made into survey numbers, even though in area above the minimum prescribed by the orders under section 98 of the Land Revenue Code.]

(b) Every occupancy separately recognized in the village accounts, which is less in extent than the minimum for Survey Numbers fixed under section 98 in relation to such, shall, unless the Survey Commissioner otherwise directs, be separately measured, classified, and assessed and defined by boundary-marks, and the Survey Commissioner may, at any time, either by general order or in any particular case or class of cases, direct that such operations shall not be proceeded with unless and until an application accompanied with prepayment of all the costs of such operations, or such portion thereof as the Survey Commissioner may direct, has been presented by the parties interested.

Recognized shares of survey numbers so defined by boundary-marks shall be called "Subordinate Survey Numbers," but shall be regarded for all purposes as recognized shares of survey numbers.

separate measurement, &c., of recognized occupancies which up to 1887 formed a large proportion of the Revision operations, has since been considerably minimized, and that it has in consequence been found possible to bring the Revision field operations to a speedier completion than would otherwise have been the case.

(3) *Partial Reclassification.*

61. As in the case of measurement, every endeavour was made to minimize the classification operations at the Revision Survey. But in the districts of Poona, Sholapur, Násik and Ahmednagar, most of which were originally settled in the early days of the survey and before the Joint Report principles "were fully understood and applied," the original classification having been found to be too imperfect to be accepted as a correct standard for the Revision Settlement purposes, a complete re-valuation was deemed necessary both in the interests of the rayats and of the public revenues and was carried out with the previous sanction of Government.

In the Dhárwár and Bijápur Districts, on the other hand, the original classification, though carried out under circumstances not very dissimilar to those of the above named districts, was found to be of sufficiently good quality to admit of the plan of partial re-classification being adopted with success.

Under this plan, which comprised the following operations, no more classification field work was done than was absolutely necessary:—

<sup>1</sup> (1) In the better class of soils, those classed by the former survey at above 10 annas, a percentage of 15 numbers in the first 100 survey numbers and of 5 per cent. of every following 100 numbers was re-classed in order to ascertain the general standard of the old classification.

(2) In the inferior soils a much larger percentage (25 per cent.) was re-classed in the first instance and an additional amount, or the whole re-classed if found necessary.

(3) In the case of Rice lands the soil classification of all the fields, of which the revision areas differed more than one-third or 50 per cent. from the original survey areas, was entirely re-done.

(4) The classification of water supply was entirely re-done in the case of all rice and garden lands.

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<sup>1</sup> *Vide* Government Selection No. CLIX, old Ránebennur Táluka, page 4, para. 9.



**(4)—Adjustment of Original Classification to present standard.**

62. After the reclassification had been carried out on the above plan detailed statements for each village contrasting the old and the new classification were forwarded to the Survey Commissioner, who thereupon fixed adjustment scale for each tract, by the application of which the old classification was brought into accord with the present standard.

63. The same plan was adopted in Belgaum and Sátára and in the districts recently revised, with the result that gradually as the tracts latterly dealt with by the original survey came up for revision, the classification work became more and more partial, until in the Tálukas last dealt with the original classification was found to be sufficiently correct to be adopted as the basis for revision settlements without any detailed test or re-examination.

64. In Khándesh the old classification was found to have been carefully done and to be uniform, and was adopted for the purposes of revision settlement in its entirety except in the following cases where the operation was carried out *de novo*<sup>1</sup>:—

1st.—In numbers which had been broken up and classed by the Survey Department before, but of which no test had been taken by an Assistant Superintendent.

2nd.—In large numbers which had formerly been classed as a whole, but which have now been broken up into numbers of easily workable areas.

3rd.—In numbers of which the classification had been done by the Survey subordinate employed in the táluka.

4th.—In waste numbers in which the area deducted as unculturable exceeded one-fourth of the total area.

5th.—In numbers shown as totally unculturable in the old records, and which consequently had not been classed at all.

6th.—In numbers which have suffered a considerable alteration in area or shape.

7th.—In the numbers formed wholly of alluvium, whether old or freshly deposited.

8th.—In the portions of numbers irrigated by páts.

65. In the Ahmedabad and Kaira Districts of Gujarát the revision classification comprised the following operations:—

- (1) Adjustment of the original classification to the present standard after a preliminary test of a certain percentage of the survey numbers in the field.

<sup>1</sup> Amalner Revision Settlement Selection, No. CCXXIX, page 2.

- (2) Re-classification of the water-supply in the case of rice and other irrigated lands and of soil also if the old classification books had been lost.
- (3) Re-classification of all numbers newly formed out of old survey numbers.
- (4) Re-classification of permanent Bháta lands originally classed as jiráyat.
- (5) Subsoil water classification of all lands having subsoil water facilities.

66. The re-classification operations in the Surat and Broach Districts were confined to—

- (1) All jiráyat numbers broken up under the revision measurement rules, if the field books of the original survey were not in existence.<sup>1</sup>
- (2) All jiráyat numbers under and up to one acre if the field books were not in existence.
- (3) Survey numbers or portions of survey numbers converted since the last settlement from dry-crop into rice or which were formerly rice but not jiráyat.
- (4) All old rice numbers or portions of numbers, both for soil and water, if the old classification books were lost; but for water only if they were in existence, the original soil classification being confirmed.
- (5) All survey numbers in the Surat District, whether rice or jiráyat, which were originally classed as natural bágáyat.
- (6) All Bháta Survey numbers.
- (7) All numbers classed as bágáyat at the original survey, unless there were means of taking off the bágáyat kasar—water-cess—without resort to re-classification.
- (8) All survey numbers formed during the currency of the expiring lease out of large culturable waste numbers, which were not classed at all or which were only roughly classed at the average classification rate of the old large number.

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<sup>1</sup> If the field books were in existence, the classification of the new numbers was to be made from the old recorded classification shares; and where that was not possible for any reason, re-classification was to be done with the sanction of the Head Surveyor. If the Head Surveyor in re-classing broken-up numbers found reason to suspect bad work elsewhere, he was to report for orders.

67. In the three\* tálukas of the Panch Maháls which have had revision settlement rates introduced into them, the only classification operation undertaken was the classification of subsoil water facilities, with this exception the whole of the original classification was accepted for the purposes of the revision settlements.

\* Jhálod.  
Hálol.  
Dohad.

68. In the Konkan districts, in the first revised tálukas, (Karjat, Khálápur, and part of Panvel), owing to the scale of valuation adopted at the original survey being different, an entire re-classification was found necessary and carried out. In all the other tálukas subsequently revised the revision classification was more or less partial and comprised chiefly the following operations:—

- (1) Examination of garden lands and the recording of the usual information regarding them.
  - (2) Re-classification of rice, Rabi, and Varkas erroneously entered as garden at the original survey.
  - (3) Re-classification of all Pulan lands erroneously entered as Varkas at the original survey.
  - (4) Re-classification of Rabi lands erroneously entered as Varkas at the original survey.
  - (5) Applying the Water and Position classes wherever necessary.
  - (6) Verification of the old classification of Rice numbers and correction of errors.
  - (7) Valuation of the capability of producing second crops in lands not originally classed for Dusota (second crop).
  - (8). Classification of Rabi and Varkas lands in connection with the Phálni operations.
- (5)—*Abandonment of Well assessment and substitution of a small addition in the assessment under the name of Position class or Subsoil water assessment.*

69. The most important feature of the revision classification is the abandonment of the special water rates on the well irrigated lands, and imposition in lieu thereof a small increase in the soil valuation of all lands possessing subsoil water facilities. In the Deccan and Southern Marátha Country districts this increase is made under the name of Position Class according to the rules which will be found detailed in Part II., Section (1), Deccan Classification. In the districts of Gujarát, on the other hand, the system under which the soil valuation was raised on account of subsoil water facilities is more elaborate and more thoroughly

identified with the ordinary work of classification ~~than~~ that pursued in the Deccan and Southern Marátha Country. This will be found fully dealt with in Chapter XII. Part III. Settlement. Vol. III.

(6)—*Exemption from assessment of Pôt Kharáb deducted at the Original Settlement.*

70. Another important point in connection with the re-classification is the treatment of arable land which under the name of Pôt Kharáb was included unassessed in survey numbers at the early settlements. Government had been inclined ever since 1874 to leave to the occupant the profit of bringing such land into cultivation, but as it was found that the area thus treated in the early settlements was very large and that to forego the assessment of it would occasion an unjustifiable sacrifice of the claims of the public revenue, it was determined to take action at some future time.

71. Ten years later when the settlements marked by great indifference to Pôt Kharáb had already been revised and those effected under the more careful system of the Joint Report introduced about the year 1854, began to fall in for revision, the question of "Pôt Kharáb" was again taken up and finally disposed of by Government in a manner which rendered any detailed notice of such area at revision classification unnecessary. This subject will be found fully treated of in Chapter IX. Pôt Kharáb. Part III. Settlement. Vol. III.

(7)—*Limitations of enhancements in Revision Settlement and gradual levy of enhancements.*

72. The important factors of the Revision Settlements are—

- (a) the limitations to enhancements in the settlements ;
- (b) the system of gradual levy of the increases resulting from the revision rates in individual cases.

The limitations (a) were first prescribed in 1874 and applied to Revision Settlements in the Poona and Sholápur Districts only. They were re-affirmed in 1884, and have been extended to all Revision Settlements since effected. The system of gradual levy (b) was first introduced into the Igatpuri Táluka in 1885, and has been extended to all the tálukas since revised. Both these points will be found fully dealt with in Chapter XIII. Enhancements in Revision Settlement. Part III. Settlement. Vol. III.

73. A summary has now been given of the chief operations of the Bombay Revenue Survey system, which is not confined to the

Presidency proper, but has extended over Sind, most of the Political Dependencies of the Presidency, the neighbouring territories of His Highness the Nizám, the Berárs, and the Province of Mysore. It fell to Sir L. Bowring, when Commissioner of Mysore, to decide upon what system he should adopt for that Province, and after ample opportunity of comparing it with the Madras system, he unhesitatingly gave his decision in favour of that of Bombay. Similarly in the territories of His Highness the Nizám, immediately bordering on the districts of Ahmednagar and Sholápur, the deliberate choice of the Darbár has fallen on the Bombay system, and the revenue is worked entirely on its principles. The advantages which are enjoyed by the occupants of land under the system may be thus described :—

- 1st.—A separate settlement with Government.
- 2nd.—A lease guaranteed for thirty years or other fixed period terminable by him as to the whole or part of his holding at the expiration of each year, but by Government only on his failure to pay the assessment.
- 3rd.—His occupancy is heritable and transferable by gift, sale, or mortgage, without other restriction than the requirement to give notice to the authorities.
- 4th.—He is at liberty to resign his entire occupancy or any part thereof which is separately recognized in the survey and village records, in any year, provided notice be given by a fixed date. If waste land be available, he may enlarge his holding at pleasure on application to the district officials.
- 5th.—He may sublet his lands, and Government will assist him, under certain limitations, in recovering rents from his tenants.
- 6th.—His holding cannot be encroached on by his neighbour, every recognized subdivision of it being clearly defined by boundary marks and susceptible of immediate identification by means of the village maps and registers. Further, the fact of his possession of any field or subdivision of it can be traced without difficulty in the village records year by year up to date. Thus the chances of dispute and litigation are entirely removed, or reduced to a minimum.
- 7th.—The right of the occupant to a renewal of the lease on the expiration of the term, at revised rates fixed, not with reference to any improvements made by the occupant from private capital and resources during the cur-

rency of any settlement under Bombay Act I. of 1865, or V. of 1879, but with reference to general considerations of the increased value of the land, whether as to soil or situation, prices of produce, or facilities of communication.

74. The Department has also done useful work in carrying out enquiries into the different Tenures (such as Khoti in the Konkan and Narwádári and Bhágdári in Gujarát) prevailing in different parts of the Presidency and preparing a complete record<sup>1</sup> of lands held on those tenures and also in the matter of fixing the remuneration of the Hereditary Village Officers in some of the districts, especially those comprised in the Deccan and Southern Marátha Country. A brief account of the different tenures in the Presidency will be found in Chapter XVI. Vol. III., while the methods adopted in fixing the remuneration of the Hereditary Village Officers in different districts will be found described in Chapter XX. of the same Volume.

### *Laws and Regulations.*

75. The operations of the Department had been in progress many years before any question arose as to the expediency of giving them legal sanction. A Revenue Survey was a measure for which there were sufficient precedents, the whole of the Deccan having been surveyed by the direction of the celebrated Málík Amber and partial Surveys having been executed under the Marátha Government. But with the progress of British Adminis-

<sup>1</sup> (1) It shall be the duty of the Survey officer, on the occasion of making or revising settlements of land revenue, to prepare a record showing the area and assessment of each field, and containing all necessary information in regard to landed tenures and the obligations, rights, interests, and circumstances of the various classes of the community. [Extract from section 27 of Act I. of 1865, *vide* Survey and Settlement Manual, Vol. I. page 238.]

(2) The record referred to in section 27 was most useful to all persons having an interest in land as well as to Government. The inquiry which the section authorized Survey officers to make in order to enable them to prepare the records was not of a judicial character, and would affect no private rights. \* \* \* \*  
\* \* \* \* Though it affected no rights, the survey record was still good evidence of actual possession, and in default of better evidence, entries in survey registers were often of value to establish rights. [Extracts from Mr. Ellis' speech on the Survey Act I. of 1865, pages 225 to 227, Survey and Settlement Manual, Vol. I.]

(3) In the North-Western Provinces (*vide* circular orders of the Sudder Dewani Adawlut, No. 514 of 1848) the Civil Courts in all suits regarding land admit this record as evidence, and their decisions are passed in accordance with it, unless the other party can prove the record itself to be erroneous. I think the Courts here would probably adopt a similar practice. (Paragraph 40, clause 2, of Mr. Pedder's report, No. 11, dated 21st March 1862, on Guzrát Tenures—*vide* old Kaira Selection, No. CXIV., page 22.)

tration the value attached to rights in the land, and the inclination to resist any attempt to encroach on them were constantly increasing. The Survey itself had largely contributed to this result, and as it advanced, valuable interests became affected by it and a disposition to question the legality of its proceedings began to be manifested. It became, therefore, imperatively necessary to confer on these proceedings a validity which could not be disputed. Accordingly, in the year 1864 a Bill was introduced in the Legislative Council "to provide for the survey, demarcation, assessment, and administration of lands held under Government in the Districts belonging to the Bombay Presidency and for the registration of rights and interests of the occupants of the same." This Bill was passed into law in the following year under the title of the Bombay Survey and Settlement Act (Act I. of 1865). This Act confirmed previous settlements, empowered Government to direct the extension of the Survey to any part of the Presidency, defined the powers and duties of Survey Officers, provided for the demarcation of field and village boundaries, and the settlement by the Survey Officers of disputes connected with them and for erection of boundary marks. It empowered the officer in charge of a Survey to assess Government and alienated lands and required him, when making settlements of land revenue, to prepare a record showing all rights and interests in the land and giving other necessary information. It also provided for the administration of Survey Settlements and empowered Government to direct a fresh survey and to revise assessment on the expiration of a term of settlement.

76. The provisions of the above mentioned Act were extended to Towns and Cities in 1868 by Act IV. of 1868, and in 1875 by an enactment (I. of 1875), the provisions of the former regarding the date of giving notices of relinquishments were defined, and new provisions regarding the year of "introduction of the rates" and the "first year of levy" were, for the first time, introduced.

77. These were the enactments which governed the Survey and Settlement operations until 1879, when they were all repealed and the provisions therein contained were re-enacted in the Bombay Land Revenue Code (Act V. of 1879). In this Code while all the provisions of the Bombay Act I. of 1865 relating to assessments in revision were re-enacted without any change, a new provision was inserted whereby a right was reserved to Government to take into consideration in fixing revised rates, certain classes of improvements effected by the owners or occupants from private capital. This provision was opposed to the fundamental principles of the Bombay Settlement system, and as it was considered likely to discourage the application of private enterprise and capital to

agriculture, it was repealed by Act IV. of 1886. By this Act the following principles, which had always been strictly acted up to in every Revision Settlement, were re-affirmed and laid down for guidance in future revisions, viz.,—

- (a) that assessments will be revised on consideration of the value of land and the profits of agriculture, and
- (b) that assessments will not be increased on revision on account of increase to such value and profits, due to improvements effected on any land during the currency of any previous settlement by or at the cost of the holder thereof.

*Land Record Staff as the successor of Survey.*

78. In 1883, in pursuance of the recommendations of the Famine Commission of 1878, the Department of Agriculture, or of Land Records and Agriculture, as it is now called, was established in this Presidency, and Mr. Ozanne was appointed as its head under the designation of Director of Agriculture (or Director, Land Records and Agriculture, as subsequently changed). The duties of this Department were defined to be that "it should take all possible means to utilize agricultural knowledge—should assist the better class of farmers to obtain capital and appliances and to bring them into communication with manufactures and exporters; should direct the agriculturists in making use of irrigational agencies and improved communications in any way possible, and should promote the interests and develop the intelligence of the cultivating classes." Contemporaneously with the creation of an Agricultural Department, a correspondence had been going on between the Bombay Government, the Government of India and the Secretary of State on the subject of the principles "on which future revisions of land revenue assessments should be made"<sup>1</sup> in the Bombay Presidency and also in other administrative charges subordinate to the Government of India. In the course of this correspondence, the Government of India forwarded a copy of a letter which they had addressed to the Government of the North-Western Provinces, pointing out the "evils"<sup>2</sup> of the system of carrying out "periodical revisions of assessments," and asked the Bombay Government whether the principles therein formulated

<sup>1</sup> Government of India's Resolution No. 539-R., dated 15th May 1883, printed on page 28 of Character of Land Tenures Selection.

<sup>2</sup> These evils were thus described:—"Uneasiness arising from uncertainty; the harassment of the agricultural classes; the discontent engendered by mistaken assessments; the check to expenditure on improvements; the positive deterioration of agriculture in the last years of the term of settlement, and the heavy cost and great delay involved in the operation." [Government of India's Resolution No. 525-R., dated 9th May 1883.]



with a view to avoid as far as possible those "evils" might not be applied *mutatis mutandis* to this Presidency, with advantage. This inquiry was accompanied by a proposal, among other things, that "revaluation of land should be eliminated in future from the scheme of land assessment," or in other words that the agricultural value of land having been ascertained with tolerable accuracy, that value should be taken as the basis for future adjustment.

79. The whole correspondence which ensued at that time was referred to Mr. Stewart, then Survey and Settlement Commissioner, for his opinion. In his report Mr. Stewart, after describing the progress made by the Department in the matter of Revision Settlements up to date, proposed arrangements<sup>1</sup> by which he expected within a period of eight years to remedy "all the recognized imperfections in survey and valuation throughout the Presidency and to bring up the record to such a pitch of excellence as would ensure its durability." Mr. Stewart added, "The operations will be confined to partial re-measurement and re-classification, no step towards which is, under existing orders, taken without the express orders of Government. After the partial measures necessary to place the work on a satisfactory footing, *re-measurement and re-classification*

<sup>1</sup> In paras. 16 to 19 of the letter to the Government of the North-West Provinces, I observe that, independently of the fact whether the period of existing settlements has expired or not, it is urged upon that Government that in all adequately assessed districts the existing revenue should be taken as the initial revenue upon which future adjustments on revision shall be directly based. Also that in districts in which the existing revenues are not considered to be adequate, fair revenues should be fixed without delay for adoption as the initial revenues, and that in districts where the necessary data are not available, initial revenues should be ascertained as soon as possible after the required survey and valuation. It seems to me that we may, to some extent, adopt the principle here advocated as a part of our programme. It is not necessary that in Bombay we should at once fix certain revenues to be adopted at future revisions as the initial revenues of the tract: all that we require is an accurate initial valuation of the land field by field which may be accepted as the basis of our revenues in future revisions. If we once have a good valuation of each field, the assessment can be fixed at any time on whatever maximum rate may be considered suitable. I would propose that, instead of waiting until the period of original settlement expires in each taluka of a district, we should proceed at once to review the work over the whole remaining area of the Presidency, so as once for all to secure a correct initial field valuation. The great advantages of so doing will be that there will be no temporary stoppage of the work of the Department, the duty will be performed by the present staff which has attained a pitch of excellence in surveying and soil-valuation, which no new staff could ever hope to attain, and instead of the remaining work being done at straggling periods and with reduced establishments until well into the next century, as will be the case if we are to await the expiration of each settlement, everything that is necessary for future revisions may be performed with the present survey establishments kept up to their full strength within a period of about 8 years. [Extract from para. 23 of Survey Commissioner's letter No. 1360, dated 27th June 1883.]

*will cease altogether to be operations attendant on a revision of rates."*

80. In the above report, or the "8 years' programme" as it is called, a suggestion was for the first time made by Mr. Stewart that the recently formed Agricultural Department should, with a view to obviate the necessity for field operations at future revisions, "take over the Settlement maps and records to keep them fully up to date and to collect year by year the statistics necessary to be considered at future revision of rates."

81. The above proposals were fully approved by the Bombay Government and also by the Government of India,<sup>1</sup> and thus in addition to its ordinary duties enumerated in paragraph 78 above, a new duty of "taking over the completed work of the Survey and Settlement Department, of maintaining its records and supplying the requirements of revision Settlements" was for the first time found for the Agricultural Department in 1884.

82. On the expiration of the sanctioned period of 8 years on the 31st March 1892, the Survey records of the completed districts were, in accordance with the policy above explained, handed over to the Land Records and Agricultural Staff. In the remaining

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<sup>1</sup> The proposals of Mr. Stewart for the early disposal of the operations of the Survey Department in districts of the second class appear to the Government of India to be conducive both to the financial and administrative interests of the State as well as to the benefit of the agricultural population. His Excellency the Governor-General in Council is glad to accord his approval to the scheme set forth in Mr. Stewart's letter. Its chief advantages seem to be these—

(1) The concentration of settlement operations within a shorter period than would otherwise have been possible, and the consequent diminution of the cost of superintendence.

(2) The earlier correction of the village records and maps—a measure of great administrative importance.

(3) The greater facility with which a revision of maps, soils, and records can be made within the next few years than at any later date, in consequence of the fewer changes which will have taken place since the last survey.

(4) The greater knowledge which the Agricultural Population will be able at once to acquire of their future prospects at the termination of the present term of settlement.

The assignment of the important duties indicated by Mr. Stewart to the Agricultural Department is so completely in accord with the scheme for an Agricultural Department advised by the Government of India in its Resolution of December 1881, that it is needless for His Excellency the Governor-General in Council to assure the Bombay Government of his full acquiescence in this part of its proposals. The Government of India is glad to know that important administrative work will be found for the Department which will at the same time ensure its more complete acquaintance with the agricultural condition of every portion of the Presidency and also enable it to effect a considerable economy and accuracy in future revisions of settlement.

(Paras. 5 and 9 of Government of India, Revenue and Agricultural Department, No. 253-R. of 9th October 1883.)

districts much work still remained to be done, and a revised programme was submitted by Mr. Ozanne, who had succeeded Mr. Stewart in the Survey Commissioner's appointment. This programme, which was for five years, was, like other Survey programmes and estimates, not realized, and a further revised programme, this time for 4 years, was submitted in 1896. The closing date of this last programme has now been fixed as 31st October 1900, by which date the whole of the remaining survey records will be completed and handed over to the Land Records Staff of the permanent Revenue Department.

83. The rules and orders regulating the working of the Land Records Staff in the matter of the maintenance of the "Survey records" and the preparation and maintenance of the "Records of rights" are given in Part IV. Vol. III.

84. As regards the preparation and submission of "future Revision Settlements," Mr. Ozanne, whilst acting as Survey Commissioner in 1891, made a suggestion<sup>1</sup> that the Director of Land Records and Agriculture should be subordinated to the Survey Commissioner in order that he might acquire the knowledge and experience necessary to enable him to deal with Settlement proposals after the abolition of the Survey Commissioner's appointment. Government declined to accept this suggestion, and with a view to remove all future doubts regarding the duties of the Director of Agriculture in connection with settlements, passed the following orders<sup>2</sup> :—

With reference to paragraph 10 of Mr. Ozanne's report, I am directed to observe that the original view was not that the two appointments should be amalgamated on the completion of the survey record, but that the appointment of Survey and Settlement Commissioner with the whole of the appointments in the Survey Department should disappear, and that all the work connected with the maintenance of the survey record and the preparation of future revision settlements should be entrusted to the *Revenue Department*, the establishments maintained for the purpose in each district forming part and parcel of the Revenue Establishment. The function of the Director of Land Records and Agriculture in that Department was limited to inspection and advice, and he was expressly excluded from control over the district establishments, for the reason that if he exercised control over establishments subordinated to the Collectors an *imperium in imperio* and division of responsibility would be created. That view has been accepted by the Government of India, and is undoubtedly the right one, and it is necessary that it should constantly be borne in mind. For the above reasons the Governor in Council is unwilling to subordinate the Director of Land Records and Agriculture to the Survey and Settlement Commissioner for the purpose of survey record maintenance, which is a duty

<sup>1</sup> *Vide* paragraph 10, Survey Commissioner's letter No. 1420, dated 31st July 1891, referred to in Government Resolution No. 7071, dated 15th October 1891 Revenue Department.

<sup>2</sup> Paragraph 9 of Government Resolution No. 7069 of 15th October 1891.

of the Revenue Department in this Presidency, and as the Bombay administration is constituted cannot be delegated to the Agricultural Department without risk of dislocation of parts of the machinery. The function of the Director in that matter is to advise and assist, not to direct and control.

85. The policy enunciated in these orders has since been kept in view,<sup>1</sup> and consistently with it the following arrangements have been recently prescribed<sup>2</sup> by Government, to ensure in future the punctual and methodical submission of Revision Settlement Reports after the abolition of the Survey Department.

Before the 31st July in each year the Director of Land Records and Agriculture should report to the Commissioner of each Division the taluka or talukas in that Division the current settlement of which expires on the 31st July two years later, submitting at the same time his recommendations as to the arrangements to be made for the submission in due time of proposals for revision. Thus the Director should report before 31st July 1900 regarding all settlements expiring on or before 31st July 1902.

The following is the general outline of the programme which should be observed :—

(1) An officer should be selected with the approval of Government to prepare the proposals ;

(2) in the travelling season following the Director's report, the officers selected should thoroughly visit the tract to be reported on ;

(3) his proposals should be submitted to the Collector before the 1st of June following, those of the Collector to the Commissioner before the 1st of August, and those of the Commissioner to Government before the 1st October.

By arrangements on these lines Government will be enabled to pass orders on proposals for the revision of settlements in ample time to enable the new settlement to be introduced punctually before the close of the Revenue year in which it expires.

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<sup>1</sup> There will be no difficulty in Assistant Collectors and Collectors formulating proposals for the revision of settlements after the initial measurement and classification are completed, provided the survey record is kept up to date by a properly trained establishment. The maintenance of this record is the only work which requires technical knowledge. The revision of the settlement will depend entirely on changes in prices, including such local changes as result from improvement of communications and shifting of markets, although all indications of an increase or decrease in material wealth and general prosperity will be a guide as to the suitability of the old assessment. The opinion of the Assistant Collector and the Collector on such points should be of more value than that of the Superintendent of Land Records and Agriculture, whose main function, while the office lasts, should be the supervision of the necessary correction of the survey record. But so long as the office lasts, there will be an advantage in the proposals emanating from that officer with an assurance that the survey record has been made correct. They should, however, come through the Assistant Collector and the Collector, and these officers should examine every detail, bearing in mind that in future the formulation of the proposals will probably rest entirely on them, and that it is therefore necessary that they should make themselves thoroughly acquainted with all the principles on which such proposals should be based. [Government Resolution No. 7404 of 2th October 1897.]

<sup>2</sup> Government Resolution No. 200, dated 2nd February 1900.

## MEASUREMENT.



## INDEX TO PART I.—MEASUREMENT.

Subject.	Paras.	Pages.
<b>CHAPTER I.—HISTORICAL SUMMARY.</b>		
Account of Old Survey—Broach ... ..	1 & 2	1—2
The objects of the Survey ... ..	3	2—3
Account of Old Survey—Surat ... ..	4 & 5	3
Do. do. Poona ... ..	6	3—5
Do. do. Ahmedabad ... ..	7 & 8	5—6
Do. do. Sátára ... ..	9	6
Do. do. Dhárwár ... ..	10	6—7
Partial System—Adoption of ... ..	11	7
Account of Old Survey—Ahmednagar ... ..	12	<i>ib.</i>
Do. do. Kánara ... ..	13	7—8
Do. do. Násik ... ..	14	8—9
Do. do. Thána ... ..	15	9
Do. do. Ratnágiri ... ..	16	9—10
Do. do. Sholápur ... ..	17	10—11
Do. do. Kolába ... ..	18	11
Do. do. Belgaum ... ..	19	<i>ib.</i>
Do. do. Khándesh ... ..	20 & 21	11—13
Do. do. Bijápur ... ..	22	13
Do. do. Panch Maháls ... ..	23	<i>ib.</i>
Earliest Surveys ... ..	24	13—14
Bombay Revenue System—Year of introduction of ... ..	25	14
Design of Surveys ... ..	26	<i>ib.</i>
Main object of Revenue Survey ... ..	27	} 14—15
Point to be kept in view in the division of the village lands into fields ... ..	27	
Rules for the division of land into fields ... ..	27	
Practice of ditto in several districts ... ..	28	15—16
Changes in the rules of ditto ... ..	29	16
Partial System ... ..	30	<i>ib.</i>
Boundary Marks ... ..	31	16—22
Boundary Disputes ... ..	32	23—24
Measurements ... ..	33	24
Procedure adopted in the measurement of village lands ... ..	34	24—25
Survey by Theodolite ... ..	35	25
Instructions to obtain a general accuracy in the map ... ..	36	<i>ib.</i>
Appendices (A. to F. and 1 to 5) ... ..	37	26 & iii @ cxii

Subject.	Paras.	Pages.
<b>CHAPTER II.—LAND SURVEYING.</b>		
<i>Definitions and Explanations.</i>		
Area ... ..	1	27
Area of a plain figure ... ..	2	<i>ib.</i>
Acre ... ..	3	<i>ib.</i>
Chain ... ..	4	<i>ib.</i>
Operations connected with Land Surveying ... ..	5	<i>ib.</i>
Straight line ... ..	6	28
Field ... ..	7	<i>ib.</i>
Triangle ... ..	8	<i>ib.</i>
Quadrangle and Diagonal ... ..	9	<i>ib.</i>
Angle ... ..	10 & 11	<i>ib.</i>
Rectilineal figure ... ..	12	29
Four angles ... ..	13	<i>ib.</i>
Right angles ... ..	14	<i>ib.</i>
<i>Surveying Instruments and the manner of using them explained.</i>		
Names of instruments ... ..	15	<i>ib.</i>
Chain ... ..	16 to 33	30—31
Rod for testing chain ... ..	34	31—32
Cross-staff ... ..	35 to 38	32
Scales ... ..	39 & 40	33
Drawing compass ... ..	41	34
Plotting the field ... ..	42	34—35
Instructions for making Field Sketches ... ..	43	35
Area comb ... ..	44 & 45	<i>ib.</i>
Calculation of area by the Area-comb ... ..	46 & 47	36
<b>CHAPTER III.—FIELD MEASUREMENT.</b>		
To measure and find the area of a triangular field.	1	37
Do. do. of a trapezium ... ..	2	<i>ib.</i>
Do. do. of a four-sided field.	3	38
Do. do. of any field ... ..	4	<i>ib.</i>
Do. do. do. irregular figure.	5	29
Do. do. of a field with irregular boundaries.	6	39—40
Do. out a Road, Canal, or Railway ... ..	7	40
Breaking up of a large plot of land into Survey numbers ... ..	8	<i>ib.</i>
Subdivision of a plot of land ... ..	9	41
Appendices A, and B. ... ..	...	@ xxiii
<b>CHAPTER IV.</b>		
Useful Problems solved ... ..	1	42—44



Subject.	Paras.	Pages.
CHAPTER V.		
Practical course of instruction ... ..	1	45—49
CHAPTER VI.		
<i>Orders for Theodolite Measurers.</i>		
Manner of using the Theodolite and verifying the angles taken (Rules 1 to 6) ... ..	Section I.	50—51
Measurement of village boundaries (Rules 1 to 15) (Rules 1 to 4) ... ..	Section II. Supplement to ditto.	51—55 55—57
Measurement of Roads (Rules 1 to 10) ... ..	Section III.	57—59
CHAPTER VII.		
Traverse Survey ... ..	Section I.	60—71
Rules for Survey (by Traverse) of jungle villages (Rules I. to XIV.) ... ..	Section II.	71—74