

SURVEYS

Replaces Standing Order 16, original issue, dated 16th August, 1990; first reprint dated 27 October, 1911; second reprint, dated 3rd November, 1920 and Standing Order, dated 15th June, 1997.

PART A

SURVEY MARKS

Note: Chapter 12 and Appendix VII of the Settlement Manual should be read in connection with this Chapter.

4.1 Survey marks: As regards the erection of survey marks, ¹[sections 100-103 of the Land Revenue Act, rules 32 and 33 under that Act], and paragraph 241-250 and 251 of the Settlement Manual may be consulted.

The chief survey marks are:-

A-Placed by the Survey of Pakistan:-

- (1) Great Trigonometrical Stations.
- (2) Base line stones placed in the course of riverain surveys.
- (3) Traverse stations supplied in estates not surveyed on the square system.
- (4) Other traverse data (such as corner stones indicating blocks in the rectangulation carried out by the Survey Department in the Sindh Sagar Doab and in the colonies).
- (5) ²[International Boundary Pillars].

Note: Traverse data supplied by the Survey Department is not intended to guide Patwaris in the execution of their surveys except—

- (a) where the ground is so hilly or broken that accurate squares cannot be laid down;
- (b) where, for special reasons, e.g., in riverain tracts a scientific traverse has been made as the foundation for the Patwaris, field survey.

³ [B-Placed by Revenue Department:-⁴

- (a) Tri-junction pillars or platforms or sihaddas, erected at every point where the boundaries of more than two estates meet.

¹ . Now “Sections 117,121 and 123 to 130 of the West Pakistan Land Revenue Act, 1967 and rules 63 and 64 of the West Pakistan Land Revenue Rules, 1968”.

² . Added by correction slip No.78, L.R.M..., dated 20-9-1966

³ . These marks are now called “Boundary marks” (See section 4(5) of the West Pakistan Land Revenue Act, 1967 and rule 64 of the West Pakistan Land Revenue Rules, 1968)

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- (b) Burjis (mud pillars or stone slabs), set up at every angle on the boundary line between two sihaddas.
- (c) Masonry or stone pillars at the corners of survey squares or rectangles }

4.2. Masonry marks at the corner of one square where estate is measured on the square system : In estates surveyed on the square system the extremities of a side of one square are marked by survey marks of stone or concrete, each mark being not less than 18 by 6 by 6 inches in size.

4.3. Power of Collector to dispense with rules : Where boundaries are marked by rivers or hills or where land is exposed to the action of rivers or floods, or in other cases, for sufficient reason the Collector may by order dispense with the construction of the survey marks prescribed in the foregoing rules.

And in that case to issue special orders : In such cases the Collector may direct the erection of such other survey marks as are necessary to furnish a base or guide from which the boundary of the estate can from time to time be marked out and its interior survey be accurately renewed. In cases in which the site of a tri-junction pillar is immediately exposed to diluvial action, no pakka pillar need be erected. Ordinarily no other exception should be allowed to the rule requiring tri-junction pillars to be made of masonry or stone.

4.4 Trijunction pillars : The completion and maintenance of tri-junction pillars in every village is a matter of great importance, because, under the existing system of village survey these points form the connecting link between the Patwari survey and the Survey of Pakistan, furnishing a basis (1) on which the results of the Patwari maps can be checked against the data of the Survey of Pakistan and (2) by the aid of which the topography of the Patwari maps can be incorporated into the sheets of that survey.⁴[Section 103 (1) of the Punjab Land Revenue Act] requires the Revenue Officer to give the land-owners 30 days within which to erect pillars. As regards tri-junctions he should give the legal notice, at the same time informing the land-owners that he is willing to arrange to erect tri-junctions for them at a given cost. Probably all will leave it to him, and after 30 days he can arrange to do the whole work through a contractor.

4.5. Preference of stone to masonry pillars: Where the cost of stone is not prohibitive stone is much better than masonry.⁵[revenue rule 33] leaves it to the⁶[Collector] to say whether the tri-junction pillar is to be of masonry as there specified or a single block of stone.

4.6. Maintenance of Great Trigonometrical Survey Stations: (1) Deputy Commissioners will maintain in their offices a list of the Great Trigonometrical Survey Stations in their districts, and should see that the instructions given below are carried out.

(2) In his field inspections the Patwari in whose circle any such pillar is situated should note whether the mark is in good repair in the manner prescribed for pakka survey marks in the instruction given in Chapter on Harvest Inspections.

4. Now "Section 130(1) of the West Pakistan Land Revenue Act, 1967."

5. Now "rule 64 of the West Pakistan Land Revenue Rules, 1968.

6. Now "Revenue Officer".

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(3) On the completion of the Kharif harvest inspection each patwari shall send a report in the sub-joined form to the Tehsildar for submission to the Deputy Commissioner:-

⁷[Statement showing the condition of Survey and Boundary marks at the time of kharif harvest inspection year-----⁶
Tehsil-----District-----

Name of estate in which the pillar is built	No. of pillar (if any)	Survey /Khasra No. in which the pillar has been laid down	Condition of pillars	Action needed	Remedy by the Kanungo and other visiting officers

A- Survey marks.

B- Boundary marks].

(4) Should any pillar not be situated within the boundaries of any revenue village the Tehsildar shall make special arrangements for the inspection of such pillar and for the preparation of the prescribed report by a Patwari of Kanungo as soon as possible after the kharif harvest inspection.

(5) The Deputy Commissioner shall submit an annual return in the above ⁸[form] to the Deputy Director Map Publication; Survey of Pakistan, Murree, on the 1st January each year, and shall carry out any repairs to those pillars that the Deputy Director may desire him to make and for which he may provide funds.

4.7. Maintenance of base line stones placed in the course of riverain survey: Index maps have been supplied by the Survey Department indicating the base line stones fixed by them in the course of riverain surveys. These stones are of essential importance in connection with the maps of riverain tracts with a view more specially to the relaying of field and village boundaries after emergence from the river. Now that almost all riverain boundaries are fixed (vide paragraph 5.22 infra) the value of base line stones is all the greater. Deputy Commissioners will prepare a list of base line stones from the Index maps, which are all kept at district headquarters and the orders contained in the clauses (2), (3) and (4) of paragraph 4.6 of this Chapter will apply to them but the report to be submitted by the Patwari should be in the form below. They will send an annual return in the following form to the Director of Land Records with the annual report on the Land Records of the districts:-

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7. Revised Form LIV given in Appendix 'A' to the West Pakistan Land Revenue Rules 1968 has been incorporated in this paragraph.
 8. In respect of ' Survey Marks' only.

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1	2	3	4
Name of village.	Number of base line stones as given in the index map supplied by the Survey Department	Field number in which the base line stone has been laid down	Remarks on the condition of base line stone.

CASE LAWS

Signatures / thumb - impressions of parties on mutation. Board of Revenue has never prescribed that signatures or thumb-impressions of parties should be obtained on the mutation. Para 4.7, Land Records Manual and Directors, Land Record's Circular Letter No. 101, dated 17.4.1968, strictly prohibit signature thumb impression of parties on mutations.⁹

4.8.1. Maintenance of traverse stations supplied in estates not surveyed on the square system: The Orders in clauses (2) (3) and (4) of paragraph 4.6 will also apply to travers stations supplied by the Survey of Pakistan in hilly districts.

4.9.Maintenance of other traverse data fixed by the Survey of Pakistan: The orders in clause (2) of paragraph 4.6 will also apply to other traverse date fixed by the Survey of Pakistan.

4.9-A. Care and maintenance of Internation boundary Pillars: ¹⁰{In pursuance of the Indo-Pakistan Agreement, the boundary of the Punjab (India-West Pakistan border has been clearly demarcated on the spot by means of pillars created by the Survey Departments of two countries. The two countries have also framed rules pertaining to these boundaries called the West Pakistan-Punjab (India) Border Ground Rules, 1961. With a view to implement these rules the following instructions shall be observed:-

- (i) Under the Ground Rules, referred to above the care and maintenance of old number of pillars has been made the responsibility of the Pakistan authorities and those for the even number of pillars of the India authorities.
- (ii) All the pillars, both main and subsidiary, whether assigned to India or Pakistan, shall be marked on the shajra kishtwar and entered in the Register girdawari and Diaryy (Roznamcha) in accordance with the instructions contained in paragraph 4.10.

9. 1992CLC 602(a)

10. Added by correction slip No. 77 L.R.M, dated 20-9-1966. These instructions apply to districts of Sialkot, Shekupura, Lahore, Sahiwal and Bahwalnagar on Punjab (**India**) West Pakistan border and are also being followed in Bahawalnagar, Bahawalpur and Rahimyar Khan districts on Rajisthan (India)- West Pakistan border.

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- (iii) A part from inspection at the time of two harvests the Patwari shall also be responsible to keep a general watch on those pillars and if any time he finds that any pillar has been damaged by any miscreant, he shall immediately report the fact to his Tehsildar, who, in turn, shall inform the Collector of the district, who will take necessary action both with regard to the replacement of the pillar and the punishment of the miscreant. Necessary action both with regard to the replacement of the pillar and the punishment of the miscreant.
- (iv) As required by the Ground Rules, referred to above the Collector of the district or his Assistant shall inspect the whole of the boundary line with his district jointly with his counterpart in the border district of India, with whom a contact will be made well in time, biannually at the time of kharif, (October-November) and rabi (March-April) harvests. The result of these inspections shall then be recorded on the statement show in the condition of the boundary pillars, the form of which is given below:-

STATEMENT SHOWING THE CONDITION OF THE BOUNDARY PILLARS ON THE PAKISTAN-INDIA BORDER

Kharif 19

Rabi

Name of the District	Name of the Tehsil	Name of village with Hadbast Number	Field Number	Pillar No.	Date of Inspection	Condition at the time of inspection	Action needed	Remarks by the visiting Officers
1	2	3	4	5	6	7	8	9

This statement will be signed by the revenue officers of two countries. The Collector or his Assistant shall then take necessary action, as required by the Ground Rules, in connection with the repair and maintenance of these pillars. The District

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Officers shall then send a copy of the above said statement to the Commissioner, Board of Revenue, and the Director of Land Records for information.

- (v) The Collector shall get the pillars constructed or repaired through the agency of local P.W.D. (B&R) after observing the procedure laid down in rule 5 of the Ground Rules referred to above. The expenditure to be incurred on the repair and reconstructions of damaged and missing pillars is debatable to the head “57- Miscellaneous-I-Miscellaneous and Unforeseen Charges-1-5- Other Charges-1-5©-Demarcation of Indo-Pakistan Boundary” and will be recovered from the Central Government.

4.10. General orders relating to maintenance of all ¹⁰ {survey marks}: All classes of survey marks set up by the Survey Department and ¹¹ {tri-junction pillars and pillars at the corners of survey squares and rectangles} will be given a red link entry without number, after the field number in which they are situated, and the Patwari will at each harvest inspection, note in his diary if they are in good repair.

⁸4.11. Proper preservation and inspection of 1 {survey marks}: The proper preservation of 1 {survey marks} of the above kinds is of such importance that the special attention of Deputy Commissioners and Settlement Officers is drawn to the matter. When inspecting girdawari work all revenue officers should satisfy themselves that the Patwari has noted whether these 1 {survey marks} are in good repair. When a Tehsildar or Naib-Tehsildar or field Kanungo visits a village containing such marks he should invariably inspect them and should, as far as possible, put them in good order if he finds them out of repair. If the repairs require expenditure he should report the matter to the Deputy Commissioner. He should always make an entry in his noting the state in which he has found the marks.

4.12. Mention about the condition of 1 {survey marks} in the annual report: In the annual report on the Department of Land Records, Deputy Commissioners and Settlement Officers should specially note whether the condition of all marks referred to in paragraph 4.10 has been examined during the year and whether they have been put in proper order where necessary.

PART B

1 {SURVEY NUMBERS}

4.13. Definition of a ¹² {survey number}: The following definition of a survey number is given for guidance in marking new surveys or corrections thereof:-

- (i) In all survey work each parcel of land lying in one spot, in the occupation of one person, or of several persons holding jointly, and held under one title, should ordinarily be measured as a separate survey number; but large area may be broken up into convenient fields.

⁸ 10. Now called “Survey and Boundary Marks”.

11. Now called “Boundary Marks”.

12. For definition of “Survey of Khasra Number” see also para 7.41 (6) (i) of this Manual.

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- (ii) A survey number may have part of its area cultivated and part uncultivated or part of one soil and part of another, Survey numbers should not be multiplied merely on grounds of this kind, unless it is convenient to do so, but it will be ordinarily convenient to measure waste separately and not to include irrigated with unirrigated cultivation, as this leads to errors in totaling the village area.
- (iii) Care also should be taken no to multiply survey numbers merely on account of cultivation ridges or other merely temporary divisions. In a simple state of cultivation there is usually no necessity to treat each ridge, made for convenience of cultivation, as a separate field boundary.
- (iv) But in the case of valuable lands cultivated by tenants who are frequently changed special care should be taken that the measurements are made so as to show the boundaries of parcels in which the land is usually held for cultivation or irrigation. In such lands the survey numbers will necessarily be smaller than elsewhere.
- (v) In places where land is of little value, if an occupancy tenant has extended his field by ploughing out, and there is no boundary between the new and old land, nor other plain evidence, such as payment of a different rent by which the new land can be separated from the old land, the Patwari shall survey the whole in one number. In such a cases it is not his duty to distinguish between old and new land.
- (vi) Field names, if locally usedm should be written under the survey numbers.
- (vii) ⁹In short, every care should be taken to make the survey simple, but not to omit details convenient for the annual girdawari and ¹³{jamabandi}. It should be borne in mind that every unnecessary entry increases unnecessarily the Patwari's annual work..
- (viii) Where the boundary of a survey number is known, but is not marked on the ground owing to rich cultivation or sandy soil, the boundary should be delineated on the map by broken lines.
- (ix) Where there is a large area of undivided waste it may be cut up into survey numbers corresponding with the limits of the survey squares.
- (x) In all cases in which a new map of any estate is prepared the provisions of this paragraph and especially of sub-section (ii) must be applied with due regard to canal requirements, and so far as may be possible the limits of canal irrigation, as ordinarily practiced, must be shown in separate numbers.

⁹ 13. Now called "Register Haqdarar Zamin".

PART C

SURVEYS DURING SETTLEMENT

4.14. Instructions regarding re-measurement and map correction: The instructions as regards re-measurement and map correction during a general re-assessment of a district will be found in chapter XII and Appendices VII and XXI of the Settlement Manual.

4.15. Survey implement and mapping paper: Instructions as to survey implements and mapping paper will be found in Chapter No. 3(Patwaris). In hilly and broken land where squares cannot be used, application for plotted traverse sheets should be made to the Director of Land Records, and that officer, in communication with the Survey Department, will supply suitable sheets for the Patwari's use.

4.16. Patwaris not to be excused measurements: The main portion of the measurement and record work should be done by the circle Patwaris, the settlement Patwaris being looked on primarily as an aid to them in their work. A Patwari must in no case be excused from doing both measurement and records work. If he is unable at first to do the work required of him he should be taught, and if he fails to learn he should be dismissed, with or without a gratuity, as the case may be.

4.17. Riverain measurement rules hitherto observed by the Survey Department: The following are the rules under which riverain measurements have been carried out throughout the Punjab in conjunction with the Survey Department.

(1) It is the duty of the Settlement Officer to supply the Officer-in-Charge, Field Survey Party, Muree, by the 1st of May each year, with a statement showing the villages to be traversed in the ensuing season, distinguishing those which are to be wholly and those which are to be partially re-measured and affording information as to the scale to be used and the distance desired between traverse points. With this statement should be sent a small scale map of the district showing the names of the different villages as well as their boundaries. The Officer-in-Charge Field Survey Party, Muree, will then prepare a programme for the ensuing season and submit it by the 1st of June to the Surveyor General of Pakistan, Karachi, who will forward it to the board of Revenue approval. Before actually commencing the work of the season the Officer-in-Charge, Field Survey Party, Muree should consult the Settlement Officer as to the order in which villages should be traversed. The Settlement Officer must be careful to arrange in ample time (at present the Press of ruled and backed musavis to the Deputy Director Map Publication, Survey of Pakistan, Muree. There will be two kinds of musavis, namely: 16 square and 8 square ones. The latter will be used for such outer portions of villages as can be included within them.

(2) It is the duty of the Settlement Officer to see that all existing boundary pillars are put in a proper state of repair.

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(3) It is the duty of the Settlement Officer to make arrangements with a contractor for the supply of stones to mark the corners of base lines according to the list supplied by the Officer-in-Charge, Field Survey Party, Murree.

(4) Early in the cold weather it will be the duty of the Officer-in-Charge, Field Survey Party, Murree, to arrange that traversers begin work in the riverain tract. At the commencement of work, each party should be accompanied by the village Patwari and the Lambardar to point out boundaries and to show where points should be thrown, as well as to arrange for the supply of information etc., and to act generally between villagers and the traversers.

(5) Such points as the Settlement Officer may require should be traversed and where necessary marked on the ground by the Officer-in-Charge, Field Survey Party, Murree. These should include---

- (a) all existing tri-junction pillars;
- (b) recognizable physical features of a permanent nature;
- (c) the survey party's traverse points. These should not be more than 200 karmas apart and should invariably be closed to the district of Tehsil boundary;
- (d) a number of points in the kacha area to facilitate internal measurements by the Patwaris. These points will usually be in cultivation.

(6) The Deputy Director, Map Publication, Survey of Pakistan, Murree, should also obtain the last settlement maps of all conterminous villages on either side of the boundary and combing them into single four-inch map in order to see how far they agree with each other.

(7) Inside each village a suitable square should be selected by the Officer-in-Charge, Field Survey Party, Murree, to form the special base line of that village. This should be on ground not exposed to river action. Stone pillars should be erected at three corners of this square. A corresponding square on pakka ground should in each case be selected and similarly marked on the opposite side of the river. This will materially facilitate the relaying of boundaries on future occasion when such may be necessary.

(8) As a result of the traversers' work the Deputy Director, Map Publication, Survey of Paistann Murree, will supply the Settlement Officer with—

- (a) Musavis showing paper boundaries in those cases where it is discovered in the course of the examination prescribed in rule 6 that the boundaries of the settlement maps do not coincide;
- (b) Separate musavis for each village showing the points traversed under rule 5.

This (b) series will be complete and continuous for the whole tract and will be numbered serially. Where it is found necessary because of discrepancies to prepare an (a) musavi, the (a) musavi will correspond exactly to a (b) musavi and

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bear the number not of a separate (a) series but of the (b) series. It will be easy to transfer the points shown in (b) to (a) with the help of the squares shown in both. The Patwaris will work on (b) and (a) will remain in the Revenue Record Room until they are required for reference under Rule 11. It is advisable to have paper boundaries marked only on (a). If they are worked on (b) the Patwaris are apt to sow dissension even when there is no actual dispute on the spot. It is for this reason that the traverser should show "Chandas" only along the boundary and not attempt to mark out the actual boundary itself.

(9) Musavis are supplied gradually by the Survey Department from the 15th December to 15th March. As the latest musavis are not issued till 15th March it is necessary for the Patwaris to whom these musavis are issued to have everything marks will be washed away by the rivers rising when the snows in the hills begin to melt. The Settlement Officer should give separate musavis alluded to in rule 8 to patwaris upon which it is easy for them to carry out a rapid and accurate survey. In the kacha area of course entire re-measurement is required, but where the system of measurement in use is that of tarmim, the Patwaris need not re-measure the whole of the pakkas area of each village. The pakka area may be tarmimed separately, and the work so done can for the sake of completeness be transferred to the Survey musavis in continuation of the re-measurement of the kacha, either by scale or by pentagraph. The scale is the best instrument for this work, since any slight discrepancy can then be distributed; with the pentagraph this not feasible.

(10) The Kanungos who were employed with the traversers may now be appointed by the Settlement Officer to supervise the detailed measurements. It is advisable to have a special Naib-Tehsildar in charge of the whole cadastral survey riverain areas.

(11) It is in connection with the re-measurement of the kacha area that boundary disputes arise and discrepancies have to be reconciled, and this requires careful treatment. The Naib-Tehsildar will first of all mark the external boundaries of the village as shown in the settlement shajra. The Patwari will then easily be able to fix the field boundaries which he should show to owner concerned. In case the settlement shajras are in such a dilapidated state that they do not clearly show the village boundaries or in case the boundaries of two villages overlap or an area has been omitted from measurement in both maps, the Naib-Tehsildar should prepare a statement of the case, illustrated by tracings from the musavis, and submit it to the Settlement Officer for his decision which will be marked on both sets of musavis. His report should include the statements of Lambardars and owners interested in the matter. To enable him to deal properly with disputes, the Naib-Tehsildar will require—

- (a) All settlement shajras of villages on both sides of the river;
- (b) All records or previous disputes and decisions. If any of the villages involved are situated in another district, it is necessary to obtain the co-operation of those authorities. The most convenient course is to obtain jurisdiction for the

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Settlement Officer over the whole of the riverain area of the adjoining district.

(12) It may happen that the scales employed on each side of a river differ. It is of course essential that the whole area be plotted on one scale and the more convenient one may be selected and the internal measurements conducted accordingly; if considered necessary reduction or enlargement of the completed map can be carried out subsequently for villates using a different scale from that adopted.

(13) An important part of the traverser's duties is the embedding of the base line stones, this work must be carried out by the Survey Department who will supply the Settlement Officer with an index map showing the corners of squares so demarcated.

(14) It is the duty of Director of Land Records to maintain a list of selected Kanungoes so that one may be deputed without delay as soon as the traverser arrives in the district.

(15) A supply of wooden pages, 2 feet long and 6 inches in circumference, should be provided by the zamindars under orders of the Settlement Officer for marking points.

¹⁰ (16) Lambardars ¹⁴[and Zaildars] should be made responsible that the pegs and survey marks are not removed or destroyed. A list should be maintained by the village Patwari in the following form:-

1. No. of chanda.
2. Field No. in which the chanda is situated.
3. Owner's name.
4. Name of the tenant.
5. Signature or the thumb-mark of the owner of the field.
6. Seal of Lambardar concerned.

The position of the pegs and chandas should be marked by the Kanungo on one of the Patwari's maps: it will then be easy to fix responsibility.

(17) The Naib-Tehsildar on special duty should be provided with a Miniature Swiss cottage tent and a shouldhari. One or two Muharrirs should also be given to him and a small contingent advance. He will need a good deal of tracing cloth for his reports on disputed boundaries.

PART D

PROCEDURE FOR CORRECTION OF FIELD MAPS IN THE INTERVAL BETWEEN TWO SETTLEMENTS

4.18 Responsibility of revenue officers for correctness of Patwaris' survey:

All revenue officers are reminded of their responsibility for the correctness of field surveys executed by the Patwaris whom they control,-- a responsibility which is much increased by the circumstances that the Patwari's maps are occasionally used for correction of the topographical sheets of the Survey of Pakistan.

¹⁰ 14. The appointment of Zaildars has since been discontinued as these offices have been abolished.

4.19. Instructions regarding incorporation of field map changes: The following instructions are issued for the purpose of collecting material from year to year for incorporating in the field map changes which occur in fields in the interval between two settlements.

4.20. Changes of a permanent nature: The changes in fields which ought to lead to the correction of a field map in the interval between two settlements and the methods by which the map should be corrected, are stated in the following instructions:- Firstly, changes which are due to transactions on account of which a mutation order has been, or should be passed. The chief examples are:-

- a) Partitions.
- b) Sales
- c) Mortgage with possession
- d) Redemption when part of an old field has been mortgaged and in consequence a new number has been made, the result of redemption being the restoration of the original number.
- e) Exchange.
- f) Gifts

4.21. Changes due to nautor and hissadari kasht: ¹⁵[Secondly, other changes of a sufficient permanent character. Examples are:-

- a) Nautor.
- b) Conversion of part of a barani field into irrigated land when the change is of a permanent nature. Such changes will especially occur when a new well has been sunk or some other new means of irrigation have been provided;
- c) Separate cultivation of share-holders in fields jointly owned (hissadari kahst) when the arrangement for separate possession has lasted for not less than four years. Such arrangements when once made usually continue until a partition is carried out under the orders of a Revenue Officer.]

¹¹**4.22. New field numbers not to be created needlessly:** (a) Care should be taken not to increase the number of fields needlessly. New fields should not be made on account of changes of cultivating occupancy by tenants-at-will. Such changes will, as at present, be recognized by min numbers in the ¹⁶[Khasra girdawari] and ¹⁷[jamabandi]. Similarly, new numbers are not required when part of a field is cultivated by the owner and part by a tenant-at-will, or when part is cultivated and part uncultivated. In the former case the entry can be shown in the column headed “changes of rights, possession and rent of the ¹⁸[Khasra girdawari]” thus:-

¹¹ 15. In this connection rule 67 of the West Pakistan Land Revenue Rules, 1968 should also be consulted which provides that such-division of Khasra Nos should be made with the sanction of the Collector.

16. Now called “Register girdawari.”

17. Now called “Register Haqdarar Zamin.”

18. Now called “Register girdawari.”

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A-owner	2 bighas.
B-tenant-at-will	1 bigha.

(b) Petty cases of natuor, due to ploughing out, are not a cause for making new fields or changing the boundaries of old ones.

(c) Field numbers should not be combined into a single field unless the clubbing is clearly desirable for the purposes of girdawari.

4.23. Method of preparation of tatima sharjras based on permanent changes: In the case of new numbers due to transaction on account of mutation order (Paragraph 4.20) the Revenue Officer must not sanction the mutation in the absence of a proper map of the new field numbers attested by the Kanungo and checked by himself. When the Patwari enters up the mutation he will draw to scale on the back of the mutation sheet and its counterfoil the numbers affected and will enter under them the details prescribed for the field book referred to in paragraph 4.26. The new fields will be temporarily numbered, e.g., 155/1, 155/2, etc., permanent numbers not being adopted lest the mutation be rejected or the new fields be affected by subsequent mutations. The Kanungo will check on the spot the dimensions and areas of the new numbers and will sign his name at the foot of the map with a note "attested on the spot." In the case of mutations due to scale, etc., the Kanungo is responsible for case of partitions it will not always be possible to show the new numbers and field book details on the back of the mutation order. If so, they will be shown on separate mapping sheets. The tatima shajra in the case of a partition will be a copy of that prepared as soon as the partition is completed [paragraphs 18:12 (a) and 18:14]. The Kanungo who attests the tatima shajra in the case of a partition will be held strictly responsible that the map really shows the land allotted to each shareholder and pointed out to him (paragraph 18:14).

In the case of a transaction based on a registered deed the revenue officer should immediately on receipt of the registration memorandum from the Registration Office (paragraph 7.23), direct the Kanungo and the Patwari to proceed to the spot and prepare a tatima shajra, if one is necessary, on the basis of the material given in the registration memorandum and that alone. On the completion of the tatima shajra it shall be submitted by the Kanungo to the revenue officer.

¹² **4.24. Preparation of tatima shajras necessitated by hissadari kasht, etc.:** The changes referred to in paragraph 4.21 are already recorded by the Patwari by putting a red cross in ¹⁹[columns 8, 11, 14, or 17] of the ²⁰[Khasra girdawari], -(vide note to column 0 of the form of ²¹[khasra girdawari] in paragraph 9.3). All such entries must be carefully checked by the field Kanungo harvest by harvest. In the year in which the ²²[quadrennial kamabandi] of an estate is to be prepared the kharif rirdawari must be made with great care, and the field Kanungo is responsible that no number which has changed permanently escapes detection. After the girdawari is finished he will at once draw up a

¹² 19. now "columns 7,10,13,17" of the revised form (see para 9.2 of this Manual)

20. Now called "Register Girdawari"

21. Now called "Register Girdawari"

22. Now called "Register Girdawari"

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list of the cross-marked numbers and give it to Patwari, who will make the necessary measurements without delay and prepare the tatima shajras on mapping sheets of the same size as the sheets used for ²³[jamabandis] field book details will be entered on the back of these maps as prescribed in paragraph 4.23. In the case of villages measure on the squares marked on them. The field Kanungo will check the tatima shajras on the spot during the cold weather before the end of January. The new fields will at this stage be temporarily numbered as laid down in the preceding paragraph. ²⁴

4.25. Boundaries and dimension of new field numbers to be shown in red ink: In the maps prescribed by the two last paragraphs all new boundaries and other amendments will be shown in red ink. It is unnecessary to re-chain such of the boundaries of the new fields as have undergone no alteration, and if a side of new field includes the whole of a side of and adjoining field which is not being amended only the remaining part of the side of the new field need be re-measured. When an old field number is divided into two or more new numbers the Patwari will recalculate the areas of each of the new numbers. To facilitate identification one adjoining number which has not altered will be shown in the tatima shajra.

¹³ **4.26 Preparation of field book of new field numbers:** In the case of any further changes brought to light at the rabi girdawari the procedure prescribed by paragraphs 4.23 must be gone through as soon as possible, and when it is completed the Patwari will enter all the new fields for which tatima shajras have been prepared under the above-mentioned paragraphs in a field book in the form below:-

25[SUPPLEMENTARY MAP (TATIMA SHAJRA)]

PART A SUPPLEMENTARY FIELD BOOK

Estate-----Tehsil-----District-----for the year-----Book No./Leaf No.

¹³ 23. Now called "Register haqdarani Zamin.

24. In this connection rule 67(1)(b) of the West Pakistan Land Revenue Rules, 1968 should also be consulted which provides that such sub-division of Survey/khasra numbers may be made with the sanction of the Collector. According to the old practice tatima shajras of hisadari kasht are not entered in the mutation register. Rule 67(2) of the afore-said rules provides that in such cases mutation of "Sub-Division of Khasra numbers" should be entered wherein the area and land-revenue of such sub-division shall be entered in columns 11 and 13, respectively, of the Mutation Register. The supplementary field book and supplementary map shall be drawn on the back of the mutation sheet giving the particulars contained in revised form given in para 4.26 infra.

25. Revised Form XIV given in Appendix A to the West Pakistan Land Revenue Rules 1968 has been incorporated in this paragraph.

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Survey/Khasra		No. Khata	Length and breadth of Survey/Khasra No.				Calculagti on of area	Area and soil classifica tion	Remarks
Former Present	Present		East	West	South	North			

Signature of
Patwari.

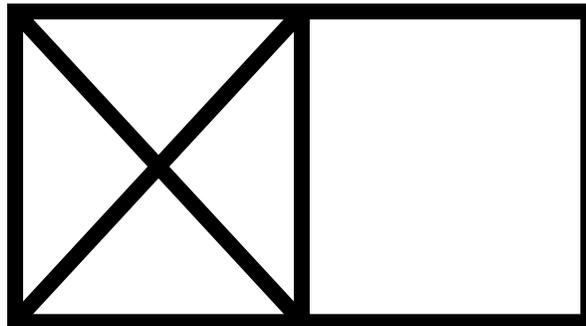
Signature of
Kanungo.

Signature of
Revenue Officer

PART B

2 SQUARES/2 RECTANGLES

MAP



Signature of
Patwari.

Signature of
Kanungo.

Signature of
Revenue Officer

²⁶[¹⁴In the field book the fields will be finally re-numbered as follows:-

If a field number say 24, has been sub-divided into two, and last number the field register of the village is 150, entry No.24, should be scored through and the new fields entered as 1/2 5/4 1 and 1/2 5/4 2.

Where a second sub-division takes place denominator unumber should simply be the numerator of the field which is again sub-divied. This in the example, we should have first 1 5/2 1/1 then 1/1 8/5 5/1 and lastly 20/18 1/51 from each of which if necessary it

¹⁴ 26. This procedure is not applicable in areas where the land measurement is on square/rectangulation system and each square/rectangulation has been divided into 10 or 25 etc small square/rectangulation equivalent to about one acre. For renumbering of field in such area see Explanation (a) under para 7.41(6) (ii) infra.

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would be very easy to trace back to the old number. If fields Nos. 31 and 32 have been joined into one field the new entry may be 153/31 and 32 152 being the last number in the field register.] The new numbers given in the field book will be entered in red ink in the tatima shajras prepared under paragraphs 4.23 and 4.24 above, and each entry in the field book will be initialed by the field Kanungo in token of its correctness. A slip containing a copy of the entries in the field book will be given to the owner or mortgagee or in the case of land held in joint ownership to the share, holder in occupation of the new field.

4.27. Tatima shajras to be bound with the jamabandis (now periodical records): The original tatima shajras prepared on the spot under paragraph 4.24 will be bound up with the ²⁷[Government copy] of the ²⁹[Patwari's copy] of the ³jamabandi]. No copy of the tatima shajras prepared on the back of mutation sheets is required for the ³⁰[Government copy] of the ²jamabandi], in which the original mutation sheets are incorporated, but copies of them must be made on mapping sheets for the ³¹Patwari's copy] of the ²jamabandi]. The field book details need not be copied on the copies of the tatima shajras filed with the ³²Patwari's copy] of ³³jamabandis] as the details are already given in the field book kept by him.

¹⁵ **4.28. Check of tatima shajras by Tehsildars and Naib-Tehsildars:** The Tehsildars and naib-Tehsildars shall, when on tour, check on the spot at least 25 per cent of the tatima shajras prepared in each village in the period intervening between two ³⁴jamabandis]. They are not expected to do much in the way of chaining, but they must remember that they are responsible for the general accuracy of the measurement. They should be able to recognize by eye whether there is any palpable mistake in the karukan or in the area, and if there is any reason to believe that a mistake exists they must have the field re-chained and the area re-calculated in their presence. They must also check the entries in the field book referred to in paragraph 4.26. All tatima shajras so checked must be endorsed "Certified that this has been verified on the spot" and signed and dated.

4.29. Keeping up-to-date of maps: The above instructions apply to all districts. The intention is that the ³⁵Patwari's copy of the settlement map] and the fair copy kept in the Tehsil should include all changes from time to time brought to light, but it is recognized that when the last settlement of a district is not very recent it would be difficult to keep the maps completely up-to-date at present. But it is a matter of great importance that the maps completely up-to-date, and Deputy Commissioners are responsible that this is carried out. To secure this end, the following additional instructions are issued. They apply, in the first instance, to the district of Gujranawala and

¹⁵ 27. "Original copy" (for consignment to the District Revenue Record Room).
28. now called "Periodical Record"
29. Second copy kept by the Patwari.
30. Original copy (for consignment to the District Revenue Record Room)
31. Second copy kept by the Patwari.
32. Second copy kept by the Patwari.
33. Now called "Periodical Record."
34. Now called "Periodical Record."
35. Map prepared on cloth (Shajra Parcha).

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on completion of settlement in any other district or Tehsil since 1910 should be applied to the district or Tehsil in question.

4.30. Renewal of 36[Patwari's copies of shajra kishtwar]: The Patwari will in future have in his custody only one copy of the settlement map for use at girdawari and for all other purposes. The karukan will be shown in the copy. The Patwari's copy will be on latha cloth. The fair copy of the settlement map formerly in the custody of the Patwari's copy of the map of every village must be renewed at the time of filing of every other ³⁷[jamabandi] of that village. For special reasons, however, a fresh copy may be prepared after the laps of a shorter period under the orders of the Collector; in which case the map will be again renewed at the second ³⁸[jamabandi] from the date of this special renewal, e.g. if a map was prepared at the ³⁹[jamabandi] of 1920, it would be renewed in 1928, and then again in 1936; but if the Collector orders its renewal in 1926, it will be again renewed not in 1936 but in 1932. The date of renewal should always be noted on the map.

¹⁶ **4.31. Incorporation of amendments in the Parat Tehsil map and in the 2[Shajra kishtwar kept by Patwaris]:** When the Patwari brings the ⁴⁰[jamabandi] to the Tehsil at the beginning of ⁴¹[September] he will at the same time bring his copy of the ⁴²[settlement map] the tatima shajras prepared under paragraph 4.24, the field book, the work book, and the mutation register. He will, under the field Kanungo's supervision, transfer to his own copy of settlement map and to the fair copy kept in the Tehsil all under paragraphs 4.23 and 4.24. The new lines of amended fields should in the first instance be shown in pencil by the Patwari and then inked by the Kanungo in shingraf after comparison with the tatimas concerned. The tatima shajras relating to mortgages of all kinds, redemptions, leases and hissadari kasht need not be incorporated in the fair copy of the field map kept in the Tehsil. If the new fields are so small that the corrections are difficult to read they should be drawn on a large scale in the margin of the map. If under the above instructions it becomes necessary to make any further alterations any portion of the Tehsil copy of the settlement map which portion has been already so much altered that further alterations cannot be made therein without giving rise to confusion then tracing of the portion in which further alterations have to be made should be prepared on the margin of the map, or, if sufficient space be not available on the margin, on a separate sheet and the alterations necessary as well as any alterations that may have to be subsequently made in this portion should be made in the tracing thereof prepared on the margin or on the separate sheet, as the case may be. The Kanungo must carefully compare the changes made in the maps with those shown in the tatima shajras, and must state in his note of the result of checking the ⁴³[jamabandi] that he has done so. The

¹⁶ 36. Map prepared on cloth (Shajra Parcha)

37. Now called "Periodical Recored."

38. Now called "Periodical Recored."

39. Now called "Periodical Recored."

40. Now called "Periodical Recored."

41. "November" in case of Rawalpindi, Cambellpur, Jhelum, Gujrat, Muzaffargargh, D.G.Khan districts (see para 7.61 infra as amended by C.S No.124, L.R.M)

42. Map prepared on cloth [Shajra Parcha].

43. Now called "Periodical Recored."

Surveys

Tehsildar and Naib-Tehsildar shall also examine in the inter corporation of 25 per cent of tatima shajras in the parat Tehsil musavi.

4.32. Preparation of tatima shajra of alluvion and diluvion: The above instructions do not apply in their entirety to estates subject to alluvion and diluvion. In such estates no tatima shajras should be prepared for changes due to alluvion or diluvion even if such changes necessitate the passing of a mutation order as in the case of estates where the submergence of proprietary land involves its conversion into shamilat. For changes due to other causes, however, tatima shajras will be prepared in accordance with the above instructions. The instructions contained in paragraph 4.31 regarding the correction of maps will apply only to the portion of the estate not subject to alluvion or diluvion. As regards the remaining portion the prepared will be incorporated in the tracing to be filed with the ⁴⁴[detailed jamabandi] according to local alluvion and diluvion rules or orders as sanctioned at settlement. But the fields which actually touch the fields affected by river action should always be shown in this map or tracing.¹⁷

4.33. Co-ordination of departmenta land plans with corresponding revenue papers: In order to obviate the difficulties that have occurred in the past the Government consider it essential that all departmental land plans of government property should in future, be co-ordinated with the corresponding revenue papers.

A Sufficient number of fixed and easily identifiable points, such as tri-junction pillars, base line marks, milestones or in defaults, of these other permanent topographical details, which may be found on the corresponding revenue map then in existence, should be plotted on the departmental plan and the Government property should then be plotted on it with reference to such fixed points.

The following procedure will be observed—

(1) The Public Works Department have agreed to provide a technical surveyor to carry out the surveying on a large scale of feet and inches of any ardas of Government property required to be surveyed under the instructions issued in Punjab Government circular No.2240 (Rev and Agri-Genl.) dated 21st January, 1921.

(2) In districts or portions of districts not under settlement, the Deputy Commissioner will communicate to the Executive Engineer, Public Works Department, by April 1st each year, the exact area in which quadrennial revision of revenue records is to take place in the year commencing October 1st following, and state the parcels of Government property in that area.

In tracts under settlement, the Settlement Officer will as his work progress, give the Executive Engineer information as long as possible of the date on which re-measurement or revision of the maps of estates in which government property is situated, will be commenced.

(3) The Executive Engineer will then cause to be prepared plans showing the extent and position of each parcels according to the Public Works Department's records. These plans will also, show both all topographical features adjoining the Government land which are likely to assist the revenue officials in checking its boundaries and area, and also any revenue "fixed" points in the neighbourhood.

All distances will be shown in feet and inches. The plans should reach the Collector concerned by a date to be agreed on between him and the Executive Engineer.

¹⁷ 44. Now Called "Periodical Record".

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When land plans of any area have once been prepared and discrepancies. If any have been settled, it will not be necessary to prepare them again at a future quardrennial revision in the meantime some change has occurred which necessitates an alteration in the plans. If there has been no such change the Executive Engineer should merely supply a certificate to the effect that the land plans are as they were at the last quardrennial revision.

(4) The Collector will then arrange for the plans to be checked by the Tehsildar. If no discrepancies are found then the Tehsildar will note in red ink on the shajra kishtwar)parat Tehsil as well as on the Patwari's copy) the distances given in feet and inches on the Public Works Department plan. The revenue records will thus read ".....karams.....gathas, the equivalent offeet.....inches."

(5) The Tehsildar will then return the plan for signature by the Collector and the Executive Engineer, and for the preparation of duplicate to form an inset to the *shajra kishtwar* (*parat sarkar*) and to be similarly signed.

Note : If relevant in a suit brought by Government the "inset" will be produced before the court by the Sadr Kanungo, or his assistant.

If any discrepancy is observed, then the Tehsildar will note in pencil on the plan and return the plan to the Collector concerned for transmission to the Executive Engineer. The executive Engineer will then direct his surveyor to consider these discrepancies in consultation with the Patwari. If the two are satisfied that the revenue record is eovvect, and the Public Works Department plan incorrect, then that plan will be corrected accordingly and the papers returned to the Tehsildar who will enter distances as required above in the revenue records and forward the plan for signature of the Collector.

If the revenue map appears to be incorrect the case will be submitted to the collector, who will, if he occurs, direct that mutation proceedings be entered up for the correction of the map.

When mutation proceedings have been completed, a tatima shajra will be prepared for the revenue record. Distances will be marked on it in feet and inches according to the Public Works Department plan, and the inset signed and recorded as above.

(6) The procedure prescribed in the preceeding wub-paragraphs for checking departmental land plans of the Public Works Department will mutatis mutandis be carefully observed in the case of Forest District Board and Railway Department maps also.

¹⁸(7) ⁴⁵[The detailed plan of any property belonging to the Government in the estate shall form part of the record of rights,-vide Board of Revenue Notification No.1953-R, dated the 21st September 1937].

¹⁸ 45. No such provisions exist in the West Pakistan Land Revenue Rules, 1968. (see rule 30 of the aforesaid rules and para 7.76 infra as amended by correction slip No. 108 LRM)

A map of estate showing State land as well as land owned by other land owners is prepared under clause (c) of sub-section 39 of the West Pakistan Land Revenue Act, 1967 for appending to the Record-of-right.

For the entry of land of land by Provincial and Central Government in the register Haqdaran Zamin see item (ii) (d) of sub-para (2) of para 7.41 and paragraphs 7.42 and infra.

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(8) It shall be the duty of the revenue to afford every assistance to the officials of other departments in matters connected with the co-ordination of department land plans.

4.34. Cantonment boundaries: Under instructions of the Government of the Punjab it is necessary that in any survey which in future may be made by the Revenue Establishment so as to include any portion of the boundary of a cantonment that boundary should invariably be defined by a series of straight lines drawn from each of the cantonment boundary pillar to the next, except, where it is distinctly stated to the contrary in the description of the boundary published by notification in the local gazette. Before any such survey is finally accepted it should be communicated to the military authorities for information and scrutiny. The attention of Settlement Officer is particularly directed to these instructions.

PART E

TEHSIL AND DISTRICT MAPS BASED ON PATWARI'S SURVEYS

4.35. Preparation of the grouped (mujmili) map: Where fairly recent survey of other maps on a sufficiently large scale showing village boundaries do not exist the Settlement Officer should prepare for each Tehsil a grouped (**mujmili**) map on a scale of one inch to a mile. The grouped map is made on tracing cloth and in an exact reproduction of the index maps, prescribed in paragraph 19 to Appendix VII of the Settlement Manual. In the case of large Tehsils with big estates and much waste it may be convenient to reduce the index maps to the scale of $\frac{1}{2}$ inch to the mile. It should for two reasons be started as soon as the index maps are available, and should not be deferred to the very end of the settlement, for (i) in placing together the index measurement which require to be rectified by a further inspection of the ground, and (ii) there are differences in practice as regards the showing of roads, canal cuts, etc., in different Patwari's or Kanungos' circles, and uniformity can only be secured by consulting the men who have actually made or supervised the measurement and who know the country intimately.

4.36. Size and translation: The map can most conveniently be prepared in separate sheets, each of the size of an ordinary village mapping sheet, but Settlement Officer can consult their own convenience in this respect. It will be best to make two copies of the group map. One of these (the original) would be in vernacular and exact copy of the index maps. The other would be a copy in English. By having a list of the vernacular entries prepared with all the vowel points marked the Settlement Officer can insure a uniform transliteration into English which will represent the actual pronunciation of the names, and, by the help of the accumulated local knowledge of his staff, he will be able to avoid some of the mistakes which often disfigures our topographical maps.

4.37 Copy to be sent to Survey Officer: A copy of the mujmili map, when ready should be sent to the Deputy Director, map Publication, Survey of Pakistan, Murree. From this the Surveyor-General of Pakistan, Karachi, will obtain materials for

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showing new roads canals, dak bungalows, etc., in revised editions of their maps. The number of the one-inch standard sheet, in which the village will be found, should be clearly marked on each map sent to the Deputy Director. The spelling of all names should be according to the Hunterian system.

4.38. Reduced group maps: If no convenient survey map of the district exists the Settlement Officer should reduce the grouped Tehsil map by pentagraph to a smaller scale (such as 1 inch or ½ an inch to the mile) and prepare a district map.

4.39. Preparation of maps: Such copies of these maps as are required should be prepared in the Deputy Director, Map Publication Survey of Pakistan, Murree, if the office is in position to meet the requirements of the Settlement Officer. Three copies of each such map should be forwarded to the Board of Revenue's officer for record.

PART F

LAND MEASURES

4.40. Instructions for converting local measures into acres: The land measure used in all revenue work is the local measure and not the English acre. These local measures are of two kinds, the bigha measure and the kanal or ghumaon measure

Prior to British rule, and indeed up to recent years, the size of the local measure varied from village to village. The adoption of the local measure for use by all revenue officials has given to it an exactness which it did not before possess. But both the bigha and the ghumaon still vary in size in different districts.

4.41. Units of length : The unit of length is the karam or gatha which varies in length in different districts. The units at present adopted for revenue work areas are as follows:-

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District	Length of Karam	Length of gatha	Remarks
Bhigha Measure.	Inches	Inches	
1. ⁴⁷ [Delhi, Gurgaon, Tohtak, Lud-hiana, Panipat (Karnal)]	...	99	
2. 48[(a) Ambala, Karnal (except Panipat) (I) Fazilka (Ferozepore, Hissar) (Except Sirsa)]	*57	...	*The exact length is 57 157
3. 49[Sirsa (Hissar)]	...	*57	
4. 50[Simla]	
5. 51[Kulu and Plach (Kangra)]	66	...	
Ghumao Measure.	54	...	
6. 52[Jullundur, Hoshiarpur and Kangra (except Kulu and Plach), and the Shahpur hill Circle in Gurdaspur].	56	...	
7. (a) [Amritsar, Gurdspur (except Shakargarh Tehsil and Shahpur hill Circle and Chak Andar, Pathankot Tehsil)], Lahore (except the part of the district north of the Ravi).	57.5	...	
53[(b) Ferozepore (except Fazilka)]	60	...	
8. All districts not named above (except Lahore).	...	60	
	66	...	The ghumao in this instance is equal to the English acre, and twelve karams are equal to a Gunter' chain

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Term “Qabiz” denoting assertion of adverse possession, in terms of para 7.41 (4), Land Records Manual, could not be entered into record-of-rights, without a mutation attested for such purpose by the Revenue Officer. No such mutation being on record, entry of Qabiz into the record-of-rights was unauthorized and carried little evidentiary value.⁵⁴

¹⁹ 47. Now these areas are in India.

48. Now these areas are in India.

49. Now these areas are in India.

50. Now these areas are in India.

51. Now these areas are in India.

52. Now these areas are in India.

53. Now these areas are in India.

54. 1993 CLC 1053 (b)

55. For table of area measure in use in Sindh and Balochistan see items (i) and (ii) of para 7.41 infra.

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4.42. Units of area: The unit of area is a square karam of gatha. In the case of the local bigha measure the unit is called a biswansi, and in the case of the ghumao measure as sarsahi.

The following is the table of area measure⁵⁵:-

BIGHA MEASURE

⁵⁴ [20 Biswanis	1 Biswa
20 Biswas	1 Biswa

GHUMAO MEASURE

⁵⁵ [9 Sarsahis	1 Marla
20 Marlas	1 Kanal.
8 Kanals.	1 Ghumao.

It follows that, in the several districts of the Punjab, the bighas and ghumaos used in the revenue records represent the areas of English measure shown in the following table:-

Unit of Length	English equivalent of local measure expressed in	
	Square yards	Decimals of an acre (4,840 square yards)
⁵⁶ Bigha Measure		
(1) 99 inch gatha	3,025	*625
(2) 57 “ “ or Karam		
(3) 66 “ Karam	1,008.33	*208
(4) 54 “ “	900	*186
(5) 56 “ “	968	*2
Ghumao Measure		
(6) 57 5 inch karam	3674	*759
(7) 60 “ “ or gatha	4,000	*826
(8) 66 “ “	4,840	One acre

4.43. Further variations: The bigha derived from the 99 inch gatha is known as the pakka (or shahjahani) bigha. It is exactly three times the size of the Zaminars' or

²⁰ 53. For table areas measure in use in Sindh and Balochistan see items (i) and (ii) of para 7.41 infra.

54. The only area which uses the 66 inch karam and also bigha measure is the Sirsa Tehsil of the Hissar district. In Sirsa 15 (instead of 20) square karmas-1-biswa, the resulting bigha is, therefore, the same as that for 57.157 karams as in other tracts given in paragraph 4.41.

55. Thus, the area of a square of 3 karams each way will be one marla. As 3 karams are called a kan so a square kan is a marla. In some districts 2 kanals and others 4 kanals are called a bigha.

56. N.B In dealing with the bigha measure it is usual to neglect anything smaller than the biswas, thus, 5 bighas 13 biewas can conveniently be written 5 ½ 3/0 bighas. Similarly dealing with the ghumao measure it is often convenient to express areas not in ghumaos but in kanals, thus, instead of writing 3 ghumaos, 6 kanals 17 marlas it is usual to write 30 ½ 7/20 kanals, or where land is of little value, the marlas may be neglected and reckoning to the nearest kanal the example above given be stated as 3 7/8 ghumaos.

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kacha bigha, for which the linear unit of 57,125 inch karam was devised. The pakka bigha is $\frac{5}{8}$ ths and the ordinary kacha bigha $\frac{5}{24}$ thus of an acre. For the revenue records kacha bighas are shown. In the district in which the ghumao measure is used bigha often means half a ghumao.

4.44. Local measures to be used in village records: In all village records, whether prepared by the land revenue agency or by the Irrigation, Forest or other Departments areas are to be stated in the local measure; and all rates are to be expressed in village records with reference to that measure, and not with reference to the English acre. If rates have been sanctioned in the terms of the English measure they should always be converted into terms of the local measure before being carried into village records or other vernacular proceedings. The area in village note-books, however, will be entered in acres by the Patwari.

In revenue suits and proceedings it is unnecessary to convert the local measure into English measure. Areas should be stated in the local measure used in the village records.

4.45. Comparison of measures: Tables showing the equivalents of local measures in English measure, with rules for converting either measure or the other are appended:-

(a) A Gunter's chain is equivalent to the following gatha or karams:-

Length of gatha or karam	Equivalent of chain
99 inch gatha	8 gathas
57 " " or karam	13.8 " or karams
66 " karam	12 karams
54 " "	14.3 "
55 " "	14.14
57.5 " "	13.95
60 " gatha or karam	13.2 gathas or karams

(b) Equivalent of square measures

(i) to (v) [Deleted]

(vi) Lahore district (except the part of the district north of the Ravi):-

1	Ghumao	..	=4,000	Square yards	=*826
		ace.			
2	Kanal	..	=500	Square yards	=*103
		acre			

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3.	Marla	..	=25	Square yards	=*005
1.21	Ghumao	..	=1	acre.	
774.4	Ghumaos		=640	acres	

To convert ghumaos into acres: Add two ciphers and divide twice by eleven
Reckon each odd kanal as 0.1 acre and 2 marlas as 0.01 acre.

To convert acres into ghumaos : Multiply twice by eleven and reject the two last figures. Reckon each 0.1 acre as a kanal, and each .01 as 2 marlas.

(vii) Ghumaon of Tehsil Shakargarh, the part of the Lahore district north of the Ravi, and all the districts not named in the foregoing statements:-

1 ghumao	=4.840 square yards = 1 acre.
1 kanal	= 605 square yards = .125 acre.
1 marla	=30.25 square yards = .006 acre.
1 ghumao	=1 acre.
640 ghumaos	=640 acres.