



GOVERNMENT OF MAHARASHTRA

**REPORT**  
**OF THE**  
**COMMITTEE FOR REVIEW OF PROCEDURE**  
**FOR DETERMINATION OF ANNEWARI**



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## CHAPTER I

### INTRODUCTORY

1. The Committee to review the procedure for determination of Annewari was appointed by Resolution No. ANI. 1071/148978-J, dated 16th December 1971 of the Revenue and Forests Department of the Government of Maharashtra. The Committee was reconstituted by Government Resolution, Revenue and Forests Department, No. ANI. 1071/148978-J, dated 16th June 1972. Both the resolutions are appended to this report.

Shri D. H. Deshnuikh resigned from the membership of the Committee in September 1972, as he was not in a position to attend the meetings of the Committee.

#### 2. Terms of Reference of the Committee

The terms of reference of the Committee are as follows :—

(i) To examine how far the existing procedure for the determination of annewari is adequate for assessing the position of crops during any season for the purpose of determining the recoveries of land revenue and other dues of Government.

(ii) To examine how far the present formula for the determination of annewari gives a correct indication of the agricultural yield of a village ; and in particular to examine the validity of the criticism that this formula does not take into consideration the progressive increase in yield on account of improved agricultural practices and also that it leads to anomalous results in villages where minor areas have good crops but the major area has a poor crop.

(iii) To suggest necessary changes in the present procedure and formula for the determination of annewari, in order to do away with the inadequacies and anomalies, if any, in the present system.

(iv) To examine the following suggestions of the Commissioners-in-Conference and to make suitable recommendations in that behalf :—

(a) Annewari may be determined for the season as a whole and there may be no separate annewari for Kharif and Rabi villages.

(b) The system of classifying villages into Class I—Kharif and Class II—Rabi may accordingly be dispensed with.

(c) Land revenue may be recovered with reference to the crops grown in individual fields. If more than  $3/4$ th of the area is under Kharif crop, the holder may be required to pay Kharif *kist* and if more than  $3/4$ th of the area is under Rabi crop he may be required to pay Rabi *kist*.

(d) Annewari may be determined on the basis of all the crops and not merely the main crop.

3. In the following, we first describe the present procedure for the determination of Annewari (Chapter II) and then point out the defects therein and make recommendation regarding changes which we consider necessary and desirable (Chapter III).

## CHAPTER II

### THE PRESENT PROCEDURE FOR DETERMINATION OF ANNEWARI

4. 'Annewari' means an assessment of the estimated crop outturn of a village in comparison with an assumed standard. Until 1964, the standard used to be referred to variously as the Standard Yield or Standard Normal Yield. Districtwise tables of Standard Normal Yields for each major crop were prepared in the erstwhile Bombay Province in 1884, 1927 and 1944. They were based on estimates of the yield expected in a good or satisfactory year made by the Deputy Directors of Agriculture and other officers. A certain amount of subjective judgement was therefore unavoidable. Since 1964, in pursuance of the recommendations made by the Annewari Committee for the Determination of Standard Yields (hereafter referred to as the Joshi Committee), the standard has been termed as the Standard Yield and is defined as the average of the three best yields in a period of 10 years. The detailed instructions in this behalf, given in Government Resolution, Revenue and Forests Department, No. ANI-1064/124004-C, dated 16th November 1964, are as follows :

"The Standard Yield should be taken as the mean of the three best yields in a period of 10 years. Where the data for the full 10 years' period is not available, the Standard Yield should be taken as the mean of the best three yields if the data available is for 8 or 9 years, and as the mean of the best two yields where the data is available for 5, 6 or 7 years. In the former case the Standard Yield should be revised as soon as the 10 year data become available. In the latter case the Standard Yield should be provisionally revised as soon as the data of 8 years become available by taking the mean of the best three years and then again revised when the data for 10 years become available.

Standard Yields so calculated should be rounded off according to the following rule, namely :—

Yields from 0 to 200 lbs. to the nearest multiple of 10 lbs., from 200 to 500 lbs. to the nearest multiple of 25 lbs., from 500 to 1,000 lbs. to the nearest multiple of 50 lbs. and above 1,000 lbs. to the nearest multiple of 100 lbs.

5. The Standard Yields of a crop so determined for different districts are valued as a 12 annas crop and the estimated outturn of a crop in a given year in a district is expressed as a fraction of the Standard Yield in terms of annas. For instance, if in a given year, the estimated outturn of a crop is assessed to be half of the Standard Yield, the Annewari for that year is determined to be 6 annas. If the estimated outturn is assessed to be 25 per cent below the Standard Yield, the Annewari for that year is determined to be 9 annas ; and so on.

6. Although annewari is determined by the Revenue Officers, public participation in its determination is regarded essential. The detailed procedure is as follows :—

(i) A Committee consisting of the following persons has to be constituted for each village for the purpose of fixation of annewari :—

(a) The Circle Inspector (Chairman).

(b) The Talathi.

(c) and (d) two representatives of agriculturists to be selected by the Village Panchayat (where there is no village Panchayat, the villagers may select a panel of ten persons from amongst whom the Circle Inspector may select two to serve on the Committee).

(ii) This Committee visits the village lands before the harvesting of crops and records its opinion about the annewari of each crop on the basis of eye-estimation. The Circle Inspector forwards the Committee's opinion to the Tahsildar, who makes a provisional valuation and communicates it to the villagers. The provisional valuation is required to be published in the Chawdi and in two or three prominent places in the village and also by beat of drum, calling for objections within 15 days. The objections received are considered by the Tahsildar. If he does not consider it necessary to amend the provisional valuation in the light of the said objections, the provisional valuation becomes final. If the Tahsildar amends the provisional valuation, the amended decision is again published in the manner specified above. If the Collector revises the Tahsildar's decision, the revised decision is also similarly published.

7. Where there is no agreement amongst the members of the Annewari Committee or if the Tahsildar is unable to accept the decision of the Annewari Committee, the Tahsildar issues orders for ascertaining the Annewari by actual crop cutting experiments. A minimum number of five experiments have to be carried out for estimating the average yield of a crop in a village. These five plots should be selected on a representative basis from the fields having good, medium and bad crop, roughly in proportion to their respective areas in the village. Wherever possible a larger number of experiments upto ten should be made. The experiments have to be carried out by the Circle Inspector in the presence of the Committee, and the Tahsildar checks the experiments carried out by each Circle Inspector (by himself carrying out similar experiments) in the same village.

8. In order to determine the yield per acre, on the basis of the crop-cutting experiments, the results of the experiments, which are wet grain yields, are to be corrected for the driage factor. Thus :—

$$\text{Estimated yield per acre} = \frac{\text{Wet grain yield per acre}}{\text{Driage factor}}$$

The mean driage factor is calculated for a 10 year period by the Agriculture Department and supplied to the Revenue Department.

9. Prior to 1964, the following formula was in use for the determination of Annewari on the basis of the crop-cutting experiments conducted in the village.

$$\text{Annewari} = 12 \times \frac{\text{Observed Yield}}{\text{Standard Yield}} \times \frac{\text{Standard Soil Annas}}{\text{Soil Annas of the Field}}$$

10. Since 1964, in pursuance of the recommendations of the Joshi Committee, the following formula is being used :—

$$\text{Annewari} = 12 \times \frac{\text{Observed Yield per acre}}{\text{Standard Yield}} \times \frac{12}{12 + \text{Soil Annas of the Field Standard Soil annas}}$$

(Vide Government Resolution, Revenue and Forests Department, No. ANI. 1064/124004-C; dated 16th November 1964)

11. The terms 'Standard Yield' used in this formula has already been explained above. The other technical terms used are explained below

(i) 'Soil Annas of the Field' means the classification value of the soil of the field expressed in annas and related to its rate of assessment of land revenue as follows :—

$$\text{Rate of assessment per acre} = \frac{\text{Soil annas of the field}}{16} \times \text{Maximum rate of assessment for the Settlement Group}$$

(ii) 'Standard Soil Annas' means the average classification value of lands in which the particular crop is commonly grown in the district. The District Collector ascertains from the local officers of the Agriculture Department the tracts in which particular crops are predominantly grown. He then finds out the average assessment and the maximum rate of assessment of the lands of the survey groups included in those particular tracts from the Settlement Reports. On that basis he arrives at the soil classification of the crop which is predominantly grown and that is taken as the average soil classification of that particular crop for the district as a whole. The Collector has, however, to take into account the normal soil classification in which the crop is grown. If necessary, he can ascertain the average classification of land by sample method where the crop is extensively grown.

12. The annewari of each of the principal crops of a village has to be determined first in accordance with the procedure indicated above. Thereafter the annewari of the village as a whole is to be calculated in the following manner :—

Suppose out of 1,000 acres occupied and assessed in the village, the average unsown (rotational, fallow, etc.) in ordinary years is 100 acres. Suppose further that in the current year because of failure of rains, addi-



tional 150 acres which would have been normally sown, have remained unsown and the acreages of crops and their anna valuations are as follows :—

	Acres	Anna value
Unsown, Normal ...	100	Nil
Unsown for want of rain ...	150	Nil
Jowar ...	120	5
Bajri ...	86	7
Rice ...	64	1
Cotton ...	280	14
Gram ...	40	10
Wheat ...	160	10
	<u>1,000</u>	

The average annewari will then be  $(100 \times 0) + (150 \times 0) + (120 \times 5) + (86 \times 7) + (64 \times 1) + (280 \times 14) + (40 \times 10) + (160 \times 10)$  divided by 900 (the normal cropped area) i.e. 7,186 divided by 900. The annewari of the village would therefore be 7.98 or 8 annas.

13. Annawari is determined each year for the Kharif and the Rabi seasons separately. The villages in each district are classified into Class I : Kharif villages and Class II : Rabi villages, Land revenue is payable on the 15th January in Class I villages and on the 15th April in Class II villages. The final annawari of crops in a village has to be declared at least 15 days before the date on which the payment of land revenue falls due, i.e. on or before the 1st January in Class I (Kharif) villages and on or before the 1st April in Class II (Rabi) villages, unless other suitable dates are fixed under the provision to rule 4 of the Maharashtra Relisation of Land Revenue Rules, 1967. (*Vide* Government Circular, Revenue and Forests Department No. ANI-1063/3008-J, dated 4th November 1970).

## CHAPTER III

### DEFECTS OF THE PRESENT PROCEDURE AND CHANGES RECOMMENDED

14. The present procedure suffers from a number of defects. The first relates to the definition of the Standard Yield with which the estimated crop outturn in a given year is to be compared. As mentioned above, the Standard Yield of a crop determined and made applicable for a period of 10 years is defined as the average per acre yield of that crop in the three best years in the given period of 10 years. The Standard Yields of different crops for each district determined on this basis are kept constant for a period of 10 years and revised after 10 years. Hence, the procedure fails to take into consideration continuously the progressive increase in yields on account of improved agricultural practices. It is easy to remove this defect by revising the Standard Yields of different crops every year taking into account the yields of the preceding 10 years. This will keep the standard yields up-to-date and take into account progressive increase in yields due to improved agricultural practices.

15. Another defect of the present method of determining the Standard Yield of a crop is that it is defined as the average of the three best years in a period of 10 years and that, therefore, it does not represent the yield which the cultivator expects on an average. For this reason, it would be preferable to define the standard yield as the average of the 10 years' yields. Thus defined, the standard yield would represent the yield which the cultivator expects on an average. We prefer the latter alternative for yet another reason namely that the average of the three best yields of the preceding 10 years is liable to much greater year-to-year fluctuations than the average of the 10 years' yields. We therefore recommend that the Standard Yield should be defined as the average of the preceding ten years' yields rather than the average of the three best yields of the preceding 10 years. To avoid confusion of terminology, we recommend that such an average should be called the Ten-Year Average Yield to distinguish it from the Standard Yield as at present defined. The Ten-Year Average Yields for different crops should be computed from the results of the crop cutting experiments of the Department of Agriculture which are specially planned for the estimation of crop yields every year.

16. Yet another defect of the present procedure is that at present the standard yields of different crops are determined for each district as a whole and applied to all the villages in the district. It is true that while comparing the estimated outturn in a village with the standard yield of the district, some allowance is sought to be made for the fact that the average soil quality in the village would differ from the average soil quality in the district. We shall later comment on the nature of this adjustment. For the present we wish to note that even with some adjustment for the soil difference between villages in a district, a district is too large a unit to determine the

standard yields to be applied to all the villages in the district. A district is a large unit with possibly large differences in soil and climatic conditions between its different parts. Hence we suggest that the standard yields should be determined not for a district as a whole but for parts of a district such as talukas in the districts of Western Maharashtra and Marathwada and the revenue circles in the districts of Vidarbha. It seems that this would be adequate in most cases. However, it is possible that certain talukas in the Western Maharashtra and Marathwada or certain revenue circles in Vidarbha contain within them regions with large differences in soil and rain-fall conditions. In all such cases, attempt should be made to divide such talukas or revenue circles into two or more appropriate subdivisions. In making such divisions, soil and rain-fall conditions would be the most relevant factors to be taken into account. At present there are not sufficiently large number of rain gauges established within a taluka or a revenue circle. We recommend that an adequate number of rain-gauges be established so that the talukas/revenue circles may, in due course, be divided into agro-climatically homogeneous regions. We understand that electrically operated and tamper-proof rain-gauges are available. Possibility of acquiring and using such rain-gauges may be explored. We recommend that wherever necessary and possible, large and heterogeneous talukas/revenue circles may be sub-divided into appropriate homogeneous regions and the 10 year average yields determined separately for them. In all cases the 10 year average yields, whether determined for talukas/revenue circles or parts thereof should be based on the crop-cutting experiments of the Department of Agriculture which are planned for purposes of estimation of crop yields every year. In our opinion, the results of 10 years of crop cutting experiments would provide adequate statistical basis for the determination of the 10 year average yields for talukas/revenue circles or parts thereof.

17. It should be noted that the 10 year average yield will be necessarily lower than the standard yield which is the average of 3 best years in the 10 year period. The standard yield at present is valued as 12 annas crop. From the available data it seems that the 10 year average yield will be approximately 75 per cent. to 80 per cent. of the standard yield. Hence if the standard yield is valued as a 12-annas crop, the 10 year average yield should be valued as a somewhat higher than 9-annas crop. Nevertheless, for convenience of application and to err on the side more favourable to the cultivators, we suggest that the 10 year average yield should be valued as an 8-annas crop. Clearly, this lower valuation of the 10 year average will favour the cultivators, particularly in a bad year.

18. Specifically, we recommend the following changes in the present procedure relating to Standard Yields :—

(a) The Standard Yield, which is the average of the three best yields in a period of 10 years, should be replaced by the Average Yield of 10 years.

(b) Presently, the Standard Yields are revised once in 10 years. Instead, the Ten-Year Average Yields should be revised every year taking into account the yields of the preceding 10 years.

(c) The Ten-Year Average Yields should be determined not for each district as a whole, but separately for talukas/revenue circles or parts thereof.

(d) The Ten-Year Average Yields for each taluka/revenue circle or part thereof should be determined on the basis of the results of the crop-cutting experiments of the Department of Agriculture.

(e) Provision should be made to ensure that such Ten-Year Average Yields of major crops in the talukas/revenue circles or parts thereof are computed and made known to the revenue authorities before the end of September every year.

(f) The Ten year average yields should be valued as an 8 annas crop.

19. The present procedure for determining the Annewari of a village might be considered into two parts : (i) Method of eye-estimation ; (ii) Method of actual crop-cutting experiments which is adopted only when the first method fails to give an acceptable Annewari. We think that the first method is satisfactory and should be continued with a minor modification as follows. At present the eye-estimates are compared with the Standard Yields which are valued as a 12 anna crop. We have recommended that the Standard Yields should be replaced by the Ten-Year Average Yields to be valued as an 8 anna crop. We, therefore, recommend that the present method of determination of Annewari by eye-estimation should be continued with the modification that Standard Yields which are valued as a 12 anna crop should be replaced by Ten-Year Average Yields to be valued as an 8 annas crop.

20. We now turn to the second part of the procedure for the determination of the Annewari of each village which comes into operation if and when the first part, namely, the method of eye-estimation, fails to give an acceptable Annewari. The Annewari of the village is then sought to be determined on the basis of crop-cutting experiments specially conducted for the purpose. Normally, between 5 to 10 experiments are conducted on each major crop in the concerned village. The average yield obtained from the crop-cutting experiments is then adjusted for the difference between the average soil on which the particular crop is normally grown in the district and the average soil of the plots in the village on which the crop-cutting experiments are conducted. The procedure is not satisfactory for several reasons.

21. In the first instance, the present procedure to undertake crop-cutting experiments for the determination of Annewari only when the method of eye-estimation fails to give an acceptable Annewari is not entirely satisfactory. When the method of eye-estimation fails to give an acceptable agreed Annewari, it will of course be necessary to undertake actual crop-cutting experiments. However, in addition, we think that an Annewari of

6 annas or less determined by the method of eye-estimation, even when agreed to by the parties concerned, should be verified by undertaking actual crop-cutting experiments. Hence we suggest that in all cases were (a) the Annewari determined by eye-estimation is not acceptable; and (b) where the Annewari determined by eye-estimation gives a result of 6 annas or less; actual crop-cutting experiments should be undertaken for the purpose of determining the Annewari.

22. Secondly, in each village, where recourse has to be taken to actual crop-cutting experiments, 5-10 experiments are conducted for the determination of the Annewari of a crop. This is too small a number to estimate the average yield of a crop in the village. Average yields based on so small a number of experiments are liable to large sampling errors. Judging by the sampling errors of the crop-cutting experiments, it seems that between 100 and 150 crop-cutting experiments are needed to obtain an estimate of average yields with a 5 per cent margin of error. For a margin or error of 10 per cent, between 25 and 40 experiments will be needed. This is the minimum level of accuracy which seems essential. At the same time, to conduct 25-40 crop-cutting experiments on each crop in each concerned village will prove to be both too expensive and impracticable. The only solution seems to be to give up the idea of determining Annewari of a crop separately for each concerned village. We, therefore, recommend that when Annewari of a crop has to be determined on the basis of actual crop-cutting experiments conducted for the purpose, it should be done for a group of villages and not for each village separately. For this purpose we suggest that the villages in a taluka/revenue circle or part thereof (units for which 10 year average yields are determined and applied) should be sub-divided into two or more relatively homogeneous tracts of 20 to 25 villages each. In the districts in Western Maharashtra and Marathwada, the existing revenue circles might be found appropriate for this purpose. In Vidarbha, appropriate homogeneous tracts of 20 to 25 villages within the present revenue circles will have to be formed.

23. We shall thus have divided the talukas/revenue circles or parts thereof (units for which 10 years average yields are determined) into homogeneous tracts of 20 to 25 villages which will be more or less permanent. Suppose, under conditions explained in paragraph 21, it becomes necessary to undertake actual crop-cutting experiments on a crop in 10 villages out of a certain homogeneous tract of 20 to 25 villages demarcated as described above. We recommend that in such cases the scales of crop-cutting experiments should be so planned as to give an adequate number of experiments to determine the actual average outturn of a crop for the concerned villages, 10 villages in the present case, taken together. Specifically we recommended that whenever, under conditions explained in paragraph 21 actual crop-cutting experiments have to be conducted on a crop in any village, there should be a minimum of three experiments on the crop in that village subject to a minimum of 25 experiments on the crop for the concerned villages in a homogeneous tract

taken together. The aim of the crop-cutting experiment on a crop should be to determine the average yield of that crop for a group of concerned villages in a homogeneous tract and not for each concerned village separately.

24. Another defect of the present procedure relates to the manner in which plots are selected within each concerned village for purposes of the crop-cutting experiments. The plots are selected by the village Annewari Committee going round the village lands. The instructions are that the "plots should be selected on a representative basis from the fields having good, medium and bad crop, roughly in proportion to their respective areas in the village". Hence the actual condition of the crops on the ground very much influences the selection of the plots. A certain amount of subjective element and the biases of the revenue officers on the one hand and the villagers on the other are therefore bound to affect the choice of plots for crop-cutting experiments. This may give rise to both dispute and dissatisfaction among the villagers. It is necessary to avoid this and introduce an objective method for the selection of plots for crop-cutting experiments. What is needed is a choice of plots which will represent different soils and crop conditions in the village, but without direct reference to the actual conditions of the crops. The objective method to ensure such a selection is the method of random sampling. The method is adopted in the normal series of crop-cutting experiments of the Department of Agriculture. We recommend that the same method should be adopted for the selection of plots for the purpose of crop-cutting experiments in a village to be conducted to determine the Annewari of a crop for a group of concerned villages. Only a slight modification may be necessary in this method.

25. The crop-cutting experiments of the Department of Agriculture are designed to give estimates of yields of different crops in each district. About 100-150 experiments are conducted on each major crop in the district and the plots are selected as to represent different soil-climatic conditions in the district. For this purpose, the district is stratified in a number of homogeneous zones out of which a sample of villages is selected for conducting the crop-cutting experiments. As the number of experiments conducted in each selected village is only two, stratification of the village lands according to the grades of soil is not possible. On the other hand, for purpose of the determination of Annewari of a crop, anything between 3 to 25 crop-cutting experiments may have to be conducted in a concerned village. Hence, it will be appropriate, if possible to stratify the village lands into strata representing different grades of soil and thus ensure that the plots selected for the crop-cutting experiments represent different soils within each village. What is needed for the purpose is a stratification of village-lands into 3 to 5 strata of roughly equal size and then a random selection of equal number of plots, say one, two or three, from each such stratum. The stratification of the village lands should be done in consultation with the Village Annewari

Committee. Such stratification once done will be more or less permanent it will not be necessary to do it afresh every year.

26. We should emphasise that the purpose of crop-cutting experiments on a crop is to determine the average yield of that crop in a group of concerned villages within a homogeneous tract taken together and not for each concerned village separately. It is with this purpose that we have recommended that there should be a minimum of three experiments on the crop in each concerned village subject to a minimum of 25 experiments in the group of concerned villages within a homogeneous tract taken together. If a random sample of 25 or more plots is selected from the group of concerned villages with three or more plots from each village, it would ensure a reasonable representation of different soils on which the crop is normally grown in these villages. For this purpose, the stratification of the lands of each village according to different grades of soil is not absolutely necessary. Nevertheless, wherever such a stratification of the village lands is possible, we advise it for two reasons : Firstly, such a stratification will improve the representative character of the sample of plots chosen for the crop-cutting experiments. Secondly, if the village lands are divided according to different grades of soil in more or less equal-size strata and an equal number of plots is selected from each stratum, the village committee will feel assured regarding the representative character of the sample of plots chosen for the crop-cutting experiments.

27. The selection of plots within each village or within each stratum of a village should be done by the method of random sampling. This amounts to drawing of lots for which a clear procedure should be laid down. The selection may be made by the Village Annewari Committee according to the prescribed procedure which will require that the selection is done by the Committee sitting in the Village Chawdi and not by going round the village lands. The procedure will ensure that the selected plots represent all grades of the village lands but without reference to the actual crop condition on different lands in the given year. The procedure will thus be free from all subjective biases. It will also be free from the objection that "a small area in a village yielding a good crop upgrades the Annewari of that village even when the yield of the crop is poor in a major area of the village." The principle of random selection will be new to the Village Annewari Committee ; but it should not take time for the Committee to see that it amounts to drawing of lots and is thus free from all personal elements and is entirely objective. We believe that after a little familiarity with the procedure, the Village Annewari Committee will be convinced of the objectivity and fairness of method of selection of plots for crop-cutting experiments.

28. The wet-yields given by the crop-cutting experiments will of course have to be corrected for the drriage factor as at present. Besides, the present formula for determining the Annewari of the village seeks to make an adjustment for the difference in the average soil of the plots on which crop-cutting experiments have been conducted and the average soil on which

the particular crop is normally grown in the district. In this process, the present formula suffers from two defects :—

(i) It requires ascertaining the average anna valuation of the soils on which the particular crop is grown in the district. This is not easy to ascertain. (ii) The formula assumes a simple linear relationship between the anna valuation of the soils and the yield of crops. The yields of crops are of course generally related to the soils. However, the relationship between the anna valuation of the soils and the yields of crops is unlikely to be a simple linear relationship. Moreover, the original soil classification was done more than a hundred years ago and, because of the numerous soil conservation measures undertaken since then, it may have lost some of its validity in many cases. The simple linear relationship was suggested by the Joshi Committee on an *ad-hoc* basis and probably is an improvement over the old formula which assumed a simple proportional relationship between soil annas and yields of crops. But it suffers from spurious accuracy.

29. The need for an adjustment for the soil classification of the plots on which crop-cutting experiments are actually conducted arose because (i) Standard Yields were determined for whole districts ; and (ii) Annewari was sought to be determined for each concerned village separately on the basis of the results of 5 to 10 crop cutting experiments in the village. We have recommended that (i) the Ten-Year Average Yields should be determined separately for each taluka/revenue circle or part thereof as the case may be, and not for the district as a whole ; and that (ii) Annewari should be determined not for single villages, but for groups of concerned villages within each homogeneous tract on the basis of at least 25 crop-cutting experiments in these villages. It seems therefore that the difference between the average soil classification of lands on which the particular crop is grown within each taluka/revenue circle or part thereof, as the case may be, and the average soil classification of the plots on which crop cutting experiments are conducted in the group of concerned villages will not be large enough to need an adjustment on account of difference in soils. It will be reasonable to assume that the sample of a minimum of 25 plots in the group of villages selected on a random basis will represent different soils in the taluka/revenue circle, or part thereof on which the particular crop is grown. No further adjustment of the average yield of the crop cutting experiments, therefore, appears necessary. We, therefore, recommend that the Annewari for the group of concerned villages should be determined by simply comparing the average yield of the crop-cutting experiments (duly corrected for the driage factor) with the Ten-Year Average Yield for the taluka/revenue circle or part thereof in which they are situated. As we have already recommended the Ten-Year Average Yield should be valued as an 8 annas crop. The anna valuation of the actual average yield given by the crop cutting experiments should be determined by comparing the same with the Ten-Year Average Yield considered as an 8 annas crop. For instance, if the Ten-Year Average Yield of Jowar in a taluka/revenue circle is 1,000 kg. per hectare and if the current actual average yield in the group of villages determined by the crop-cutting experiments is 750 kgs. per hectare



it would be valued as a 6 annas crop. Similarly, an actual average yield of 500 kgs. per hectare would be valued as a 4 annas crop N. P. 30. Let us summarise. The determination of Annewari of different crops in a village may be divided into two parts. In the first part the Annewari of different crops in the village is sought to be determined by the method of eye-inspection of crops by the Village Annewari Committee. The method is the same as followed at present except for one important modification namely that the Standard Yield taken as 12 annas crop will be replaced by Ten-Year Average Yield taken as 8 annas crop. If the Annewari for a crop so determined is accepted, provided it is not below 6 annas, it will be considered the Annewari of that crop in that village. The second part becomes applicable in those cases where the Annewari for a crop for a village determined by the Village Annewari Committee by eye-inspection is not accepted or is below 6 annas. In such cases, the Annewari for the crop in that village should be determined by the method of crop-cutting experiments. We have recommended that in such cases the Annewari for the crop should be determined not for each concerned village separately but collectively for the group of concerned villages within a homogeneous tract. We have recommended that for this purpose a minimum of three crop-cutting experiments on the crop should be conducted in each concerned village subject to a minimum of 25 experiments on the crop in the group of concerned villages. The average yield of the 25 or more crop-cutting experiments on the crop, duly corrected for the driage factor, when compared with the relevant Ten-Year Average Yield taken as an 8 annas crop gives the Annewari for that crop for the group of concerned villages. The same Annewari should be supposed to hold good for each of the concerned villages in the group.

31. It is thus that the Annewari for all the principal crops in each village will be determined either by the method of eye-estimation by the Village Annewari Committee or by crop-cutting experiments in a group of concerned villages. The crop Annewaris for a village should then be combined into a composite Annewari covering all the principal crops grown in the village taking into account the areas sown under them. This should be done for each village separately. The present procedure for this purpose, as described in 12 above, is satisfactory. We recommend that the same should be followed.

32. We have carefully considered whether irrigated crops should be included in the determination of Annewari. The purpose of determining Annewari is to judge the year-to-year fluctuations in crop-outturns and particularly to identify (a) situations in which certain relief from the recovery of land revenue and other Government dues becomes necessary and (b) situation in which suspensions earlier given may be recovered in addition to the normal recoveries. In view of this, it does not seem appropriate to include, in the determination of Annewari, irrigated crops. If the irrigated crops are included in the determination of Annewari, the Annewari would understate the annual fluctuations to which the dry crops are subject. Moreover, the irrigated crops are not equally or proportionately distributed among the cultivators. Their inclusion in the composite

Annewari would therefore be unfair to the cultivators who are predominantly dry farmers. We, therefore, suggest that all irrigated crops should be excluded from the determination of Annewari. To do this it is obvious that irrigated crops will have to be excluded both from the Ten-Year Average Yields to be established for each taluka/revenue circle or part thereof and the eye-inspection of crops or the crop-cutting experiments to be conducted in the concerned villages.

33. We agree with the suggestion made by the Commissioners-in-Conference, namely, that the Annewari may be determined for the season as a whole and not separately for the Kharif and the Rabi seasons. In practice, it may be convenient to do this in two stages : (i) A composite annewari for the principal kharif crops ; (ii) a combined composite annewari for the principale kharif and rabi crops. While obtaining the combined composite annewari for the principal Kharif and Rabi crops, special care should be taken to note whether any part of the areas which was not sown in the Kharif because of the failure of the Kharif rains, was later sown under a Rabi crop. In those villages in which Rabi season is not important, it is obvious that the composite annewari of the principal Kharif crops will be effectively the final annewari. In such villages, it may be possible therefore to initiate advance action, if any, on the basis of the Kharif annewari. It should be understood however, that the final decisions and action regarding recovery of land revenue and other eventual dues will depend upon the combined composite annewari of the principal Kharif and Rabi crops.

34. Another suggestion made by the Commissioners-in-Conference is that "land revenue may be recovered with reference to the crops grown in individual fields. If more than 3/4ths of the area is under Kharif crop, the holder may be required to pay Kharif kist and if more than 3/4ths of the area is under Rabi crop, he may be required to pay Rabi Kist". This concerns the manner in which the normal land revenue may be recovered and is therefore unrelated to the determination of Annewari.

35. It will be useful to bring together the several recommendations made above and illustrate how, from the Annewaris of different crops determined either by the method of eye-estimation or by crop-cutting experiments, the combined, composite Annewari for a village should be computed :

Crop	Acres	Annewari determined by	
		Eye-estimation	Crop-cutting
<b>Kharif :</b>			
Normal unsown	...	300	...
Irrigated crops	...	300	...
Bajra	...	200	8
Rice	...	100	6
Minor crops for which Annewari not determined.	100	...	...
<b>Total</b>	...	1000	...

Crop.	Acres.	Annewari determined by	
		Eye-estimation	Crop-cutting
<b>Rabi :</b>			
Normal unsown ... ..	100	...	...
Irrigated crops ... ..	300	...	...
Jowar ... ..	100	...	6
Cotton ... ..	200	...	5
Wheat ... ..	100	...	7
Minor crops for which Annewari not determined.	100	...	...
Not sown because of failure of rains.	100	Nil	...
<b>Total ...</b>	<b>1000</b>	...	...

Hence, composite Kharif Annewari =  $\frac{(200 \times 8) + (100 \times 6)}{300} = 7\frac{1}{2}$  rounded to 7 annas.

The combined, composite Annewari =  $\frac{(200 \times 8) + (100 \times 6) + (100 \times 6) + (200 \times 5) + (100 \times 7) + (100 \times \text{nil})}{800} = 5\frac{1}{2}$  that is less than 6 annas.

36. This concludes our observations on the procedure for determining the Annewari. Once the combined composite (Kharif and Rabi) Annewari of a village is determined, the manner in which it should be related to the decisions regarding any relief to be given in the recovery of land revenue and other Government dues and subsequent recovery of amounts once suspended, is a matter for the Government to decide. It is not covered by our terms of reference. However, in view of the fact that we have recommended replacing Standard Yield valued as a 12 anna crop by the Ten-Year Average Yield valued as an 8 anna crop, it will be useful to indicate the operation of the present rules.

37. The present rules regarding suspension of land revenue and its subsequent recovery or remission are briefly as follows :— Rule 5.—Scale of granting suspension.—The Collector, on making local inquiries and ascertaining the degree of crop failure in any tract as aforesaid may, subject, to the provisions of rule 6, suspend—

(a) the whole of the land revenue payable by any person liable under section 168 in respect of his land in such tract if the estimated anna valuation of crops in such tract is four annas or less ;

(b) half of the land revenue so payable, if the estimated anna valuation of crops exceeds four annas but is less than six annas.

Rule 6.—*Suspension Conditional*—Suspension granted under these rules shall be conditional upon the payment of the amount of land revenue which is not suspended.

Rule 8.—*Recovery of Suspended land revenue*—Where any land revenue suspended in respect of any land in any year is not remitted under rule 9, then if the harvest of crops referred to in the preceding rule in any subsequent year is of the anna valuation specified in column 1 of the Table hereto, the current land revenue payable in respect of such land and the

suspended land revenue payable in respect thereof, shall be paid in full, half or nil as indicated in columns 2 and 3 of that table.

TABLE

Anna valuation of crops (1)	Proportion of recoverable land revenue	
	Current (2)	Suspended land revenue (3)
11 annas and over	... Full	Full
8 annas and less than 11 annas	... Full	Half
6 annas and less than 8 annas	... Full	Nil
Over 4 annas and less than 6 annas	... Half	Nil
4 annas and less	... Nil	Nil

*Rule 9.—Remission of land revenue*—All suspended arrears of land revenue which are either in excess of two years' land revenue or more than three years old shall ordinarily be remitted by the Collector irrespective of the monetary condition of any holder, the oldest arrears being remitted first.

38. These rules may continue as they are unless, of course, the Government desires to make any changes in them for independent reasons. Some clarification is, however, needed in the rules regarding the meaning of 'full' and 'half' recovery of suspended land revenue. If only half of the land revenue has been previously suspended, the rules should mean that it would be fully recovered if the annewari in the subsequent years is 8 annas or above. On the other hand, if full land revenue has been previously suspended, the rules should mean that half of it should be recovered if annewari in subsequent years is 8 annas or above but less than 11 annas and that it should be fully recovered if the annewari in subsequent years is 11 annas and above. To make the point clear, the rules may be reformulated as under.

Anna valuation of crops	Maximum recoverable land revenue as multiple of normal land revenue.
11 annas and over	... 2
8 annas and less than 11 annas	... $1\frac{1}{2}$
6 annas and less than 8 annas	... 1
Over 4 annas and less than 6 annas	... $\frac{1}{2}$
4 annas and less	... Nil

It is of course understood that when more than the normal land revenue is recovered, it necessarily involves partial or full recovery of land revenue earlier suspended.

39. The rules regarding suspension, recovery, and remission of land revenue were of great importance, when land revenue constituted a considerable part of the income from agriculture. Today, this is no longer so. However, the recovery of many other government dues is often linked to the recovery of land revenue. Whether the manner in which they are presently linked is satisfactory needs a close examination. Of even greater importance have become the co-operative dues. Whether the recovery of these dues could be linked to the Annewari and the manner in which it should be done are complicated questions. These questions lie outside the scope of our terms of reference. But, in view of their importance and urgency, we suggest that they may be examined by an independent committee.

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V. M. Dandekar,  
Chairman.

M. V. Deo Member.	...	...	Shankarrao, D. Gedam Member.	...
L. N. Bongirwar Member.	...	...	Shivajirao, S. Patil Member.	...
V. Subramanian Member.	...	...	A. T. Patil Member.	...
S. B. Kulkarni Member.	...	...	M. A. Telang Member.	...
R. A. Zubairy Member.	...	...	S. R. Chopde Member.	...
P. D. Kasbekar Member.	...	...	W. G. Ranadive Member-Secretary.	...

## APPENDIX

## REVENUE AND FORESTS DEPARTMENT

*Resolution No. ANI. 1071/148978-J, dated 16th December 1971.*

1. *The Importance of Annewari.*—The anna valuation (or annewari) of crops is a matter of vital importance to the rural population and the rural economy. It is the sole factor governing the suspension or remission of land revenue in any area. It is also the basis for starting test scarcity works and for declaring the existence of scarcity conditions in the affected areas. Consequently, the procedure for the determination of annewari assumes considerable significance. In 1962 Government had appointed a Committee to examine the suitability of the annewari formula which was then in vogue, and to make recommendations for the necessary modifications therein. In the light of the report submitted by this Committee, Government prescribed a revised formula for the determination of annewari and issued detailed instructions in that behalf under Government Resolution, Revenue and Forests Department No. ANI. 1064/124004-C, dated the 16th November 1964. The main factors on which this formula is based are :—(i) the observed yield per acre, (ii) the standard yield, (iii) the soil annas of the filed and (iv) the standard soil annas.

2. *Alleged short-comings of the present annewari formula.*—It has now been represented to Government that the aforesaid formula does not correctly reflect the agricultural yield in several areas owing to the following important reasons among others :—

(i) The standard yield adopted for the purposes of this formula does not take into account the higher productivity of lands resulting from the use of better seeds, fertilisers and improved methods of cultivation.

(ii) A small area in a village yielding a good crop upgrades the annewari of that village even when the yield of that crop is poor in a major area of the village.

3. *Some Suggestions for Modification.*—The Commissioners-in-Conference have also suggested the following modifications to be made in the existing procedure for the fixation of the annewari :—

(i) Annewari may be determined for the season as a whole and there may be no separate annewari for Kharif and Rabi villages.

(ii) The system of classifying villages into Class I—Kharif and Class II Rabi may accordingly be dispensed with.

(iii) Land revenue may be recovered with reference to the crops grown in individual fields. If more than 3/4th of the area is under Kharif crop, the holder may be required to pay Kharif kist and if more than 3/4ths of the area is under Rabi crop, he may be required to pay Rabi kist.

(iv) Annewari may be determined on the basis of all the crops and not merely the main crop.

4. *Appointment of a New Committee and its Composition.*—Government considers that the issues referred to in paragraphs 2 and 3 above call for a detailed study with a view to finding out whether there are any inadequacies or anomalies in the present procedure and formula for the determination of annewari and if so, how they could be remedied. Government is, therefore, pleased to constitute a Committee consisting of the following persons to undertake such a study and to make its recommendations :—

*Chairman*

Professor V. M. Dandekar, Director, Gokhale Institute of Politics and Economics, Poona 4.

*Members*

Dr. V. R. Kaladate, M.L.A.

Shri D. R. Khaire, M.L.A.

Shri K. T. Sangle M.L.A.

Shri L. N. Bongirwar, Vice-Chancellor, Panjabrao Krishi Vidyapeeth, Akola.

Shri D. H. Deshmukh, Divisional Commissioner, Nagpur.

The Director of Agriculture, Poona.

The Director, Bureau of Economics and Statistics, Bombay.

The Secretary, Finance Department.

The Secretary, Revenue and Forests Department.

*Member-Secretary*

The Under Secretary, Revenue and Forests Department (dealing with the subject, Annewari).

*Government Resolution, Revenue and Forests Department, No. ANI 1071/148978-J, dated 16th June 1972.*

*Resolution.*—In partial modification of Government Resolution, Revenue and Forests Department, No. ANI. 1071/148978-J, dated 16th December 1971, Government is pleased to direct that the Committee appointed under paragraph 4 of the Government Resolution, should be reconstituted as follows :—

MEMBERS OF THE COMMITTEE

*Chairman*

1. Professor V. M. Dandekar, Director, Gokhale Institute of Politics and Economics, Poona.

*Members*

2. Shri Shankarrao D. Gedam, M.L.A., Katol.

3. Shri Shivajirao S. Patil, M.L.A., Tuljapur.
4. Shri A. T. Patil, M.L.A., Pen.
5. Shri L. N. Bongirwar, Vice-Chancellor, Panjabrao Krishi Vidya-peeth, Akola.
6. Shri D. H. Deshmukh, Retd. Divisional Commissioner, Nagpur.
7. The Secretary, Finance Department, Sachivalaya, Bombay-32 (BR).
8. The Secretary, Revenue and Forests Department, Sachivalaya, Bombay-32 (BR).
9. Shri S. B. Kulkarni, Divisional Commissioner, Poona Division, Poona.
10. The Director of Agriculture, Poona.
11. The Director, Bureau of Economics and Statistics, Bombay.
12. The Settlement Commissioner and Director of Land Records, Poona.

*Member-Secretary*

13. The Under Secretary to Government, Revenue and Forests Department (dealing with subject Annewari).

*Government Resolution Revenue and Forests Department, No. ANI. 1071/148978-J-4, dated 30th October 1973.*

**RESOLUTION**

In partial modification of Government Resolution, Revenue and Forests Department, No. ANI. 1071/148978-J, dated 16th June 1972, Government is pleased to direct that the Committee appointed under paragraph 1 of the Government Resolution, should be reconstituted as follows :—

**MEMBERS OF THE COMMITTEE**

*Chairman*

1. Prof. V. M. Dandekar, Director, Gokhale Institute of Politics and Economics, Poona.

*Members*

2. Shri Shankarrao, D. Gedam, M.L.A., Katol.
3. Shri Shivajirao, S. Patil, M.L.A., Tuljapur.
4. Shri A. T. Patil, M.L.A., Pen.
5. Shri L. N. Bongirwar.
6. Shri V. Subramanian, Additional Development Commissioner and Secretary, Planning Department.
7. The Secretary, Finance Department, Sachivalaya, Bombay-32 (BR).



8. The Secretary, Revenue and Forests Department, Sachivalaya, Bombay-32 : (BR).
9. Shri S. B. Kulkarni, Divisional Commissioner, Poona Division, Poona.
10. The Director of Agriculture, Poona.
11. The Director of Bureau of Economics and Statistics, Bombay.
12. The Settlement Commissioner, and Director of Land Records, Poona.

*Member-Secretary*

13. The Deputy Secretary to Government, Revenue and Forests Department (Dealing with subject annewari).

Procedure for determination of  
Annewari of crops.  
Revision of ...

GOVERNMENT OF MAHARASHTRA,  
Revenue and Forests Department,  
Resolution No. ANI 1874/58740-J,  
Sachivalaya, Bombay-400 032 . Dated 2nd September 1974.

- READ:- 1. Government Resolution, Revenue and Forests Department  
No. ANI 1064/124004-C, dated 16th November, 1964..
2. Government Resolution, Revenue and Forests Department  
No. ANI 1071/148978-J, dated 16th December 1971.
3. Government Resolution, Revenue and Forests Department  
No. ANI 1071/148978-J, dated 16th June, 1972.

RESOLUTION: The Annewari Committee appointed under the Chairmanship of Dr. V.M. Dandekar under Government Resolution, dated 16th December 1971 and reconstituted under the Government Resolution, dated 16th June, 1972 mentioned in the preamble has submitted its report to Government on 2nd April, 1974 and has made therein various recommendations on the terms of references entrusted to it. The recommendations made by the Committee have been carefully examined by Government and it has been decided to accept these recommendations with minor modifications. Government is therefore now pleased to direct, in supersession of the orders issued in Government Resolution, Revenue and Forests Department, No. ANI 1064/124004-C, dated 16th November, 1964, that the annewari of crops should be determined in accordance with the procedure appended to this Government Resolution, with effect from the Revenue Year Commencing from 1st August, 1974.

2. The Director of Agriculture is requested to ensure that the Ten Year Average Yield of the major crops for each taluka in the Bombay, Poona and Aurangabad Divisions and for each revenue circle in the Nagpur Division is calculated and made known to the Collectors concerned before the end of August of the Revenue year for which the annewari is to be determined. So far as the Ten Year Average Yield for determination of annewari for the revenue year 1974-75 is concerned they should ensure that the Ten Year Average Yields are communicated to the Collectors before the end of September, 1974 without fail.

3. The Collectors are requested to take steps immediately to organise a training class of a day in each taluka for the talathi and the circle staff for explaining to them the new procedure and to solve any difficulties they may have in the matter. The Commissioners of Divisions are requested to take particular care to see that the entire talathi and the circle staff is fully trained well in time so that they can determine the annewari during the current year in accordance with the new procedure.

4. Government is also pleased to direct that the appended new procedure of determination of annewari should be translated into Marathi and copies thereof should be printed and supplied to all the Collectorates for being distributed to the Talathi and circle staff as well as to the Village Panchayats.

These orders are issued in consultation with the

Agriculture and Cooperation Department, the Industries and Labour Department and the Finance Department vide Finance Department un official reference No. 1417/FB dated 2nd September 1974.

By order and in the name of the Governor of Maharashtra,

( D. V. DAMLE. )

Under Secretary to the Government of Maharashtra,  
Revenue and Forests Department.

All Commissioners of Divisions/ All Collectors,  
All Superintending Agricultural Officers,  
The Director of Agriculture, Poona,  
All District Agricultural Officers,  
The Settlement Commissioner and Director of Land Records,  
Maharashtra State, Poona,  
The Agriculture and Cooperation Department,  
The Industries and Labour Department,  
The Rural Development Department,  
All Other Departments of Sachivalaya,  
'J' and 'S' Branches of the Revenue and Forests Department,  
The Director General of Information and Public Relations, Bombay  
for issuing Press note.

No.

of 1974

Copy forwarded for information and guidance to:-

ACCOMPANIMENT TO GOVERNMENT RESOLUTION, REVENUE AND FORESTS  
DEPARTMENT NO. ANI.1374/58740-J, DATED THE 2ND SEPTEMBER 1974.

APPENDIX

PROCEDURE FOR DETERMINATION OF ANNEWARI OF CROPS

(1) Determination of Ten Year average yield.

The Agricultural Department should every year before the end of August determine the Ten year average yield of major crops grown in each taluka of the Bombay, Poona and Aurangabad Divisions and in each revenue circle incharge of a Naib Tahsildar of the Nagpur Division. If a taluka or a revenue circle contains within it the areas with large differences in soil and climate conditions, such taluka or revenue circle may be divided into two or more appropriate sub-divisions and the Ten year average yield should be determined for each such sub-division. In making such sub-division the relevant factors viz. soil and rainfall conditions should be taken into account. The Ten year average yield should be computed by the Agricultural Department from the results of the crop cutting experiments which are specially planned by it for crop yields every year during a period of Ten years immediately preceding the year for which the Ten years average yield is to be determined. The Agricultural Department should intimate to the respective Collectors the Ten years, average yields in respect of the various crops grown in a taluka or as the case may be revenue circle or sub-division of a taluka or a revenue circle as the case may be under their jurisdiction.

2. In terms of anna valuation the Ten year Average yield should be valued as 9 annas crop.

Method of eye-estimation of crops and fixation of Annewari

3. An Annewari Committee consisting of the following members should be constituted for each village for the purpose of eye-estimation of crops and fixation of annewari on the basis of eye-estimation.

1. Circle Inspector ----- Chairman

2. Talathi ----- Member

3. Two representatives of agriculturists who will be selected by the village Panchayat of the village. Where there is no village panchayat, the villagers may select a panel of about ten persons. The circle Inspectors should then select two persons from this panel as members of the Village Annewari Committee.

4. The Committee should visit the village lands when the major crop raised in the village (excluding, however the irrigated crops) is nearing the harvesting stage and record its opinion about the Annewari of that crop. The estimate of the Annewari should be done by the Committee on the basis of the yield of the crop as estimated by them by actual inspection of the various fields under that crop and assessing it in terms of annas.

taking the Ten Years Average yield of that crop (as given by the Agriculture Department) as a nine annas crop. Where in a village more than one major crop is grown, the Committee should estimate the Annewari of each such crop and should thereafter work out the composite Annewari of the village according to the procedure laid down in para 12. The Circle Inspector should forward the Annewari (both in respect of individual major crops and the composite Annewari of the village) as estimated by the Committee to the Tahsildar who should publish it as Provisional Annewari for the information of the villagers by exhibiting the Annewari in the village Chowdi and/-at one also by announcing these Annewaries by beat of drums to the two other villagers. He should also make it known to the villagers that prominent places in the village should submit their objections in writing to the Tahsildar within 15 days from the date the Annewari is published in the village.

5. If no objections are received by the Tahsildar within the prescribed period and if the Provisional Annewari of the village is above 6 annas, the Tahsildar shall declare the Provisional Annewari to be the Final Annewari of that village.

6. In any of the following circumstances the final annewari should be determined by conducting crop cutting experiments in the manner provided in paras 7 and 8 :-

- (1) When objections are received to the Provisional Annewari within the prescribed period.
- (2) When there is no agreement about the Provisional Annewari amongst the members of the Annewari Committee.
- (3) Where the provisional annewari of the village is 6 annas or below irrespective of the fact as to whether objections have been received or not to the provisional annewari.

7. Conducting crop cutting experiments.

For the purpose of conducting crop cutting experiments, in the Bombay, Poona and Aurangabad Divisions the revenue circle should be treated as a unit. In the Nagpur Division, the revenue circle in charge of the Naib Tahsildar should be sub-divided into sub-circles consisting of 20 to 25 villages in a homogeneous tract and each such sub-circle should be treated as an unit for the purpose of conducting crop cutting experiments. Crop cutting experiments should be carried out for each major crop in the villages within the unit in which in the circumstances mentioned in para 6 crop cutting experiments have to be conducted for determination of the Final Annewari. ~~The number of determinations~~ ~~of the Final Annewari.~~ The number of crop cutting experiments to be done in each such village in the unit should be decided as explained in the next paragraph.

8. The survey numbers in the village (excluding those which are permanent fallow or are under irrigated crops) should be divided into 3 to 5 strata, each strata representing different grades of soil in the village. This stratification should be

made by the Circle Inspector in consultation with the Annewari Committee. The stratification of the survey numbers once made will be a permanent stratification for the conducting of the crop cutting experiments in the future years. For the purpose of conducting crop cutting experiments, a plot should be selected from each strata in the village by drawing lots. For drawing the lots, the Circle Inspector should, in the presence of the village Annewari Committee, prepare as many chits of paper as there are survey numbers in that particular strata and write the survey numbers on each such chits and fold them up in such a way that the Survey number written is not visible from outside. These chits should be thoroughly mixed in an empty tin or pot and any member of the Committee or a small boy may be asked to take out one chit from the pot. The Survey number so selected should be the survey number on which the crop cutting experiment should be conducted. Thus a minimum of one survey number from each strata should be selected for the crop cutting experiments to be conducted in that village. In this manner survey numbers should be selected from each village in the unit in which Final Annewari has to be determined by conducting crop cutting experiments in the circumstances mentioned in para.6. If the total number of survey numbers selected in all the villages in the unit (in which crop cutting experiments are required to be conducted) is less than 30, more numbers of survey numbers may be similarly selected from some of these villages so as to ensure that the total number of crop cutting experiments which are to be conducted for the crop is not less than 30. The crop cutting experiments should be carried out in the usual way on a plot of land measuring 100 sq. metres and the yield in kilograms determined by actual weighing of the harvested crop should be corrected for the drilage factor by multiplying it by the Mean Drilage Factor which is supplied by the Agricultural Dept. The figure so obtained will be the observed yield of that plot. The average yield per hectare should then be determined by adding together the observed yields of that crop in all the plots selected in the group of villages in the unit in which crop cutting experiments are required to be conducted and dividing it by the total number of plots and multiplying the quotient by hundred. The average yield so obtained will be the average yield per hectare of that crop for all the villages in the unit.

9. The Annewari of the average yield so obtained should be determined by the simple rule of three taking the Ten Years Average Yield of that crop as given by the Agriculture Department as 9 annas crop. This will be clear from the example given in the following para.

10. In Islampur Circle of Walva taluka of Sangli district, it was necessary to determine the annewari by conducting crop cutting experiment in the 10 villages specified in column 2 of the appended statement.

Each village had been stratified into three groups of survey numbers each group having similar grade of soil. From each such strata one survey number was selected by drawing lots and crop cutting experiments were carried out on 100 sq. metres plot from each such survey number. Thus 30 experiments were carried out in the 10 villages in the Circle. The observed yield (obtained after applying the drilage factor) were as specified in, column 4 of the appended statement.

The average yield of the entire group of 10 villages is obtained by adding together the yields in column (4) and dividing it by 30. This average yield per 100 sq. metres was converted to yield per hectare by multiplying it by 100. The Ten Year average yield of Kharif Jowar for Walva Taluka determined by the Agriculture Department is 1168 kgs. per hectare. The annewari of the crop is calculated by the simple rule of 3 as follows:-

For 1168 Kg. per hectare  $\div$  9 annas Annewari.

For 604.800 kgs. per hectare?

$$\frac{604.800 \times 9}{1168 \times 1} = 4.67 \text{ annas.}$$

i.e. rounded of to 4.7 annas.

11. Where in a village only a single kharif crop is grown and no rabi crop is grown the final annewari of that crop will be the final annewari of that village. Similarly where in a village no rabi crop is grown but only a single rabi crop is grown the final annewari of such crop will be the final annewari of that village.

12. Where in a village two or more kharif crops are grown and no rabi crop is grown or two or more rabi crops are grown and no kharif crop is grown, the composite annewari of such village should be determined by taking into consideration the area under each crop as illustrated in the following example:-

Crops grown in the village.	Area ( in hectares).	Final Annewari determined.	
		Eye-esti- mation.	crop cutting experiments.
Kharif. Normal unsown.	300	-	-
Irrigated crops.	300	-	-
Jowar.	200	8	-
Rice.	100	-	6
Minor crops for which Annewari not determined.	100	-	-
	<u>1000</u>		

Composite Annewari of the village:-

$$\frac{(200 \times 8) + (100 \times 6)}{200 + 100} = \frac{2200}{300} = 7 \frac{1}{3} \text{ annas}$$

i.e. rounded of to 7 annas.

13. Where in a village both kharif and rabi crops are grown the annewari should be determined in two stages:

- (i) a Composite Annewari for the principal kharif crops; and  
(ii) a Combined Composite Annewari for the principal kharif and rabi crops.

This will be clear from the following example. In a village kharif crops were grown as indicated in the example given in para. 12 and rabi crops were grown as indicated below:-

Crop.	Acres.	Final Annewari determined by	
		Eye-esti- mation.	Crop cutting experiments
Rabi:			
Normal unsown...	100	...	...
Irrigated crops.	300	...	...
Jowar.	100	...	6
Cotton.	200	...	5
Wheat.	100	...	7
Minor crops for which Annewari not determined.	100	...	...
Not sown because of failure of rains.	100	Nil	...
Total	1000		

Hence, composite Kharif Annewari =  $\frac{(200 \times 8) + (100 \times 6)}{300} = 7 \frac{1}{3}$   
rounded to 7 annas.

The combined, composite Annewari =  $\frac{(200 \times 8) + (100 \times 6) + (100 \times 6) + (200 \times 5) + (100 \times 7) + (100 \times \text{nil})}{800} = 5 \frac{5}{8}$  that is less than 6 annas.

While determining the combined composite annewari for the principal kharif and rabi crops special care should be taken to note whether any part of the areas in the village which was not sown in the kharif because of the failure of the kharif rains was later sown under the rabi crops.

14. No appeal or revision application shall be entertained by the Collector, the Commissioner or the Government against the determination of final Annewari under this procedure. However, if there is any error of calculation or observing the procedure the Collector may ~~suo-moto~~ or on a reference from the Commissioner get the error rectified and declare the corrected Annewari. or the Government



STATEMENT

District: Sangli

Taluka: Walva

Circle: Islampur

Sr. No.	Name of Village	Plot Nos.	Observed yield in the Plot (in Kgs.)
1	2	3	4
1	Tujarpur	1	10-000
		2	9-000
		3	8-000
2	Bichud	1	6-700
		2	5-220
		3	0-400
3	Urun	1	5-000
		2	2-000
		3	4-900
4	Takari	1	9-000
		2	7-000
		3	3-050
5	Dudhari	1	9-200
		2	6-400
		3	7-500
6	Bargaon	1	8-000
		2	7-500
		3	6-500
7	Rethare	1	9-000
		2	7-000
		3	5-000
8	Peth	1	8-125
		2	6-200
		3	2-800
9	Sakharay	1	6-320
		2	6-000
		3	3-375
10	Nerle	1	4-800
		2	3-920
		3	2-225

**CHECKED**  
**2003-04**

TOTAL:

30

181-435 Kgs.

Average observed yield =  $\frac{181.435}{30} = 6.048$  Kgs. of a plot.

Observed yield per hectare  $6.048 \times 100 = 604.800$  Kgs.