# TENTH ANNJAL RERORT 



# DEPARTMENT OF LAND RECORDS AND AGRICULTURE, 

BOMBAY PRESIDENCY,

FOR THF: YEAR 1892-93.


## D.-Thekíti Advances-

Progress nad popularity in the several divisions compared
33 23-2 4
E.-Improved Agricultural Tuplement-

Sibporc plough ; train-cleaning screen; Wood's mờer
F.-ITheät and Cotton Trade-
' Large fall in wheat trade; export of wheat flour compares favourably with that of any year before 1891-92; increased exports of cotton to the Europeau Contincut; improveument in forecast report forms

Vi.-Horse and Cattef Breeding and Verermaid Eatadinimeat -

- Civil Jeterinary Department-*

The Imperial Bacteriologist and the Superintendent, Bicteriotionical
Survey, dijectly subordinated to the Inspector-General, Civil Veterinary
Department dufies of the Superintendent, Civil Veterinary Depart-
ment, enlarged; horse and mule breeding ...
$\begin{array}{ll}37-38 & 24-25\end{array}$
Vetcrinary Pispensaries--
New dispensaries opened at Shikárpur and Hyerabad; paucity of Veterinary Graduates; brief notice of the working of the disponsafies. $\quad 39 \quad 25-20$
Cattle Disease-
Rinderpest; foot and mouth disease, anthrax, \&e. ; special forms to $\%$ secure prompt and full reports of breaks of epidemic cattle discases prescribed
Horse Shous including Agricultural Shous and Exhilitóons-

VII.-Agricoltural Statistics-
A.-Rainfall-

Rainfall at District head-quarters; season, $1829-22,0230$
B.-Agricultural—

General remancult of the area of available statistics; cultivpated and uncultivated area current fallows; distribution of
 culons under principal crops; details of kharif and rabi; per-


Irrigated area
( Agricultural Stock-Increase undẹr all classes except sheep; district- ${ }^{*}$.

C.-Crop Experiments-

Experiments couducted on an extended scale

VIII.-Trade and Trade Statistics-

Rail-borne trade for the Presidency proper and Sind; lioad-borne trade $\quad 57 \quad 4.3$
IX.-Arcifelogy-



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\text { No. } 3455 \text { or } 1893 .
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From

E. C. OZANNE, Esquire, I. C. S., M.R.A.C., Survey Commissioner, and Director, Land Records and Agriculture, Bombay ;

To

G. W. VIDAL, Esquire, I, C. S., **

Acting Chief Secretary to Government, Revenue Department, - Bombay.

Poona, 18th November 1893.
Sir,
I have the honour to submit the Annual Report of the Department of Land Records and Agriculture for the year ending 31st October 1893.

Mr. Cappel. continued to hold the office of the Director of Land Records and Agriculture till 27th March, when I assumed the charge of the amalgamated offices of the Director, Land Records and Agriculture and the Survey and Settlement Cômmissioner under the orders contained in Government Resolution No. 1319 of 16th Fëbruary 1893, Revenue Department. Mr. Cappel held charge of the combined offices from 23rd September to 15th October during my deputation tanattend the Simla Agricultural Conference.
2. During the year a small establishment paid from a special Imperial grant has been entrusted with the duty, under my supervision, of checking the price registers, from which the figures for the Imperial fortnightly statement of prices current, and the Provincial monthly statement for military purposes, are prepared." The experiment, which was recommended by me and was approved by Government Resolution No. 3653 of 1892, General Department, has worked most satisfactorily. Errors of system and many serious misconceptions have been brought to light, and corrected: and certainly more attention on the part of the officers immediately responsible for the registration has been secured. The savings to Government resulting from the scrutiny of the Price Inspectors have amply justified the cost of the establishment and the system of inspection, which, moreover, is valuable in ensuring greater correctness of price quotations for purposes of general alministration.

The two Inspectors completed the tour of all the reporting stations during the year, -man
3. Mr. Cappel visited the horse and cattle shows at Ahmadnagar, Jacobabad, Chinchii and Ahmadabad, the farms at Bhadgaon, Hyderabad (Sind) and Nadiád, and the veterinary grant-in-aid dispensaries at Ahmadabad and Nadiád. From April my tours, as Director, comprised an inspection of tho District Survey offices of Belgaum, Bijápur and Dhárwár and a visit to the Haliyál Taluka, where the Survey Department having completed the work, the Revenue Department is responsible for the revision of rates now due.

The Director has thus fond little leisure for personally inspecting the Kanungo Staff and the District Survey offices, and indeed little can be expectod as long as settlement work demands so large a portion of his time. $\Delta$ close check over the staff has, however, been maintained by the Divisional Inspectors, who In this capacity ar'e virtually Assistants to the Director.
4. My annual report has been delayed by the late receipt of the returns from the Divisional Inspectors. Those of the Southetn Division only reached my office on the 23rd October, about which date also the last batch of the Central Division reports was received. These returns were due on the 15 th September,

The Divisional Inspectors complain that the returns were delayed by non-receipt of district returns on the prescribed dates.:

## I.-ORGANIZATION AND MAINTGNANCE OF VILlagic records.

5. The present distribution of the Circle Inspectors or Kanungos is is follows:-

| Divition. | $\begin{gathered} \text { Former } \\ \text { Lhunber of } \\ \text { Ehag Kárkuns. } \end{gathered}$ | Numier of Circle Inspictors. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Alditional | : ${ }_{\text {Total }}^{\text {number. }}=$ | doputed to Mamlatdara\% Ofice. |
|  |  |  | 1 |  |  |
| Southern Division ... (except Kolába) | 136 | 33 | , 96 | 129 | 103 |
| Central Division | 204 | 98 | $\bigcirc 97$ | 195 | 106 |
| Nortbern Do. <br> (Ahmadabad) | 15 | 6 | $8 \therefore$ | 14 | - -9 |

Ahmadabad was equipped with the new staff in July. Of the 8 new appointments 6 were made from the Survey Department and 2 from passed students of the Agricultural College.

Record room.-Owing to want of suitable accommodation the records of Ahmadabad still remain in the survey head-quarters at Surat. The district survey records are suitably housed in all districts of the Southern Division except at Ratnagiri, where a record room is under construction. © In the Central Division, however, temporary accommodation, more or less suitable, has been provided pending the erection of record rooms at the district head-quarters, save. that the Násik and Kihandesh records are temporarily tocated in̄ the old survey offices at Málegaon.

The Divisional Inspectors, besides their regular duties of field inspection and of supervision of the District Survey offices, conducted a few crop experiments. Mr. Lushington in the Southern Division was on special duty for two months to settle a disputed boundary between Portuguese and British territory: In the monsoon he werit on tour to watch measures for the destruction of rats and to ascertain the extent of their devastations. On this officer has also fallen the duty of preparing proposals for a revision of rates on the expiry of the current lease in the Haliyal Táluka of Kánara. This settlement will be the first to be effected by the Department of Land Records and Agriculture without assistance from the professional survey.

Survey classes at Ahmadabad. and all other distrist head-quarters, except Dhárwár, Bijápur, Belgaum and Ratnágiri, were heldizan the monsoon for the training, in surveying, of Circle Inspectors recruited otherwise than from the Survey Department. Several members of the subordinate revenue staff joined these classes with the permission of the Collector. At the examinations which follow the classes, Circle Inspectors recruited from the Survey Department, who have not passed the examination already, also appear to prove their acquaintance with the Revenue Manual. All candidates are examined in the special rules for Circle Inspectors which were provisionally sanctioned by Government in 1891. These rules have recently been thoroughly revised by me in committee with the Divisional Inspectors in the light of criticisms and suggestions received from Collectors. The revised rules approved by the Commissioners now await the final sanction of Government.

The rules for the guidance of District Inspectors and for the conduct of work in the District Survey offices have also been revised and submitted for the approval of the Commissioners.

The duties of the Divisional Inspectors have been formulated with the sanction of Government.
6. Tho $\ddagger$ work done by the Circle Inspectors will now be passed in review under the set heads, and the extent to which that work has been subjected to test by

3
superior authority. The special conditions of tho Ratnágiri district requiro separate review.
7. Crop, Waste and Boundary-mark Inspection. -The results way bo tibulatedithus:-

| - ... - District. |  |  |  |  |  |  | Average Arca .of occupied Numbers. - |  | Average Aron of inspected Numbers. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Number of villages iuspected. |  | Number of Survey Numbers (occupied and waste) inspected per day. |  |  |  |  |  |
|  | 1892-93. | 1801-92. | 1892-93. | 1891-02. | 1802-93. | 1891-92. | 1892-93. | 1891-92. | 1892-93. | 1691-92. |
| 1 | 2 | 3 | 4 | 5 | 0 | 7 | 8 | 9 | 10 | 11 |
| Dharwár ... | 59 | 60 | 44 | 38 | 8.7 | $9 \cdot 4$ | 11.9 | $11 \cdot 1$ | $10 \cdot 4$ | 8.4 |
| Bijápur ... |  | 54 | 44 | 34 | 8.8 | 0.2 | $16 \cdot 1$ | 16.2 | 14.0 | 14.5 |
| Belgaum ... | 65 | 40 | $\therefore 41$ | 29 | 8.9 | 0.0 | $10 \cdot 6$ | 10.5 | $9 \cdot 0$ | $0 \cdot 3$ |
| - Kanaya ... | . 32 | 74. | $\therefore 38$ | 40 | 6.5 | $9 \cdot 6$ | 2.5 | $2 \cdot 4$ | $2 \cdot 3$ | $2 \cdot 3$ |
| Khándesh | 80 | ... | 54 | ... | 11 | . ${ }^{\prime}$ | $10 \cdot 3$ | $\cdots$ | $9 \cdot 7$ | ... |
| Násik | 82 | $\cdots$ | . 42. | $\ldots$ | 11 | $\cdots$ | 8.5 | $\cdots$ | 77 | ... |
| Ahmadnagar |  |  | 38 | $\cdots$ | 10 | $\cdots$ | 13 | ... | 10.0 |  |
| Poona | - 68. | $\cdots$ | 42 | $\cdots$ | 8 | $\cdots$ | 11 | $\cdots$ | 7.0 | $\ldots$ |
| Sholapur... | 71 | $\ldots$ | 35 | .. | 9 | $\cdots$ | 20 | $\cdots$ | 16.0 | $\cdots$ |
| Sátára . | 74 | .... | - 35 | $\cdots$ | 8 | . ${ }^{\prime}$ | : 9 | ... | 5.0 |  |

The period allotted to this inspection includes about 80 working days. Days are lost by sickness among the Inspectors, by their being called on to do other emergent work such as partitions under Court decree, and by the absenco of the village accountants at the time of the Inspector's visit. In Kínara the inspection period was authoritatively curtailed for the IIaliyal boundary-mark inspection which will benoticed further on in its place. In Bijapur and Belgaum some improvement in the number of days of actual inspection is apparent. In the Central Division the number of working days on which work was done is very satisfactory. In Pooua, however, the number is comparatively low.

As' was anticipated, the selection of small numbers by Inspectors has been checked, and the gradual inspection of all the lands in turn has thus been ensured. There is an improvement in the number of villages visited in the Southern Division, and the daily tale of work, as shown by column 6, is fairly satisfactory. It has been decided in the revised Circle Inspector Rules that the Collector should fix the standard required for his district in the future.

The difficulty of finding competent substitutes for Circle Inspectors during short absences on leave has been considerable. Collectors have been requested, as far as possible, to follow the precedent of the Survey Department in rcfusing leave during the fair season, except for urgent reasons. The difficulty will be further decreased if a larger number of revenue kárkuns volunteer for the Survey Class, and thisk qualify themselves as substitutes and for permanent appointments in the special staff when there are vacancies. It is very evident that service in this special branch is unpopular, and proposals for special recruitment from outside are under consideration under couditions which will not entail deterioration in the quality of the inspecting staff.

Inspection Perocitage Statement.

| District. | Villages inspectedper cent. |  | Crop Itsprction. |  |  |  | Waste Inspection. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Occupied Lands. <br> Ferceutike inspected. |  |  |  | Unoccupied Lands. Percentage inspected. |  |  |  |
|  |  |  | On Survey Numbers. |  | On Area. |  | On Survey <br> Nambera. |  | On Area. |  |
|  | 1892-93. | 1891-92. | 1892-93. | 1891-92. | 1598:93. | 1891-92. | 1892-93. | 1891-99. | 1892-93. | 1891-92: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Dhárwár | 87 | 75 | $7 \cdot 6$ | $10 \cdot 0$ | 6.7 | $7 \cdot 6$ | $20 \cdot 4$ | 24.2 | $15 \cdot 6$ | 16.8 |
| Bijapur | 90 | 69 | $6 \cdot 3$ | 7.5 | $5 \cdot 8$ | 6.9 | 22.6 | 31.6 | 18.4 | - $22 \cdot 3$ |
| Belgaum | 92 | 64 | $7 \cdot 1$ | $\rightarrow 70^{\circ}$ | 6.0 | $4 \cdot 2$ | 21.5 | $24 \cdot 2$ | 17.0 | .14:8 |
| Kánara | 64 | 65 | 4.7 | 14.1 | 4.3 | 13.6 | $7 \cdot 4$ | $19 \cdot 3$ | 4.2 | 10.7 |
| Khándesh | 84 - | ... | $12 \cdot 3$ | $\ldots$ | 11.6 | $\ldots$ | 20.2 | ... | 14:8 | $\therefore$ |
| Násik ... | 89 | $\cdots$ | $10 \cdot 8$ | $\cdots$ | $9 \cdot 8$ | $\cdots$ | - $13 \cdot 6$ | $\cdots$ | 17.0 | … |
| Abmadnagar | 93 | ... | 10.4 | . $\cdots$ | 8.1 | , | $29 \cdot 3$ | . ... | 24.6 | ... |
| Poona ... | 82 | ... | 6.7 | -... | $3 \cdot 8$ | ... | $30 \cdot 6$ | $\cdots$ | 20:9 | $\cdots$ |
| Sholápur | 94 | ... | $10 \cdot 6$ | ... | $8 \cdot 3$ | - $\because$ | -. $36 \cdot 9$ | $\cdots$. | 28:4 |  |
| Sátára... | 94 | ... | 8.2 | ... | 4.2 |  | $25 \cdot 3$ | ... | 21.1 | $\cdots$ |

Note.-In columns 4 and after, the percentage is on total area of villages inspected.
Column 2.-The percentage of villages inspected is generally satisfactory, but improvement must still be insisted on. e All villages should be visited. In one district, at least, Assistant Collectors have utilized Circle Inspectors in conducting crop experiments. This does not appear reasonable, unless the motive is to test the competency of the Inspector.

Column 4.-Crop inspection is fair throughout in its extent. .
Column 8.-Waste inspection is also satisfactory in extent in the Central Division, except in Násik. In the Southern Division it is both below the standard and below the outturn of last year. In Kanara the curtailment of the inspection period sufficiently explains the low percentage.

The object of the waste inspection is, in part, a maintenance of boundary marks, but chiefly the detection of unauthorized cultivation. In the Central Division no less than 933 cases of encroachment, presumably in most part cäses of unauthorized cultivation of waste, were detected, of which only 257 cases had been detected by the village officers. In the Southern Division, encroachments lave clearly been checked by the work done by the Inspectors in previous years. Only 193 cases were brought to light, but of these very few (only 29) had been reported by the village oificers. It seems that a case is made out for special: attention to this subject on the part of Collectors. It is the duty of the village officers to report every case of unauthorized cultivation, and negligence should be sure of its punishment.


The quality of the crop registration by village officers is shown in the margital percentage table, Where yariable crep -mixtures abound, as in Dhárwár and Bijapur especially, the work is no doubt more difficult, but in these two districts the improvement noticed last year has disappeared.
8. Boundary-mark Inspection. - The quality of the boundary-mark inspection carried out annually by the village officers, which it must be carefully remenbered is only checked by the Inspectors as' regards those fields of which crop or waste inspection is made, is unsatisfactory, as the following table shows :-


The still high percentage in column 4 shows that village officers have not been more punctual in their boundary-mark inspection. It weuld appear from the above table that the registration in villages in the Central Division is supe-' rior both in punctuality and in correctness; but it is not improbable that the latter superiority is only due to inexperience on the part of the Inspectors and consequent hesitation to class doubtful marks as marks in disrepair.
9. The superior check exercised by District Inspectors is exhibited in the following statement:-


- Note, -Colump 6, 8 and 10 show the percesitage on entries found correct.

Column 3.--Satisfactory, except in Khándesh. In Ahmadnagar the comparative small number of villages visited by the District Inspector was due to the special attention paid by him to the instruction of the raw material of which the newly organized staff is composed.

Columin 4.-In Khándesh there is an Assistant District Inspector, but in Poona and Sátára the number of villages visited is excessive. A thorough check is better secured by confing the test to a ferr villages in each circle.

Columns 5,7 and 9.-In Belgaum the District Inspector's work is totally insufficient, and be bas apparently attempted to disguise the deficiency by overseverity of check. It is impossible to believe that the fairly well trained Inspectors of Belgaum could have misjudged the crop areas in about 40 per cent. of the tested fields and still more impossible to bolieve that they were so negligent as to omit notice of unauthorized cultivation in about 60 per cent of the waste. This District Inspector has recently been reduced in salary for his general inattention to work, as proved by the examination of his office made by the Divisional Inspector and myself. In Poona"and Sátára the District Inspectors were especially

в 971 -2
active and their test very comprehensive, though perbaps somewhat excessive. On the whole, with the exception noted, I consider the work done by the District Inspectors to have been very creditable. The training they themselves are receiving will be of special value to Government when they rejoin the regular Revenue Department as Mámlatdárs.
10. General Duty Inspector.-Escept in Kbándesh, where there are still táluka classers, one Circle Inspector, d classer, is placed on general duty to assist the District Inspector in testing the measurement work done by Circle Inspectors and for the disposal of diffcult or intficate cases. In Belgaum the General Duty Inspector was utilized specially to measure the lands taken up by two roads. The temptation to use this Inspector for clerical duties proved too great in some districts. This, however, is not likely to recur, for, the exact duties on which the General Duty Inspector is to be employed are now distinctly laid down.
11. I have received from each district a return, in the form prescribed in Government Resolution No. 5671 of 12th July 1892, sibowiğg the ämountiof village inspection performed by Sub-divisional Officers and Mámlatdạrs... Thị̣ return is exactly what the Collectors require to keep themselves systematically informed as to the working of the staff; as disclosed by the test taken and.remarks on the return ; but for the purposes of my report the form is wanting. in that it does not "show how far the inspection was a test of the work done by the Inspectors. A slight amplification of the form will make it most usefat in thiss diréction, and this amplification I haye recommended to the Commịssionẹrs. Ait the eind of this section will be quoted the opinions of the Collectors regarding the working of the staff, based, no doubt, largely on the inspection returns from Assistants; I cau ouly say here that, as far as I can judge, the Assistant Collectors and Mámlat. dars have performed a large amount of village inspection, which must have a most beneficial effect in encouraging esertion and checking idleness and fudging.
12. Both of the Divisional Inspectors have conducted the very large duties imposed on them with much energy and judgment. But their charges are too large. - I have consistently urged that to do justice to the worl there should be at least five Dirisional Inspectors in the Presidency, or three for the charge now allotted $+c \cdot{ }^{+} \mathrm{wn}$, , with prospective increase of two more when the surveys of Gujarát and the Konkan haveheen completed. As it is, the test of measurement work devolves almost entirely on the District Inspectors, who themselves are and will always be learners for the most pati, and the supervision of Mámlatdars in the matter of boundary-marks and enroachments cannot be so thorough as is requisite when it is borpe in mind that on the upkeep of marks depends largely the success of the scheme for the abolition of the protessional survey, and the substitution of a permanent establishment to maintain the feld record unimpaired.

The following table shows that Messirs: Lushington and ^Young have been active. They have visited at least two tálukas in each district, and have thoroughly examined the work done at each of the District Survey offices, They did not find time to take adequate field test of the measurements done, though pains were taken to exercise a check by systematic.. scrutiny of the papers showing the tests made by District Inspectors:-


These officers have uider standing orders submitted from time to time the results of their field inspection and inspection of the survey records to the Collectors, The inspection reports are submitted through my office. The Col, lectors are thut kept informed, as far as possible, of the mistakes and irregularities detected, wid presumably take action on the recommendations offered. It seems reasonable that, in cases of grave error or mistake reported, the Divisional 'Inspectors should know what action has beon taken, and with this object in viow a form of report of such specially important irregularities has been proposed, which will be returned to the Divisional Inspectors or other reeporting officer (for the form may be usefully adopted by' Su'b-divisional Officers and. Mamlatdars) with intimation of the orders passed by the Collector,

The table above does not show the result of the inspections of survey off ces; but the Divisional Inspectors are satisfied with tho work done. The state of work in the District Survey offices will be noticed below.
13. Check of the villige census.-This consus under recent ruling of Government is now confined to agricultural stock, except where under special indent from the Surrey Department a census of population is, also needed for revision settlement reports; or, where: similar, need arises for the settlement reports of Divisional Inspectors in districts 'with which the professional survey no longer has to deal,

It has been usual hitherto to ingist on this check beiag exercised when the people and their cattle are mostly in their homes, $i$. . $e$. , in tlie month of July. This rule is relaxed in the revised Rules for Circle Inspectors ; and in districts o: tracts where'travelling in July is especially' difficult on account of heavy rain cr bad communications such check as is possible will be made at the time of the annual crop and waste inspection, 'with the sanction of the Collector:

- C The check of the village enumeration of stock was very fully made in most districts. In Sholápur nearly every village was visited.
$\because$ In Nasik and Belgaum the reasons for ponanspection of all. villages have not been given.

Of the entries checked, on the average 84 per cent. were found correct, the percentage of correct entries varying from 77 to 89 per cent. This result seems over favourable.

The test is most difficult, and I should prefer to see a less area covered with more care in the scruting exercised.

0 wing to leave taken by the District Inspectors, or illness or other urgent duty, their superior test was short. As far as it was accomplished it seems to show that the Inspectors had certainly not burked the disagreeable duty.
14. Sanitary returns.-As to the check exercised over the registrations of births and deaths and other vital statistics, the. Sanitary Commissioner bas expressed his satisfaction. This test is not made at any set period; but is esercised whenever an Inspector visits a villige. Omissions and wrong entries are reported at once to the Deputy Sanitary Commissioners. All that need be said is that the supervision maintained over these importunt statistics is no longer nominal, as it was, aud that it must result in more attention to the duty of prompt registration in the villages.
15. Boundary-marl Inspection.-Besides the attention paid to boundary marks during the crop and waste inspection, the Inspectors devote three months to a systematic inspection and repair of marks, village by village, not taking up the work in a new village till the village begun has been thoroughly completed. The scope of this inspection has been described in former reports, but it may be repeated that its object is to thoroughly deal with each village twice or thrice, during the currency of a lease, to maintain the field record up to date, so that at future revisions of rates no field work may be required. The inspection deals with unarks defining roads, village site, public tauks and other Giovernment waste,
out only extends to marks between survey numbers in occupation when the village officers cannot, without aid, fis the places of missing marks, or decide the correct position of disputed marks.

The number of villages in which this examination was completed during

| Dhárwáf |  |  | ${ }^{63}$ |
| :---: | :---: | :---: | :---: |
| -Bijápur | ... | ... |  |
| Belganm | ... |  |  |
| Kánara | ... |  | 107 |
| Khándesh | ... |  | 574 |
| Násik ... | $\cdots$ |  |  |
| Ahmadnagar | ... |  |  |
| Poona ... | ... |  | 87 |
| S bolápur | ... |  | 96 |
| Såtára | ... |  | 232 | the year is marginally shown. In some districts the second inspection remains to be completed in the villages entered as complete. At that inspection, marks which were found in disrepair at the first inspection are repaired by the Inspector and the cost recovered from occupants; while at the first inspection, properly speaking, marks for the repair of which Government itself is responsible are immediately put in repair. This has not been the case, owing, I regret to have to report again, to the failure on the part of the Mámlatdárs to praride the Inspectors with the necessary funds to pay the cost of labour. This has been a difficulty and impediment to progress since I first organized the staff in Dhárwár. The rules under which the permanent advance to the Inspector should be promptly recouped have been more than once revised, and no account dificulty remains. As far as I can judge; there is no reason why this impediment should delay the Inspectors even one day:


| Dhàrwár | ... |  | . |  |
| :---: | :---: | :---: | :---: | :---: |
| Bijápur | ... |  | 6 |  |
| Belganm | ... |  | 13 |  |
| Kánára |  |  | 1 |  |

The boundary-mark examination now under review has been carried on in the earlier equipped districts for some years. The progress to date in those districts is shown marginally.
In the newly equipped districts the reported outturn of work points to some misconception. Making every allowance for the presumably fair condition of the field record in districts where the revision survey has been recently introduced, it cannot be credited that on the average the Khándesh Inspectors completed the inspection in as thorough a manner as is absolutely necessary in twelve villages each. This comment applies to Sátára, Násik and Ahmadnagar also. It will be necessary that the Divisional Inspector should test the .work in these districts and make a special report.

In Kánara the outturn is specially large, because the Inspectors of the district were massed in the Haliyal Táluka, where revision of rates is due, and where the field record has been neglected for years. Under close supervision the outturn was 139 marks per day per Inspector. Elsewhere the outturn varied from 65 marks in Poona to 100 in Dhárwarr. The standard proposed was 200 a day, which is perhaps excessive, when it is borne in mind that till Inspectors master the intricacies of boundary-mark demarcation, much doubt and perplexity retard progress. Here again thoroughness and not pace is desirable, and during the inspection, cases demanding much enquiry must arise, where the District Inspectors would do well to check haste, to ensure proper disposal; provided idleness is also checked.

Out of 75 working days available, a standard of 50 actual days of inspection was only secured in Kínara and Belgaum. The shortness of the work in the Central Division was a natural result of the proportion of Inspectors new to the work.

The absolute necessity of this inspection is sufficiently shown by the following figures. In Sátára and Khándesh the recentness of the correction of the field record by the professional survey caused the percentage of marks in disrepair to be as low as 20 per cent., but in other districts the percentage rises as high as 50 per cent. The marks inspected are just those where a high percentage of disrepair might be expected.

Where the repair can be imposed on occupants, efforts are made to induce them to repair marks themselves rather than incur the larger cost when the repair is made by hired labour. In Bijápur 73 per cent. of such marks were repaired by occupants, and elsewhere the percentage was higher. It certainly should be higher everywhere, but here again the Inspectors are handicapped by want of funds to take prompt action on default of occupants which would ensure prompt disposal by the latter.

In the margin are shown the number of marks the replacement of which
 required re-measurement, and the number of encroachments on roads and other classes of Government waste brought to light. Here again the necessity of the work is proved. I lay stress on this, for in some quarters there appears to be a want of appreciation of the importance of the work imposed on the Inspectors in the matter.

Measurement and classing work performed by Circle Inspectors.
16. The nature of the work done under this head is shown in the following classified statement :-


This, it will be remembered, is work which before the appointment of Circle Inspectors was performed by the Huzur Surveyor assisted more or less by measurers and classers of the Survey Department told off temporarily or permanently to different districts. With the appointment of Circle Inspectors some classes of work naturally increased largely, for instance encroachments, for the Huzur Suryeyor had no time to devote to the detection of encroachments. No doubt also cases of disputes between occupants have become more numerous from the knowledge that subordinates competent to settle disputes are available. It is probable that the head "Disputes requiring fixing of marks by field books" shows an increase which is partly due to the inexperience of many of the Circle Inspectors in measurement work, but it is also partly due to the more systematic attention paid to boundary marks, the supervision over which by the talluka staff was formerly extremely lax. The miscellaneous cases appear very numerous, but in the absence of explanation it is impossible to make any further conment. The small arrears in the Central Division are due to the recentness of the equipment of the districts of that Division. In the Southern Division some progress has been made in disposing of arrears, which still, however, are considerable. The work which is described in the above statement is necessarily done when the Inspectors , visit villages for regular inspection duties.

The test of the work done by the Circle Inspectors in measurement and classification is one of the principal duties of the District Inspector, and it is satisfactory to note that, in the opinion of the Divisional Inspector, except in Khándesh and Násik, due attention has been paid by the District Inspectors. The District Inspectors of Dhárwár, Bijápur and Kánara have taken a larger test of measurement work than in the previous year, but the test was still insufficient, in

Bijápur especially. In Belgaum it was very unsitisfactory. The neglect in KLandesh and Aásik has not been commented on by the Collectors.

Miscellaneous scork.-In the table given below the work is classified as (1) cases prescribed by the Circle Inspector Rules and (2) those not prescribed:-

| Clasges of Casces. | Southerin Divisox. |  |  |  | Cemtanl Divibion. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Artents on 8int July 1842. | New cases reculved. | Casen dis. posed of. | Bulancenn 81ut July 1813. | $\left\lvert\, \begin{gathered} \text { Arronrn on } \\ \text { S1ant July } \\ 1802 . \end{gathered}\right.$ | New comes recelved, | Canou din. puesd of | Balanoe on slat July 1808. |
| (1) Prescribed by rules ... | 823 | 4,841 | 4,745 | 919 | 54 | 2,785 | - 2,454 | 385 |
| (2) Not presctibed by rules | 131 | 1,042 | 1,083 | 0 | 3 | 1,388 | 1,250 | 141 |
| Total ... | 954 | 5,883 | 6,828 | 1,009 | 57 | 4,173 | 3,704 | 529 |

The returns received give no information as regards the nature of the work included under these two heads, which, however, appears exceedingly heavy; but it may be said generally that the miscellaneous cases prescribed by the rules are references from Mámlatdárs and other authority with respect to prescribed duties. The statement is made up from the monthly return (nikál patrak), which shows all references received, with date of receipt and disposal. It may be taken, then, that the figures show the correspondence work done by Circle Inspectors. It is otherwise as regards the sub-head "Miscellaneous Work not prescribed by the Rules." In spite of the stringent orders of Government and of the Collectors, Circle Inspectors are unauthorizedly utilized for the disposal of work which should not devolve on them at all. The most common classes of work thus unauthorizedly deputed to Circle Inspectors are the numerous miscellaneous auctions of wood, grass, \&c., and the recording of statements by individuals required for the purposes of enquiries before the Mamlatdars. In the Central Division these tases chiefly arose in the year under report before the receipt of a circular by the Collector strictly forbidding Mamlatdars to employ Inspectors except on prescribed duties, but no such explanation can be given as regards the cases in the Southern Division. The duties of Inspectors are already quite as heavy as they can deal with, and there is no reason why Mámlatdárs should call in their aid, because though the system of bhag karkuns or travelling members of the Mámlatdár's establishment has been abolished, the regular staff has been relieved by the addition of a large number of those who formerly were bhág karkuns to strengthen the clerical staff, so that the Mámlatdár should have no difficulty in disposing of miscellaneous work of enquiries, petty auctions and the like, by sending out kárkuns as may be required.

The amount brought to credit on account of Circle Inspectors' pay and allowances while engaged on measurement work, the payment for which is recoverable under the Land Revenue Code from private individuals, is as follows:Central Division, Rs. 981 ; Southern Division, Rs. 633.

> District Survey Offices,
17. The following statement shows the progress made in the maintenance to date of the office record of changes in the field record :-

$\Delta$ kárband corrections ǵdibit good progress, except in Mhmadnagar, Nasik,
 Khiandesh and Kinara; but the work is especially heavy in Kínara, because the Forest Scttlement Officer disposes of a large number of disforcstment cases necessitating correction in the akirband. This work has been retarded by the absence of jantris or calculation tables which have now been supplied by the Survey Department. Irrespective of this special class of work, the District Survey Office in Kínara has had an unusual amount of work which has been very satisfactorily dealt with. The large increase under column 6 is due to the progress of the boundary-mark inspection and the disposal of arrears of the past yoar. Receipts on account of fecs are exhibited in the margin. There is a great want of uniformity of practice in the charges made at the District Survey oflices. Uniformity will bo secured when the proposed scale of fees now before Government has received sanction.
18. Ratnágiri District.-Therę̣ are no village establishments in this district except in the two tallukas of Vengurla and Málvan. Six Circle Inspectors are regularly employed in these tálukas:. The other twelve are employed on miscellaneous measurement and other original work in the district, but they were also from March to May utilized for the special test inspection of boundary marks required by Rule 104 of the Rules under Section 214 of the Land Revenue Code.

The amount of crop and waste inspection performed in Vengurla and Málvan is shown below:-

| Number of Viflabis in tar Circles. |  | Crop inbrzction. |  | Warte Insprction, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Total: | Number inspected. | Nomber and Area of Survey Numbera inspected. |  | Number and Area of Suryey Numbera inepected |  |
|  |  | Number. | Area. | Number. | Area. |
|  |  |  | Acres. |  | Acres. |
| 69 | 55 | 1,071 | 4,851 | 37 | 382 |
| . Percentages ... | 80 | 8.4 | 36 | 22 | 24 |

The . Inspectors examined all the marks of the numbers dealt with at these inspections. In Government waste 150 encroachments were detected, of which only 24 had been duly reported by the village officers. Inspection was not done in 14 villages. The average daily outturn of work, which was from 24 to 5 survey numbers to each Inspector, is inadequate. The Collector's attention has already been directed to this point. The work of the village officers, as disclosed by the test made, seems even worse than last year. Boundary-mark inspection, described in paragraph 8 above, was commenced in 68 villages. The outturn of marks inspected was 64 daily per Inspector. 20 per cent. of the marks inspected were found out of repair or missing. At the second inspection, 95 per cent. of marks, found out of repair at the first inspection, were found duly repaired. During the boundary-mark inspection, measurement was required in. 315 cases to fix missing marks, and 490 edcroachments on roads, \&c., wcre detected. The village census was checked in all the 10 villages of Vengurla but none of Málvan. 419 measurement cases were disposed of, as against 257 last year, in the whole district. The District Inspector tested the Circle Inspectors' work in at least two villages of each circle. His test was sufficient, and proved that the boundary-mark inspection done by Inspectors had been carefully made. He tested only 11 cases of
measurement work, - that is, 2 per cent. of the cases,-a test which is insufficient. The work done by the head-quarter office is shown below:-

| Number of cases received necessitating corrections in Survey records. | Nomber of Aka'rbands |  | Number of maps and field books corrected. | Number of extracts from field bnoke sent to Circle Inspectors. | Number of extracts from Survey books supplied to Revenue Ofticers and Petitioners. | Number of maps supplied to Village Officers. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Corrected. | Remaining to be corrected on 1st August. |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 424 | 180 | 179 | 212 | 10 | 478 | 203 |

Some improvement over last year is evident. Rs. 329 were received on accourt of extracts of maps as against Rs. 121 last year. By recent sanction the number of Circle Inspectors will be increased from 18 to 26 , which will bring the number nearly up to that which was originally proposed. With this staff some progress may be made in the collation of statistics, the Inspectors doing the work which in other districts is done by village officers. But, as I tried to make clear in a detailed note dated 19th March 1891, what is required for Ratnagiri is a considerable increase of Circle Inspectors over the allotment for other districts, to provide for the maintenance of the field record and for the collation of statistics. I endeavoured to show that, unless this, or some similar plan is adopted, the finality of the pressent survey will be seriousiy imperilled, that there will be inadequate dotiou for revisions of rates, and that the agricultural statistics of Ratnácigi, will not be fit for inclusion in presidential returns. Moreover, I showedu that the cost of this enlargement would still be below. iue percentage on gross revenue which the cost of taluka and village sudministration reaches in other districts.

1. 19. I now append the remarks made by the Collectors on the working of the Kanungo staff during the year:-

Dhárwár.-"The results show the usefulness of these agricultural departmental subordinates and the altogether untrustworthy nature of the village officers' work. The test of the District Inspector and its results were close and satisfactory. On the whole, the work of the District and Circle Inspectors (so too the head-quarters office work) has been satisfactory in quantity and quality."

Bijápur.-"I have been quite satisfied with Mr. Naik's conduct of the duties. * * * I myself examined the work of 16 Circle Inspectors during the travelling season. I had to fine two, and have had one, whose appointment was sub. pro tem.s, transferred to his substantive post of karkun in the Divisional Inspector's office. With these exceptions the work (of Circle Inspectors) seemed to me to be satisfactory."

Belgaum.-" The Circle Inspectors were employed during the year on the duties prescribed under the rules, and the amount of work done is fuir."

Kánara. - "I'he returns show that the Circle Inspectors in many cases still dislike their out-door duties, and that the minima of out-door inspection has not been performed. The amount of work done by the District Inspector was moderate. As far as I can judge, the work of the Circle Inspectors was moderate, and I am not prepared at present to think any very great improvement has been effected by their establishment, though probably they have been able to prevent some of the worst mistakes formerly made by the village officers."

Khándesh.-"We have not yet had sufficient experience of the Circle Inspectors to say positively how they work. The system has hardly got into full swing yet. There are a good many points as to procedure and as to scale of work that are only now getting settled. And the Assistant Collectors hn7e not often found it possible to test the work done by the Inspectors. But it has, I believe, on the whole been fairly done. It has been shown, however, that revenue karkuns do not do as Circle Inspectors: they have not the physique and they have not the training. Survey men are incomparably the best for the place. It has also been shown that the idea of the Mamlatdár's establishment being strengthened by the creation of a Circle Inspector establishment must be given ap. And, lastly, there is, I think, reason to conclude that the ordinary revenue staff cannot supervise these Inspectors properly, and that the supervising staff will have in time to be strengthened."

Nasik.-"The Circle Inspector's system is, on the whole, working well. The Divisional Inspector, Land Records and Agricultıre, Central Division, speaks in favoar- .
able terins of the Districtt Inspector. He visited the district twice. The introduction of the system affords little relief to the Mámlatdár's establishment. . The District Inspector, Mr. Shesho Bálkrishna, is a capable man and is working well."

Ahmadnagar.-"The work done is satisfactory. The Collector would again obsorve that the District Inspector has done his purtion of the work with energy."

Poona.-"As the undersigned was not here in the travelling season, ho has seen nothing of the work of the Circle Inspectors.
"It is, however, clear from Mr. Pudhye's report that the work is not only very distnsteful to the Inspactors, but that the quantity hitherto expected from them is more than they can or will perform.
"It appears also to the undersigned that a mistake has bean made in not allowing for the interruptions caused by rain, especially in the west of the district. It is unreasonable to expect men to go through the ordinary routine of miny hours' exposure in the fields, or house visiting for census testing during pouring rain.
"This being so soon after the commoncoment of the system, criticism is hardly required, as in noting deficiencies it is hardly possible as yet to say whether what appears to be short work, \&c., is due to faults on the part of ths staff, or to the impossibility of doing all that is laid down as desirable.
"A few years' experience is necessary before the system can be reduced to smooth working. When the Inspectors have learned their work it is probable that they will be able to show more outturn, and the village officers also will learn to have their part of the work done in time.
" At present there appears to be considerable friction between the Inspectors and the village officers."

Sholapur:-"The system has worked well under the supervision of the District Inspector."

Sátára.-"The District Inspector, Mr. Kiráne, takes much interest in his work, and has exercised thorough supervision over his subordinates. The survey records' headquarter office is also reported to have been managed ably and creditably."
In most cases these remarks come from the extracts from their administration reports forwarded by the Collectors for my information, but in some cases , they were written in the endorsement forwarding the district returns.

It is not for me to pose as a champion for the special staff and combat all adverse remarks. I think $I a_{b}$ as wall informed as to its shortcomings as any -one, and the Revenue Officers are as interested as I am to improve the special staff as far as possible. . I am interested in that it is an essential link in the schemes which I have in my capacity of Director. of Land Records initiated to carry out the trust imposed on me to make due provision for the maintenance of the survey record and for prompt revisions of rates when due.

A distaste for the arduous out-door duties of the special staff is clearly proved. This distaste is not conspicuous among Inspectors taken from the Survey rank and file, simply because their former duties were even more arduous, and the change has given many of them a guarantee of employment till pension is due. . In most cases the transfer signified to them less work and more pay. $\mathrm{O}_{\mathrm{n}}$ the other hand, the old bhág karkuns now incorporated in the staff find that they have to account for their time. They were not accustomed to work under fear of test. They envy their fellow bhág kárkuns who were considered less qualified for hard out-door work, who are now in the Mámlatdir's office, with perhap. even better hope of promotion. I do not agree that as compared with the survey men, Inspectors from the revenue ranks are inferior in physique. If they are, the selection made was not right.

Without detracting from the special value which trained measurers certainly possess in contentment and special knowledge of one branch of the Inspector's duties, I do not think that it can be held that they would have even been cligible for the Circle Inspectors' posts if the original orders had been strictly construed. Those orders were that for the old class of bhág kirkuns" a. Better paid and better educated class" of men should be substituted. 'I'hat has not been done. The survey measurer cannot claim to be better educated than the revenue kírkun who was selected for travelling duties. It catnot be said that the Circle Inspectors are better paid than the old bhag karkuns were, and certainly
they have poorer prospects. 'The closure of the survey operations, setting free numerous men trained as measurers, and the acute financial crisis which existed when the staff was being organized, led to a reduction in the set standard. It is the insufficiency of inducement which is the chief reason for the distaste which has declared itself among the ranks of Circle Inspectors. It is not want of physique, and not the arduousness of the work.

Taking the men as they are, and not expecting miracles from them, I am of opinion that the results of the work of the year are not unsatisfactory. This is partly due to the good work done by the District Inspectors, to the energy of the Divisional Inspectors, and not least to the far greater attention paid by the Revenue officers.

It cannot be expected that crop registration will improve at once. The Inspectors see really a small percentage, and the only chance of improvement lies in their supervision, by virtue of which the village officers are now under fear of test, which they were not formerly. I-believe that these do go into the field and make the inspection to the best of their knowledge. And I believe that formerly the inspection was not made, but that the figures were entered from verbal enquiry. If this improvement is made sure, there will still be error arising from the difficully of apportioning the area in a field betwcen the different crops on it, and in allotting a fairly correct area to fallow. This difficulty is greatest where crop mixtures are most common. - In some provinces, out of - Bombay, an attempt is made to make the apportionment at head-quarters by the help of set formulm. In Bombay, mixtures are so variable that I believe that such an attempt would diminish, rather than increase, the general accuracy of the registration. In time the District Inspectors will under the guidance of the Divisional Inspectors be able to fix formulæ for some tracts or clusters of villages of like character, but this procedure demands caution.

- Waste inspection is likewise improved, as is evidenced by the detection of numerous encroachments which village officers have failed to report, and which, therefore, formerly were never brought to light.

Boundary-mark inspection requires some tec̣hnical knowledge, and a full acquaintance with the rules under which marks were put up. Such knowledge the old bhág kárkuns certainly did not possess, and in the case of disputed or missing marks they were helpless. As each revision survey took place, the marks were put in order; but in spite of the detailed orders of the rules under the Land Revenue Code requiring special inspection of all marks for 4 years after the introduction of a revision survey, and annual inspection afterwards of onequarter of the marks by the táluka officers, i.e. by the bhág kárkuns, no attention was paid to marks, and they gradually deteriorated till the new arrangements were introduced, whereby steps to keep the field record correct to date have been taken. I am sure that any experienced Revenue officer will agree with me in saying that even if the bhág karkuns did possess all the requisite knowledge, and also devotion to duty, the requirements of the Code rules are beyond the pbysical powers of the táluka staff. This was admitted on all sides. And when once admitted no responsibility was enforced, and the taluka inspection of marks consisted in entries in the village form, "marks correct" often all through and everywhere. I claim that what is now done, though it may be faulty and slow, is real progress in the correction of the field record, and that it will prevent the necessity of future field survey. This alone justifies the present system.

I need not refer to the other duties of the Inspectors, as Relief Inspectors in Famine, as measurers, or as compilers of statistical returns for present administrative use, and for use in framing of proposals for revisions of rates; but I must again refer to the practice, which still remains unchecked, of the use of Inspectors for work which is not their proper work. If this practice is not absolutely checked, the whole fabric will collapse. It is quite unreasonable for Mámlatdárs to act against the orders of Government ; but the long experience I have had in the organization of the special staff, makes me believe that, unless every single infringement of the order by Mámlatdárs is not at once met by reprimand or other punishment, the Mámlatdárs will not reform. Experience has showin that, if a Mámlatdár succeeds in saving his office stafi a visit to a village, he will attempt to do so again. Inspectors
are most convenient. One may just be close to a village where the Mam- $\because$ latdár wants some petty auctions made or the statements of half a dozen vil-" lagers recorded; and the temptation to use the Inspector is strong. The result is that his regular work is interfered with. The Mámlatdar, knowing that the fault is his and not the Inspector's, refrains from commenting in the diary on the shortness of the Inspector's work, and the Inspector naturolly wishes to avoid the Mámlatdar's displeasure, and makes no appeal to the Subdivisional Officer. I make these comments to meet the statement, made by the Collector of Khandesh, that the "idea that the Mamlatdár's establishment is strengthened by the creation of the Circle Inspector establishment must bo given up." It is not intended that all the outside duties of the Mámlatdar's office should devolve on the Inspectors. But it was intended that with the introduction of the special staff, the strengthening of the Mámlatdár's staff should bo secured. The financial pressure to which I have referred has not only operated in the introduction of a staff of lower status than was intended, but has also operated in diminishing the numbers of Inspectors, and so far the Collector's remark is justified. The strengthening has not been sufficient. Nevertheless, it can still be shown to have been considerable. To take the case of Khindesh, there were formerly 62 bhág karkuns for the conduct of all the outside duties of the taluka staff. Of these, 32 were made Circle Inspectors, and 16 new appointments were added to complete the staff, and 30 were added to the Mámlatdár's clerical staff. All the important outside duties are imposed on the Iuspectors, and in the Mámlatdár's office in the monsoon they compile the statistical returns of the taluka. If this still leaves the Mámlatdár unable to cope with his correspondence work and with the miscellaneous outside duties, the Collector is clearly bound to make out a case for more clerks, but the Mámlatdár is not justified in imposing on Inspectors, duties not their legitimate duties.


#### Abstract

The important question remains whether the present system of recruitment of the special staff is in all respects satisfactory. Admissions are confined to measurers and classers from the Survey Department, and to selected revenue subordinates. The supply from the Survey Department will continue for some time. But the best revenue men cannot be secured. The special branch is a branch of the Department of Land Records and Agriculture. The agricultural element is conspicuous by its absence. This is chiefly because the quality of the men from the Agricultural College is still very inferior. That supply has also practically ceased. Diplomates in agriculture will not take the posts without fair prospects of promotion, and diplomates are scarce and will remain scarce till inducements to qualify for the diploma are more substantial. I have asked for permission to allow the Divisional Inspectors to employ candidates from outside who have qualified for, but have not obtained admission to, the Revenue Department. These candidates will not have very bright prospects, but they will fill the places of temporary absentees when qualified, and may with training become useful acquisitions. I am conscious that this plan is not very sound, and that if not carefully worked it may tend to lower the standard of Inspectors, though the special training the candi-• dates will receive will be a better school for many of the duties of the superior revenue staff than the clerical work of an office. I can only see one other. means of remedying the present unsatisfactory state of affairs. This is either to raise the pay of the Inspectors by allowing a larger number of appointments of the higher grades, or better, to raise the inducements to join the special branch by keeping revenue kárkuns on the regular cadre, giving them. a special personal allowance of a substantial amount while employed on the duties of the special branch in which they should be retained as long as they are fully efficient, or until entitled to promotion above the pay of the highest grade.


## II.-ANALYSIS OF DISTRIC'CS WITH REFERENCE TO SECURITY FROM FAMINE.

20. An important step has been effected towards a more detailed district analysis than that contained in the Statistical Atlas of 1883.

The Circle Book has been sanctioned and distributed to all districts whero the staff of Circle Inspectors has been introduced. I took advantage of the recent

Simla Conference to compare this book with similar registers adopted in other Presidencies, and I am satisfied that it is not wanting in arrangement. Though it is primarily designed to make provision for the record required at periodical revisions of rates, and in this aspect takes its place beside the systematic record of rainfall and other statistics kept in my statistical office, it is precisely a collation of agricultural and economical statistics such as that required for the district analysis ordered by the Supreme Government on the recommendation of the Famine Commission in 1881, and exactly fills the want in this Presidency of ready means of rendering available the already full record, maintained in each village, of agricultural and economic facts, the possession of which ensures an adequate knowledge of the actual condition of the country, its population and resources.

## III.-COLLECTION OF REVENUE AND RENTAL IN PRECARIOUS TRACTS.

21. By recent orders I include in this section some comment on the special measures taken during the year under the Famine Relief Code, and the ordinary measures for the collection of the land revenue in tracts classed in the Statistical Atlas as insecure. My rainfall analysis shows that the characteristic of the year, a heavy if somerwhat unseasonable rainfall, obviated any necessity for action under the Famine Code. For the purposes of comment on the ordinary coercive measures the extent of which is some guide to the burden of the land assessment in precarious tracts, I have received extracts from the administration reports prepared by Collectors for submission to the Divisional Commissioners.

Without trespassing on the ground which will be covered by the Coimmissioners in their revien thereof, I may say that though the number of notices issued is smaller than in the previous year in those districts of the Deccan and Karnátak where tracts have in the Statistical Atlas been classed as liable to famine, the special circumstanees of the previous year make comparison unfruitful. In that year there was serious anxiety in both the Deccan and Karnátak, and pressure to collect the revenue was not permitted by the District Officers, so that notices were comparatively few. The cases in which a fine was levied under Section 148, Land Revenue Code, were in the year under report very few indeed-only 9 in the 8 districts which cotne under the specified category; but as this fine is by standing orders levied only when a rayat is known to be able to pay his assessment, and wilfully delays doing so, it has little bearing on the burden of revenue on insecure tracts.

There were, however, no less tban 416 cases where moveables were distrained. Of these 92 occurred in Sátúra, where the rainfall did special harm by its excessiveness. In all the cases the distraint was sufficiept to induce payment, and was removed. It would seem that in this fertile district the defaulters were endeavouring to induce leniency which was proved undue and unnecessary. 313 cases are reported from the insecure district of Bijápur, which suffered considerably in the previous year. The Collector attributes the hesitation in payment, necessitating distraint, to the forbearance of the previous season. It was not necessitated by any failure of crops from which the assessment had to be met. The remaining 11 cases occurred elsewhere.

- In 15 cases land was either forfeited or, after forfeiture, was sold for arrears. Of these 8 refer to the Deccan, and are all confined to one district (Násik). The circumstances are not described, but it may be noted that a sum equal to threo times the Government assessment was realized in the sales. There were 7 other similar cases in Bijápur and Dhárwár.

These comments show that the revenue was realized with insignificant pressure.

> IV.-MEASURES OF PROTECTION, including-
(1) Fodder Reserves and Arboriculture.
(2) Extension of Communication.
(3) Irrigation.
22. I have nothing to report under this head.

## V.-AGRICULTURAL EXPERIMENTS, INCLUDING FARMS.

## A.-Experimental Farms.

## Bhadgaon Farm.

23. This farm hảs just been sold for a satisfactory sum. It measured 1,156 acres. Of that area 812 acres were originally transferred from Government waste for the use of the farm, and have been principally used as grass and hay land. The remainder was purchased from time to time from private occupants, often at a high price, for in this area not only was the land already cleared for cultivation, but there were several wells, which added to its value. It may be said that the sale price was equivalent to 25 times the assessment on the former area and to 40 times on the latter. Such a price is a proof, not merely of the increased value of land, but of the improvement made in it during its utilization as a Government farm. Live and dead stock fetched more than the last valuation made, and the standing crops, which under a favourable season were unusually fine, nearly as large a figure as the gross value of the crop of the previous year, though the purchaser bears the cost of harvest and the risk of untimely rain and the like. As to buildings, the total expenditure on new erection, renovation and repairs during the last 10 years came to Rs. 12,800. The farm buildings together with the bungalow, which originally (1883) cost Rs. 5,000 , sold for over Rs. 11,000-a fair price. The whole farm was purchased by a capitalist, who intends to work it as a farm, though he may sublet portions from time to time.

The distribution of the whole price among the various heads stated above is, therefore, somewhat arbitrary, but special care has been taken, and I am satisfied that the distribution is right.

The reason why the farm was sold is, broadly speaking, its isolated inaccessible situation, but among other reasons were the failure of the Jimda Canal, the unhealthiness of the locality, and the great dearth of labour.

The sale-proceeds are in part available for the acquisition of land for another farm in a more suitable locality, and for the erection of farm buildings and for. stocking. In all probability the new farm will be located in the neighbourhood of Surat.

As to the working of the farm in the year under report, I need only say that the kharif season was unfavourable; but the late crops were, partly on this account, good enough to show a profit, on the whole, of Rs. 6 per acre of cropped land, or nearly as large a profit as that shown on the average of the previous 5 years.

Little in the direction of new experiment was undertaken, pending the arrival of the Agricultural Chemist. That officer's aid will be sought elsewhere. The experiments made were chiefly those which have been carried on for a series of gears. They may best be described in the following general remarks, which I think, show what use the farm has served during the last decade:

It has taught us fully the local systems of cultivation, has in some respects shown that that system is improveable, and has given facts of agricultural valus which could not have been otherwise obtained. We have demonstrated the benefit of selection of seed, a point to which local cultivators were and are in: attentive, but to which more attention has been attracted, and it is not presump. tuous to say that this is a lesson taught which will not be wholly forgotten.

We bave proved that it is useless to innovate in implements, though we have found a place for improved sugarcane mills, for improved bullock hoes, and, within limitations, for the utilization of English ploughs. We have introduced from abroad as well as from other parts of India, and successfully grown, some new varieties of staple crops, e. $g$. the giant variety of bájri from Gujarát, cotton from Broach and elsewhere, new kinds of jowári, several varieties of wheat from various places, among which the Muzáffarnagar soft white has done very well, and potatoes, the future of which is hopeful.

We have thoroughly studied the merits and demerits of local and other cottons. It has been proved that American long-stapled varieties, though not

в $971-5$
successful if sown at once as received from America, will succeed well if first acclimatized in Dhárwár, and that such cottons are very useful on light land. We have demonstrated the unwisdom of attempting to oust the local Varadi variety, but have helped the cultirators by placing at their disposal indigenous seed of this variety, improved by selection on the farm, which they have freely purchased. We have kept alive the Jari and Bani kinds of the Berars. We have proved that the Government interference, which was once recommended to restrict the growth of indigenous inferior staples, is injudicious, because the climatic conditions suit the short-stapled varieties best.

Our continued trials of different wheats have shown that soft white wheat, with irrigation, not only succeeds well, but yields better than local hard varieties, and that though at first some deficiency of crop must be suffered, the soft kinds will hold their own, without risk of loss of consistency and colour. The trials have been sufficiently satisfactory to warrant a distribution of soft white seed among cultivators in the T'ápti valley. If soft wheat finds a better market than hard, it is certain that it will be grown, and this may also be affirmed with regard to the long-stapled cottons.

- We have saved the cultivator much by testing various exotics, often highly recommended, on the farm before allowing the rayat to run the risk of experiments doomed to failure. This was notably the case in respect to pedigree wheats from England and Australia.

Our stock-rearing has been the least successful venture, and has cost us more than any other class of trials ; but we have shown that the Mysore breed, though very useful and lasting io a considerable age, cannot be stall-reared with profit. The strain has its merits, and will leaveits stamp in the neighbourhood. We find that it is difficult to improve on the local breeds of sheep and goats. The Dumba of Sind soon deteriorates. .

In the difficult question of crop diseases and insect attack we have proved the value of several specifics-in particular the sulphate of copper and carbolic acid pickles for smut, and bisulphide of carbon for weevil attack in stored grain.

We have demonstrated the unsoundness of the former encouragements given towards the growth of road-side trees in the midst of cultivation as a means of enlarging the area of tree-growth, and shown the direction in which such encouragement is safe.

We have learnt much regarding the effect of manures on black soil. The deduction drawn is a confirmation of a widespread belief as to the inexhaustible character of deep black land, and that on such land manure to a rabi crop-does. not pay either when the season is favourable or when it is unfarourable, the factors of rainfall or irrigation proving the more potent. We have demonstrated clearly the immense value, in India, of systematic green manuring, particularly with papilionaceous leguminous crops.

- Lastly, the farm bas largely increased our knowledge as to the adaptability of foreign systems and special practices, such as ensilage and hay-making, and has given us several well-trained native agricultural experts who will be utilized in the future under more favourable conditions. Mr. Mollison himself owes much of his present knowledge of Indian agriculture to the farm.


## Poona Farm.

24. This farm is primarily intended as an instruction farm for the agricultural students of the College of Science, and this primary object has not been last sight of. The Agricultural Department is even more interested than the Educational Department in the provision for practice with science. In devoting large attention to dairying and to the growth of fodder crops the utility of the farm for practical instruction has been considerably increased. If the students. of the College do not take advantage of the full means at their disposal for the study of practical agriculture, it is because time spent in the acquirement of theoretical knowledge has been found by them of more value than that spent. on the farm, for it cannot be denied that in the Diploma examination as yet too little
weight is given to practical knowledge. Perhaps this cannot be remedied, and it may have to be accepted that arrangements for practical instruction must be made either before the students go to College or after they have taken the diploma; for during their College course, even in the opinion of Mr. Mollison, who is their practical as well as theoretical instructor, they cannot be expected to give first attention to practice. I make these remarks chiefly in reference to the comments made by the Principal of the College in his annual report last year, reflecting on the management of the farm as an educational institution.

The farm is now in good hauds, the manager having, after passing through the College course, served a full apprenticeship on the Bhadgaon Farm. It is, moreover, closely supervised by Mr. Mollison himself. Hitherto an annual report on the working of this farm has not been submitted to Government, but the work dane on the farm is now so thorough and so instructive that I have decided to submit the report in print, and will here only notice, under standing orders, results of special interest which have been obtained during the year.

Last year various fodder crops were grown with the object of showing their comparative outturn, cost of cultivation and value of produce. This year the further steps have beeu taken (1) of practically testing their feeding value and (2) of studying various leguminous crops to ing grown in rotation with cereal fodder crops. To the fodder crops tested last year were added maize, oats, two - local varieties of jowári (sorghüm vulgare), viz., nilva and sha'lu, and a foreign variety, imphi (S. saccharatum). Oats and imphi were damaged by excessive rain. In point of merit, as adjudged by the amount of wastage in feeding, the crops are placed as follows:-1, guinea grass; 2, sundhia jowári; 3, shálu jowári ; 4, nilyà jowári. •There was much wastage in Reana lusurinus owing to its coarse fibrous stalks and still more in maize. Lucerne showed its already marked liability to disease; even'when grown on the ridge and furrow system it was not safeguarded. Sulphate of copper in solution with lime had no effect in checking the disease. It has been again proved that the partiality shown by lucal cultivators to this crop is due to its high price and large yield in favourable seasons. Incidentally a result, which may prove itseif important, was secured. A badly diseased patch of lucerne was interplanted with guinea grass. The lucerne recovered and grew well. This. mixed crop corresponds somewhat to the rye grass and clover crop of England, a misture that is of a cereal and leguminous fodder.-

No fodder crop of the cereal order except guinea grass can be grown, except in rotation, and general experience points to the necessity of growing leguminouscrops in rotation. On a dairy farm it is further an object to secure for the rotation a crop which gives good fudder. The leguminous crops tried were, besides lucerne already mentioned, kulthi. (Dolichos uniflorus), vál (D. lablab), chavli (D. catiang), vetches and sainfoin. Little need be said as regards the lant two ; both failed; and less need be said as regards Lathyrus sylvestris, which was worse than a total failure, for it took up ground which might otherwise have been profitably utilized. The common peas of the locality were also tried unsuccessfully. The other pulses did well. Vál and chavli in good deep soil throve excellently, and though clearly better fodder than kulthi, the coarse stems of which are rejected by milch cattle, they will not grow on light soil as well as kulthi. Kadwal (or hot weather irrigated jowári of several varioties) was not tried again; the trial of last year proving it inferior to sundhia. Sundhia is a variety of jowári unknown in the Deccan. It is a rain crop, but also thrives well as an irrigated hot weather crop, and though it will not oust the local kadwal it seems likely to be a profitable introduction from Gujarát. I need not refer to the other results on the Poona Farm, except to say that rye was tried in the hope of proving its utility as a source of charcoal for gunpowder, for which the straw is largely used in England. It grew fairly, but instead of sending up straight shoots tillered freely, forming a thick sward. Tbis trial is sufficient to show that, in Poona at all events, it cannot be made useful for the manufacture of gunpowder.

## The Dairy.

25. In spite of famine rates for fodder in the early part of the year, the dairy herd yielded a very good profit, which would have been much larger had tho
farm been provided with a grazing area for dry cows and young stock in a locality where they could be fed with greater economy. A suitable area has been selected about six miles off, the possession of which is very desirable. The detailed report shows the dairy record of all cows of different breeds from time of calving till they became dry. Such a record kept continuously will be of very great value. An addition to the herd was made by the purchase of some wellselected Sind cows. They have proved to be docile and very good milkers with a characteristic type and a breedy appearance.

Last year it was noticed that the percentage of butter fat in milk was greater in the hot weather than in other seasons. By giving green fodder throughout the year this difference has been greatly decreased. The Assistant Agricultural Chemist, who lectured to the students of the College during part of the rains, was good enough to make several important analyses of milk. At his nest visit it is hoped that this study will be continued.

The new industry of dairying has continued to develop. The Bombay agent of the Dairy Supply Company has sold 47 more separators. A large dairy has been started at Hyderabad (Deccan). . Some competition with the Dairy Supply Company by other similar companies has arisen. Separated milk now finds a ready demand. Cream separated from milk in Nadiád in Gujarát is largely taken by rail to Bombay to be made into butter, while the separated milk goes by rail in large quantities to Baroda and Ahmadabad. Butter made frorn Nadiád cream is sent from Bombay as far as Hyderabad. Incidentally an important success in keeping butter for a long period quite sound and fresh was secured. In April last, a considerable quantity of butter was salted with about 4 per cent. of good table salt and was packed in earthenware jars fitted with close-Gitting lids. The intention was to sell this butter to District Officers in the fair season, but in July a sudden demand arose for fresh butter. The salted butter carefully washed to reduce the percentage of salt with the help of the butter-worker was found to be perfectly good, and equal to butter freshly made.

The number of private dairies has increased, and the Government dairy at Poona far from acting as a hindrance to private enterprise has taught a new industry which has already reached dimensions which were unanticipated.

The Ganeshkhind gardens, which form an adjunct to the ${ }^{\circ}$ Poona Dairy Farm, gielded a poorer crop of grass than usual. An attempt was made to make green hay, but the grass first cut was spoiled by untimely rain. The mango crop was also poor, but considerable extension of the mango plantation was made.

## Nadia'd Farm.

26. An interesting account of the work of this farm will be published as an Appendix to the Poona Farm Report; but it may be noticed here that the Association succeeded in distributing selected seed from its seed store for 800 acres of land, or double the area of last year, which proves that its efforts in the distribution of seed are becoming more appreciated. American cotton failed, its yield as compared with Broach being 36 to 104 lbs. of clean cotton. There is nothing to encourage further attempts in Gujarat with exotic varieties of cotton. The farm is worked more systematically than hitherto, and with Mr. Mollison's help may secure useful results.

## Sind Farm (Hyderabad).

27. This farm is under the management of the District Board, which, with the concurrence of this Department, proposes to convert it into a dairy farm.

## Empress Gardens.

28. These gardens in Poona are, now managed by the Agri-Horticultural Society with a grant-in-aid from Government (Rs. 3,000). The Society has spent Rs. 1,500 on permanent improvements, both with the object of improving the ornamental character of the garden and with that of introducing new varieties of fruit. A commencement in the resuscitation of the cultivation of the grape vine has been made. The net cost of the gardens (excluding the expenditure on
permanent inprovements and a large prepayment (Rs. 600) for sced for nest jear) has been under Rs. 500. The Joint Secretaries, Messrs. Mollison and N. Padamji, have shown great interest in the management, and have received no small assistance from private members, among whom Colonel C. S. Sheppard may bo specially mentioned. It is one of the objects of the present management by the Society to induce such assistance.

## B.-Experiments on various Indigenous and Exotic Products.

29. A short note of agricultural work outside the farms may now be added:-

Wheat.-The demand for Muzaffarnagar wheat in parts of Sind has continued. Though the area under this wheat in the Nára valley has decreased by 1,300 acres, owing to prolonged floods and other causes, the percentage area under solected wheat on the total area of wheat is larger, viz. 18 per cent. as against 16 per cent. The outturn of imported wheat also has fallen from 526 to 314 lbs . per acre, but even this lower outturn is above the outturn of indigenous yarieties. A further grant of Rs. 500 has been made for the importation of wheat seed and a new grant of Rs. 1,000 for the purchase of a variety of rape seed from Sonmiani, which is superior to the local variety.

Cotton.-Acclimatized American cotton is being tried in Thar and Párkar and also in the Dhandhuka táluka of A kmadabad by a private gentleman, who considers the results hopeful.

Arrowroot.-Mr. Gogte of Dápoli (Ratnígiri) continues bis arrowroot cul-. tivation. A trial shipment, noticed last year, to England induced a larger shipment of four tous this year, but the price of Bermuda arrowroot had in the meanwhile fallen to $5 d$. per lb., and the consignment was sold off at only a little above $1 d$. per lb. Nevertheless, the local demand has increased during the year, about $3,500 \mathrm{lbs}$, having been sold. Arrowroot is now used as a food on fast days.

Strawberries.-The Saháranpur strawberry has continued to thrive at Mahábaleshvar. 2,000 new plants were brought, and though they arrived late for the best results, the quality of the crop was very good:

Indigo.-Indigo was grown in Junágad again and also in Mahi Kántha,
Date Palm.-It does not seem necessary to note, in detail, the reports received from the numerous places to which sced was distributed. Of the 4 varieties of date palm, viz., Tunisian, Djereed, Egyptian and Persian Gulf, the Djereed plantation in Sind seems to be especially flourishing. The road-side plantation in the Kotri táluka is expected to fruit next year.

Divi-divi.-The growth of divi-divi has not extended, and it does not seem necessary to refer again to this dye till results of interest have been secured.

Sericulture.-It is estimated that some 15,000 cocoons could be obtained from the forests of Thána only, at a cost of from 4 to 8 annas per 100. $\Lambda$ trial consignment was sent to England through Messrs. David Sassoon \& Co., but in London, Marseilles and Manchester the cocoons were practically unsaleable.

Uiilization of Bones.-The export of bones from the port of Bombay has further increased during the year by 1,288 tons in quantity and by Rs. 27,000 in value, the total export having been 17,500 tons valued at iRs. 9,63,000.

## C.-Crop diseases and pests. <br> Potato disease.

30. The prevalent disease in potatoes has already been noticed in paragraphs 41 and 36 , respectively, of the reports for the last two jears. A description of the disease and steps taken by this Department to check it were given in a separate note. As promised last year, a further note has been published which with the previous note has now been incorporated in the Imperial Agricultural Ledger Series No. 4. The disease has been studied in the Khed táluka, where perhaps the cultivators depend more on the potato than in any other part of the Presidency. The experiments made show that the Bouillie Bordelaise treatment, described in the note, of the land before it is planted, has proved effective in destroying the germs which the copper sulphate solution reaches. This solution in a large degree protects sound plants from infection. Inconclusive results were obtained
with caustic lime and soot, and the cultivation of the potato on ridges has not proved as beneficial as was expected. Though the disease can be checked by the use of the copper salt, it has been demonstrated that chief reliance must be placed on the distribution of robust seed of varieties experimentally proved to be able to resist the disease. Last year, as was reported, several very good varieties purchased from Messrs. Sutton aud Sons, of Reading, gave most excellent results even in land full of the diseased germs, and a Government grant of Rs. 5,000 was made to import a considerable quantity in time for sowing this season. The necessity of ensuring the arrival of the seed potatoes by the 15 th October had already been made evident. The seed ( 12 tons) came in time. Notice having been given of the intended importation, indents for double the quantity were received, but most unfortunately the seed tubers arrived in so unsound a condition that it was not considered safe to allow any distribution at all; but the eagerness with which indents have been made indicates the desirability of importing largely in future. The farms at Poona, Bhadgaon and Nadidd have been utilized to grow acclimatized seed for distribution at prices below that at which new seed can be imported. In this respect the results, except at Poona, have been unsatisfactory, but a considerable amount of seed has been distributed in Khed from Poona at the rate of Rs. 80 per ton, the local rate being between Rs. 40 and Rs. 48 per ton. The Khed cultivators prefer to purchase the seed grown at the farm than to pay Rs. 144 a ton for new seed. The difficulty of storage is considerable. This question is under investigation. The main crop is harvested in March and must be stored until June. During the hot weather it is difficult to keep stored potatoes sound. Long storage is avoided by sowing a late crop from seed just lifted, the produce of which is ready for the next year's early crop. Seedlings raised two years ago from the absolute seed of the potato plant are making satisfactory progress.

## Locusts, \&c.

31. Locusts have been noticed in one district or another of Sind almost throughout the year, though they have done little damage to crops. The Presidency Proper was free from their visitation. In two talukas of Belgaum grasshoppers did some injury. Mr. Cotes, of the Indian Museum, identified the species as Hieroglyphus, which he states is a species which in past years has damaged rice, maize and other crops in their green stages not only in the Bombay Presidency. but in the Central Provinces and Madras. The insect belongs to the family of Acrididæ, to which also most of the destructive species of locusts belong, but, unlike these, it does not migrate in flights. It is distinct, then, from Acridium peregrinum, which bas done so much harm recently in North-West India, and from Acridium succiuctum, which ravaged the Deccan and Konkan in 1882-83. A single specimen of another Acridid grasshopper belonging to the species Poecilocera picta was picked up in Káthiáwár. This insect has been harmful in previous years, but the damage done by it. cannot be compared with that done by migratory locusts.

A cricket which attacked potatoes in the Karáchi district has been identified as the immature form of Liogryllus cimaculatus, which in March last attacked potatoes in Khándesh. It is common in the Poona district.

## Rat plague.

32. Rats have caused considerable anxiety, appearing first, as they did, in the locality where they first appeared in 1878, that is in the eastern tatukas of Belgaum. They were reported also from Sind and the Deccan, but they did most harm in the Karnátak (Bijápur, Belgaum and Dhárwár).

The numbers, however, never became very numerous, and no special assistance from Government was required. Strong pressure was put upon the people to destroy them. The Divisional Inspector, S. D., made several tours of investigation. Destruction was most successfully effected by digging the rats out of their holes as during the plague of 1879, but in the Parasgad táluka the villagers devised a figure of 4 trap which was successfully used. But again as in 1879 the plague was stayed by opportune heavy rain and by an enormous increase of ticks. which anvear to be the ordinary eattle ticks. Tt is still dnuhtf,n whothon
the heary rain. sA recommendation was made by this Department that the subject of rat-plagues should be recommended for study by the Imperial Bacteriologist in the hope that enquiry may show a means by which rats may be inoculated with a contagious disease not communicable to man or to domesticated stock.
D.-Takaivi advances.
33. It seems desirable to show in a tabular form the progress of this valuable means of agricultural improvement :-

| Province, | 1891-92. |  |  | 1892-93. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under the the Land Improvement Act. | Under the Agriculturiste Loans Act. | Total. | $\begin{gathered} \text { Under the } \\ \text { Land Improve- } \\ \text { ment Act. } \end{gathered}$ | $\begin{aligned} & \text { Under the } \\ & \text { Agriculturista' } \\ & \text { Loans Act. } \end{aligned}$ | Total. |
|  | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Gujarát | 27,865 | 13,183 | 41,048 | 20,140 | 9,329 | 29,469 |
| Deccan | 2,18,511 | 21,399 | 2,39,910 | 1,55,715 | 17,431 | 1,73,146 |
| Karnatak | 6,96,057 | 98,861 | 7,94,918 | 82,404 | 26,130 | 1,08,534 |
| Konkan | 18,950 | 1,635 | 20,585 | 31,213 | 4,100 | 35,313 |
| Sind ... | 26,508 | 84,809 | 1,11,317 | 35,925 | 1,05,190 | 1,41,115 |
| Total | 9,87,891 | 2,19,887 | 12,07,778 | 3,25,397 | 1,62,180 | 4,87,577 |

The amount given as takávi in 1891-92 was very unusual and was, as is known to Government, due to the widespread distress in the Deccan and Karnátak during that year, when the policy, strongly recommended in the Statistical Atlas of 1888, page 27, of making very liberal takávi advances in years of distress was generally adopted, and with marked success. Excluding this abnormal year it is worthy of notice that the takávi advances of 1892-93 were nearly double those of 1890-91, which again were double those of the year before. The progress, then, is steady and satisfactory, so much so that the demand has been greater than the sum allotted. The popularity of takivi advances in the five Divisions of the Presidency may be compared. Gojara' t took the least advantage of the loans, an indication to some extent of the easy circumstances of the cultivating classes. In Gujarát a considerable sum was advanced in the Mehmadabad táluka to rayats who had suffered largely by the destructive floods of September 1892. The Collector of Broach recommends a reduction of the Government rate of interest, on the ground that private loans on land mortgage, are given at a rate of interest lower than that required for takávi loans.

In Khándesh of the Deccan, where the rainfall is generally sure, advances were mostly given to Bhils for seed. In Sholápur the two talukas of Sangola and Málsiras, which have the most precarious rainfall in the district, absorbed three quarters of the advances. Throughout the Deccan the popularity of takavi shows marked increase. In the Karna'tar, where the system has been most popularized, the demand largely exceeded the allotment. In the Konkas a ners and satisfactory development is apparent. In Kánara considerable sums were taken for laying out new spice gardens after special assurance had been given by the Collector that such improvements would not entail liability to increased assessment at revision. In Kolába advances were largely utilized for field embankments, and in Thana advances were applied for for the conversion of dry-crop varkas into rice land. In Ratnagiri the khoti tenure seems fatal to improvement in this direction.

In Sind the advances under the Agriculturists' Loans Act were larger than those under the Land Improvement Act. Under the former Act the advances were used for canal clearances, but largely also for the purchase of seed. A large sum of Rs. 63,000 was advanced for seedoin Karíchi, the special reason for which has not been reported.

Concurrently with the marked improvement above described it is satisfactory to notice that cases of misapplication of the loans bave been very few, which is
an additional proof that the enlarged facilities for Government loans recently accorded have not been abused.

> E.-Improved Agricultural Implements.
34. A plough manufactured at the Sibpore Goverument Farm, price Rs. 6-8, mas tried at the Poona Farm and in the Broach district. The draft is light. It stirs rather than inverts the soil, and thus approaches the native implement in character. When the soil is in condition it does excellent work, but in moist soil too much earth clings to the mould board, and the plough cannot be used so soou after rain as a wooden plough. It is only suitable in light lands.

A grain-cleaning screen, made up from a diagram in Fream's Agricultural Text Book, was tried on the Bhadgaon Farm and was found useful in separating light graius and seeds of weeds. Its use will be considerable on Government seed farms. It is preferable to the ordinary type of winnower, in that, being wholly of iron, it does not so easily in hot weather get out of adjustment.

A private purchaser of one of Wood's mowers (last report, paragraph 40) in Belgaum ras dissatisfied with its cost and its suitability on rugged ground.

## F.-Wheat and Cotton Trade.

35. The trade in wheat shows a large fall, especially from Karichi, due partly to unfavourable season and to the abundant supply from America in the European markets. The export of flour also fell, but it compares favourably with that of any year before 1891-92. In Europe, Belgium absorbed a considerable share of the exports of flour, but the export was mostly to Arabia, East Coast of Africa, Ceylon, Persia and Natal,

Anticipated deficiency in the American cotton crop sent up prices and exports, which, however, are still below the average of recent years. A further fall of 22 per cent. in exports to the United Kingdom and of 8 per cent. to Japan was more than counterbalanced by increased purchases on the European Continent, except in Belgium,

The import of American and Egyptian cotton for local manufacture of finer counts of yarn has increased, but is still small,
36. Forecasts of cotton and wheat, together with other staples in export demand, have been improved in form. On the whole the figures of area in forecasts show somewhat greater approach to the actuals returned in the detailed returns. The rapeseed forecasts were vitiated by the inclusion of jambo (Eruca sativa) as rapeseed in Sind.

## VI.-HORSE AND CATTLE BREEDING AND VETERINARY ESTABLISHMENT.

## Civil Veterinary Department.

37. The transfer of the Bacteriological Laboratory to Upper India having been decided on, the Imperial Bacteriologist has been administratively subordinated to the Inspector-General, Civil Veterinary Department. The Superintendent Bacteriological Survey under this arrangement becomes Assistant to that officer for the special duty of conducting the survey of cattle disease, with its cognate duty of publishing information collected in a popular form.

Thus Bombay loses one qualified Veterinary Officer, and the Superintendent, Civil Veterinary Department, is the only executive officer of the Depart, ment in this Presidency. His duties have been enlarged. Besides the primary duty of superintending horse and cattle-breeding, he is enjoined to give assistance to the Assistant to the Inspector-General, Civil Veterinary Department, in the collation and circulation of statistics of animal diseases and to give telegraphic notice to the Inspectur-General of the outbreak of serious epidemics.

The duties thus imposed on Veterinary Captain Morgan are very much more extensive than those formerly performed by the Superintendent, Horse-breeding Operations. Not only has supervision of cattle-breeding been added, but assistance to the Imperial Civil Veterinary Department, and professional supervision of veteri.
nary grant-in-aid'dispensaries. In the opinion of the Agricultural Department, either these duties sbould be lightened by the appointment of two Superintendents, or by the appointment of a qualified Assistant to the Superinteudent. Till the special annual report of the Civil Veterinary Department, which is under consideration, has been finally prescribed, it falls to the province of this report to notice the various subjects included under the heading of this section. Theso will, it is hoped in future years be separately dealt with by the Superintendent, and submitted with the comments of the Director to Government.

## Horse-breeding.

38 Government stallions have still further been reduced to 91, but the effective strength shows an improvement. Casualties are fewer than in the previous year. The cost of feeding is still large, only lower than the high figure of 1878-79. The number of mares covered has increased slightly, but the increase in branded mares is considerable, though the figure (929) is still below that $(1,046)$ of 1890-91. Each stallion covered on an average 35 mares, while the number of foals produced per stallion was 14 as against 11 of the previous year. The ascertained percentages of unsuccessful coverings, abortions and deaths of foals are still high, and the record still incomplete. Efforts to improve the record by the institution of suitable village registers are being made.

The number of remounts purchased rose from 435 to 555-a satisfactory increase. The number of castrations of inferior animals remains stationary.

Mule-breeding is still practically confined to Sind, where owing to illness among the donkey stallions the number of coverings has fallen considerably. The fall in the number of mares covered per stallion is less marked; the number of foals per stallion has risen from under 5 to over 6.

## Veterinary Dispensaries.

39 Satisfactory progress is still noticeable. Ners dispensaries have been opened at Shikárpur and Hyderabad, and sanction for the opening of a dispensary at Dhárwár has been given. Applications from Sholapur and Surat are under consideration. A check has been received owing to the difficulty of securing the services of qualified Veterinary Assistants. This difficulty has further prevented the filling of vacancies at Nadiad and Násik among itinerating Veterinary Assistants. The conversion of the College of Science Veterinary Hospital into a Veterinary Grant-in-aid Dispensary is delayed pending the decision on the question of locating the Bombay Veterinary College in Poona by transfer from Bombay. Reports have been received from 6 dispensaries which will be shortly reviewed. In all, $4 ; 466$ animals were treated, with the results shown below :-

| Year. | Number of Dispensaries ореп. | Total Animals treated. | Prrcentages shown on Total Animals treated, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Cured. | Relieved | Died, | Returned incarable. | Results unknown. | Memaining under treatment at ond of year. |
| 1890-91 ... | 4 | 2,503 | 51-1 | $19 \cdot 2$ | $3 \cdot 2$ | $2 \cdot 6$ | 21.5 | 2,4 |
| 1891-92 | 4 | 2,628 | 54.0 | $16 \cdot 3$ | 2.9 | 2.8 | $21 \cdot 6$ | 2.4 |
| 1892-93 ... | 6 | 4,466 | $70 \cdot 3$ | $10 \cdot 2$ | $2 \cdot 9$ | 2.9 | 11.3 | - 2.4 |

Almadabad.-Out-patients 821 ; in-patients 95. Slight decrease under the latter head due to absence on privilege leave of the Assistant in charge. Sir Dinshaw Maneckji Petit has generously, at the instance of local residents, granted a liberal sum for a new hospital ind dispensary. The Committee has a considerable balance at its credit, and it is hoped will soon find it possible to entertain an itinerant Assistant. The dispensary has been well managed and has gained in popularity, as proved by the increase in subscriptions and number of
visits to private stables. The Assistant treats the animals in the Pinjrápole. Total receipts Rs. 2,352, including Pinjrípole contribution of Rs. 300 ; expenditure IRs. 1,401.

Nadicid.-Out-patients 1,131; in-patients 10. Among out-patients are included 36 animals treated in their villages for rinderpest and foot and mouth disease. The present want of accommodation for in-patients will be removed when the Sheppard Hospital for Animals, erected by the Desai family to commemorate the interest taken by Mr. G. F. Sheppard in all questions relating to agriculture in the Kaira-district, is opened. The working of the dispensary was satisfactory. Receipts Rs. 1,728; expenditure Rs. 1,500. The itinerant Assistant resigned owing to ill-health in Mily, and as yet no successor has been found.

Dhulia.—Out-patients 700 ; in-patients 154. Increase satisfactory. The Assistant in charge was called out to deal with epidemics of rinderpest and foot and mouth disease. One case of glanders occurred. The post of itinerant Assistant is still vacant. Receipts Rs. 1,475; expenditure Rs. 1,300. The dispensary has a large credit balance of Rs. 1,800 , and the Committee is anxious to secure an itinerant Assistant.

Násik.-Out-patients 331 ; in-patients 107,-that is, a considerable increase in the former with a slight decrease in the latter. There occurred a mild outbreak of foot and mouth disease and only one case of glanders. A Sir Dinshaw Maneckji Petit hospital and dispensary is about to be erected. The Committee is well supported by the local Society for the Prevention of Cruelty to Animals. Receipts Rs. 2,098; expenditure Rs. 1,229. The itinerant Assistant has obtained an'appointment at the College of Science Hospital and has not yet been replaced.

Belgaum.-The dispensary was opened on the 1st April 1892. Out-patients 464; in-patients 29. Daily attendance rose from 3 in April to 19 in February. The Assistant performed 7 castrations. An itinerant Veterinary Assistant joined on the 1 st December and treated in the villages 334 animals, mostly suffering from foot and mouth disease. Belgaum is thus the only district now provided with an itinerant Assistant besides the stationary Assistant in charge of the dispensary. Receipts Rs. 2,560; expenditure Rs. 2,410.

Karáchi.-Dispensary opened on the 10th October 1892. Out-patients 250 ; in-patients 40. The Assistant made an unusually large number of visits (227) to private stables and visited outbreaks of disease in the neighbourhood. Rinderpest, foot and mouth disease, and contagious pneumonia amoug camels and goạts, were prevalent. No less than 12 cases of glanders were detected. In 9 cases the animals were destroyed, tho other 3 died. The Glanders and Farcy Act has been extended to the town of Karáchi, the Veterinary Assistant being appointed Veterinary Surgeon under that Act. The dispensary was maintained by the District Local Board at a cost of Rs. 2,569.

By recent orders, rules for the inspection of grant-in-aid dispensaries have been prescribed, under which the Superintendent, Civil Veterinary Dopartment, the Director of Agriculture, and the Superintendent of Farms have been appointed ex-officio inspecting officers for the Presidency, and the Collector, Superintendent of Police and Sub-divisional O@icers for the district.

Cattle Disease.
40 The season reports published in the Government Gazette seem to give an incorrect idea of the year. From reporte received from Collectors and veterinary dispensaries, rinderpest was prevalent in Khándesh, foot and mouth disease in Broach and other districts, anthraxinKaira, and a disease, not identified, inKolaba. Even information thus received is incomplete and irregular and, on the initiation of this office, special forms to secure prompt and full reports of break of epidemic disease among cattle have been prescribed. These forms were sanctioned in July, and since that date by their means early intimation bas been received of an outbreak of foot and mouth disease in Kánara ( 144 cases and 7 deaths); of an outbreak of rinderpest from Násik ( 14 cases with 3 deaths), and of an unkuown disease in Kánara ( 5 cases with 3 deaths).

Horse Shcws, including Agricultural Shows and Exhibilions.
41. The principal shows of the year mere: -


Ahmadnagar Horse and Cattle Show 'and Agricultural Exthibition.The amalgamated Poona-Nagar Show was a decided adrance in both number
*The primary object of Gorernment is to encourage the breeding of sound well-bred horses, and the better the prices the breeders obtain for their young stock, the more popular will horse-breediog become and the larger will be the prodaction of sound wellbred yonng stock. Government will benefit by this in the end, even if it has to pat up with some disappointment at first (Government Resolution No. 6902, dated 25 th September 1893, Reveuue Department, reviewing the Show Report.) and quality of animals, as compared with former shows held at Ahmadnagar. The number of horse exhibits rose from 271 to 585 , of which 336 were from Nagar and 212 from Poona. The rest hailed from Sholapur, Sátára and the States of Hyderabad and Phaltan. The classes for brood mares and young stock were specially commended for their excellence. Geldings were poorly represented. Only four animals were purchased for the Remount Rearing Depôt, because private dealers, who purchased at least 22 animals, paid higher prices than the Government agent could , give.* The question of prohibiting the purchase, by Remount officers, of mares and fillies has.ayain been raised. Only one mule was exhibited which indicates little progress in mule-breeding. The exhibits from Poona (chiefly from Bhimthadi and Sirúr tálukas), though fewer in number, carried off 40 prizes of the value of $\mathrm{R}_{\mathrm{s}} .1,070$, as compared with 50 prizes, worth Rs. 780, awarded to the Ahmadnagar exhibits.

A decided improvement was visible in cattle, the total number of exhibits having risen from 124 to 417. The exhibits were chiefly from the Ahmadnagar District. Cattle cannot travel with the same ease as horses. The show cannot become attractive to distant cattle-breeders unless the prizes offered are considerably increased in value. Bullocks and milch buffaloes were particularly good. Most of the prize-winners were imported cattle. It is suggested that prizes should be restricted to those imported for boni fide stud purposes. Otherwise these prizes are a waste of money in no way tending towards the improvement of local breeds, which is their only legitimate object. Prizewinners were photographed. These photographs will be useful to judges and others in the future. 'The exhibition of agricultural products, except fruits and vegetables, which had been damaged by recent excessive rain, was much better than that of the previous year, and prizes to the amount of Rs. 300 were awarded.

The total expenditure amounted to Rs. 4,724 as against receipts of Rs. 3,303, and the deficit had to be met from the previous year's balance, which was reduced from Rs. 1,801 to Rs. 473.

Sind Horse Show.-This is the third show held at Jacobabad and eighth held in Sind. The number of horses exhibited $(1,365)$ was about the same a:3 at the last Jacobabad Show in 1891, but 50 per cent. more than at the Shikarpur Show of. 1892. In point of quality, also, the results were more encauraging than even those of the Shikarpur Show, which was better than any former Sind Show. Out of 17 classes, the judges classed the following only as poor:-Fillies 3-4. years old by Government stallions, colts 3 years and under by Government stallions, geldings, donkey mares, and a section of the miscellaneous class, Eighty remounts at an average price of Rs. 231, 13 young stock for the Governinent nursery, and 34 mules were purchased by Government. More good remounts could have been sold had there been purchasers, and many, which were sold, failed to fetch their value. The number of mules exhibited was 98 against 164 last year, the highest on record, Many of the exhibits were too young for draft, and the proposal to utilize the mule-run at Jacababad started by the Gth Cavalr' as a nursery for young mules for the Commissariat Department is und r consideration of Government in the Military Department. The number r geldings exhibited was 88 as against 23 and 41 of the past two y 亿rs $-a$ satis. factory evidence of progress made in the practice of castration in Sind.

The receipts were Rs. 5,700 , of which Rs. 4,485 were given in prí Baluchi owners carried off more than half, while Shikárpur, which contribied ed Rs. 2,500 to the funds, only secured prizes to the amount of Rs. 540 . Governt ted has, however, declined to press the Quetta Agenoy for a contribution or to ient certain closed classes to keep out foreigners, on the ground that healthy rivo low the best stimulus to improvement in horse-breeding. Baluchistin further $\} y$ is its own show at Sibi, to which Sind horses are freely admitted. The pror olds mooted last year to locate the Sind Show permanently at Jacobabad hair ssal; relegated to future consideration. The explanation asked for as to the reta een the smaller numbers in the higher classes of fillies, as compared with tistl the lower classes, has been rariously given, the chief reasons assigned of either the loss or want of covering certificates, which necessitated the inceing of the young stock in the miscellaneous class, and the larger range of age asion lower classes.

The Commissioner in Sind and the Agent to the Governor Gene Quetta were present.

Kolhapur and Southern Marátha Country Agriculturial Horse and Cat Show. -The census prevented a show in 1891, and failure of crops made it inadv ${ }^{i}$ able to hold the show last year. The show of 1893 was graced by the presenc of His Excellency the Governor. The exhibition was, on the whole, mod satisfactory.

Exhibits nurnbered 651, including 237 horses. British districts exhibitea 95 horses and about $\frac{1}{3}$ rd of other animals. Among horses, the young stock showed great promise, notably the three-year old fillies. Three animals, bred in British territory, by Government stallions were purchased for the Remount Rearing Depôt. Brood mares were decidedly good, but the best came frol. he British districts. It is undeniable that, in this part of the country outside $F$ the Chiefs' stables, horse-breeding receives very scant attention. This need nut be so, for the rayat breeds and rears the high class cattle of the Krishna valley and has favourable surroundings in soil and climate as favourable for horsebreeding. 1288 prizes of the value of Rs. 2,327 were awarded.

For cattle there were 83 prizes, worth Rs. 1,138. The cattle classes were well filled. The Krishna valley breed was conspicuous. There was an inferior show of milch cattle. Agricultural implements and products (such as prepared bundles of aloe and plantain fibre, which were particularly good) were also exhibited. The Southern Marátha Chiefs and Sardárs contributed handsomely to the show, so that of a total expenditure of Rs. 7,825 , only Rs. 2,000 fell on the Kollápur Darbár.

Ahmadabad Morse Show.-This show was not successful. No remounts were found. Nearly ${ }^{5}$ th of the advertised prize money was withheld. The expenditure was only Rs. 3,093, and the closing balance was Rs. 3,500. The suggestion of establishing in Gujarít or Káthiáwár a nursery for the rearing of young stock in lieu of, or in addition to, a show is under consideration in the Military Department. The declining state of the Alimadabad Show has also led Government to order enquiry into. the present system of lorse-brecding in Gujarát.

- Naushá'tro Borse and Cattle Shovo.-This is a new and successful show started at the instance of Veterinary Captain Morgan, Superintendent, Civil Veterinary Department, for the benefit of Lower Sind, and funds were provided by re-appropriation in the Local Board budgets. The animals exhibited wore 325 horses, 13 mules and 226 cattle. The number of prizes advertized was 82, but it was subsequently raised to 123, aggregating Rs. 1,750 in value. There was a strong muster of brood-mares and a fair entry of horses suitable for remounts. Oxen for agricultural purposes formed a very large class. On tho other hand, geldings, mules, milch cows, and young stock were meagrely repre, sented. The bullock class did not fill, the explanation being that castration of bulls is little practised on account of the docile tempers of the indigenous breeds. As to quality, the geldings (10 in number) formed the only class described as bad or indifferent. No purchases were made on the show ground.


## VII.-AGRICOLTURAL STATISTICS. <br> A.-RAINFALL.

42. The usual permanent record of rainfall in each district for settlement and administrative reference will be found in the appended tables (pp. i-xiii). The table below compares the rainfall at district head-quarters with the average fall and the fall of the preceding year:-

Rainfall at District Head-quarlers.


The season may be described as one of heavy prolonged rainfall with excessive and untimely rain at the time of the kharf harvest. The south-west - B71-8
monsoon rain came early ( 27 th May) on the littoral of the south 'Konkan; but its further progress was checked by cyclonic depressions off the west coast. The June rain thus came irregularly from the north-east. The monsoon did nut set in till the second week of July. Late October rain was very excessive, except in Gujarát, and caused much damage, both to kharif crops and to rabi seedlings.

Deccan.-Though the regular monsoon rain set in very late, heavy June showers were generally sufficient for the commencement of kharif sowings. From July to September the rain was, on the whole, seasonable and sufficient, but at the end of October the Svati rain was throughout excessive at kharif harvest time. The rabi crops which had been sown with ample moisture would have yielded a bumper harvest, but for unseasonable rain again at harvest time.

Karnatak-The features were generally similar to those of the Deccan. The Sváti rain was even more pernicious, except in south Dhárwár. "

Konkan.-The south-west monsoon broke early with heary rain, and sowings commenced everywhere, but after-falls were deficient, and the young rice began to suffer. From July onward rain came seasonably, and the crops were thriving, till checked by the Sváti rain coming just as the early rice was being harvested and the late rice was ripening. However, this late rairt did less injury than in the Deccan, and it was absent altogether or moderate and beneficial in north Thána and the above-ghát tálukas of Kánara.

Gujarát.-Kharif sowings commenced early after heavy antemonsoon showers, but were soon checked by a break which lasted till the second week of July. From that date rain came seasonably till the end of August, but it was. excessive in early September. The rain in October was light, and though notuseful but rather harmful to kharif crops, was favourable for rabi sowings,

## B.-AGRICDLTORAL.

-Government Resolution No. 6273, dated 30th August 1893, R. D.
for the year under report.
$\dagger$ Government Resolution No. 6229, dated 2nd Anguat 1892, R. D.
tricts outside Sind.

| District. | Date of receipt. |
| :---: | :---: |
| Khándeah ... | 16th September. |
| Thang... ... | 21at do. |
| Kanars ... | 25th do. |
| Ahmadabad ... | 25th do. |
| Násik.. ... | 29th do. |
| Ratnigiri | 2nd October. |
| Upper Sind Frontier. | 18th- do. |
| $\text { Thar }{ }_{\text {Parkar. }}$ | 18th. do, |

43. The district price return has been modified in the direction required (last report, paragraph 51), but the additional information under it cannot be given
"Fallow" $\dagger$ details are, however, available for re-view this year, a supplemetary return to Agriculturab Return No. 2 having been duly received from all dis-

The district agricultural returns were received somewhat more punctually, Delay occurred in the marginally named districts, which must entail delay not only in the submission of the compilation for the Presidency included in my report, but also in the submission of the General Administration Report. In Khándesh, Násisi, Kánara and Ratnágiri, where these returns are now compiled by the Land Records and. Agricultural staff, their submission should have been, at any rate, more pnnctual.

Return Nंo. I.-Area of available Statistics.
44. This return shows the gross area of the Presidency, inclusive of villages held on various privileged tenures, but exclusive of feudatory and tributary States, to be 121,012 square miles, of which Sind occupies 46,645 square miles. This figure is only approximate, for in certain districts, notably in Sind, large tracts are unsurveyed, and areas are only estimated.

The gross area returned is less by 11 square miles in the Presidency Proper and greater by 1,333 square miles in Sind, as compared with last year. Tha principal cause of variation, put of Sind, is the ascertainment of more correct figures for alienated villages brought under survey; while in Sind, to the progress of the survey, is added a revised estimate of the unsurveged areasto reconcile it with the estimates included in the Imperial Census Reportu?

In one district (Ratndgiri) there is some uncertainty as to the number of villages, due to the inclusion of hamlets in one year and their exclusion in another. A reported increase of 07 villages in Sind is not explained.

The decrease in the number of villages and area for which agricultural statistics are returned, points to greater care in the exclusion of villages from which fairly trustworthy figures cannot be obtained, chiefly in Ratnagiri, where there are no village establishments. In Poona there is one newly reporting village, which has been surveyed at the instance of the alienee. The number of villages returning statistics in Sind has, on the other hand, increased largely. Government villages under special tenures and unsurveyed alienated villages chiefly make up the number of non-reporting villages.

Return No. II.-Cultivated (i.e.Occupied) and Uncultivated (i.e. Unoccupied) Area.
45. The table below exhibits the variations as compared with the previous year, except in the Province of Sind and the district of Ratnágiri, for which the comparison would be valueless owing to the changes above noticed in the reported area:-

| Presidescy Proper (excluding Ratnagiri). |  |  |  |
| :---: | :---: | :---: | :---: |
| Detail. | Area in Acres (000 omitted.) |  | Percentage <br> Increase or Decrease |
|  | 1891-92. | 1892-93. |  |
| A.-Cultivated 4 rea. |  |  |  |
| Gross cropped area ... ... ... | 24,854 | 25,815 | $+38$ |
| Cropped more than once . . .. | 424 | 774 | $+82.5$ |
| Net cropped area ... .... | 24,430 | 25,041 | $+2.5$ |
| Current fallows ... | 5,173 | 4,632 | $-10 \cdot 4$ |
| $\begin{array}{cc}\text { Assessed } & \ldots \\ \text { Onassessed } & \ldots\end{array}$ | 29,522 81 | 29,584 89 | $\begin{array}{r} +0.2 \\ +9.8 \end{array}$ |
| Total A | 29,603 | 29,673 | $+0.2$ |
| B.-Úncultivated Area. |  |  |  |
| Available for cultivation $\ldots\left\{\begin{array}{l}\text { Assessed }\end{array}\right.$ | 1,226 | 1,128 | $-8.0$ |
| Available for cultivation $\cdots$ U Unassessed ${ }^{\text {a }}$.. | 835 | 754 | $-9.7$ |
| Not available for cultivation. $\left\{\begin{array}{l}\text { Forest - ... }\end{array}\right.$ | 6,750 | 6,763. | +0.1 |
| Not available for cultivation. $\{$ Other | 5,029 | 5,073 | $+0.8$ |
| Total B | 13,840 | 13,718 | $+0.9$ |
| Grand Total ... | 43,443 | 43,391 | $-0.1$ |

In the margin a comparison, district by district, is instituted, mainly to

| Districto |  |  | (000 OXITTED.) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} \text { Neb } \\ \text { Area } \\ \text { cropped. } \end{gathered}$ | Current Fallow. | Cultivated, i. . occupied Land. |
| Ahmadabad ... |  | $\cdots$ | +18 | -18 | +5 |
| Knira | ... | ... | +7 | -1 | $\pm$ |
| Panch Mahals | $\cdots$ | -. | $\pm{ }_{-23}$ | +25 | +2 |
| Bronch .o. - ... | $\cdots$ | $\cdots$ |  | -2 |  |
|  | ** | $\cdots$ | $+6$ | $+1$ | +7 |
| Khande日h \% $\quad$ \#. | $\cdots$ | ..- |  | +19 | $+12$ |
| Ahmadnegar ... | ... | $\cdots$ | $-27$ | +180 | +9 +10 |
| Poona ... | -* | $\cdots$ | -18 |  | $+4$ |
| Sliolapar ... | $\cdots$ | $\cdots$ | - ${ }^{18}$ | +25 | -7 |
| 8atanta ... ... | $\cdots$ | $\cdots$ | +100 | +68 | +32 |
| $\underset{\substack{\text { Belcgum } \\ \text { Bijapur }}}{\ldots}$ | $\cdots$ | '.0. | $\pm+114$ | -109 | $+5$ |
| -Dharwar | $\cdots$ | $\cdots$ | $+469$ | -459 |  |
| 'Thána ... $\quad$ - | $\cdots$ | ... | -4 | +21 +2 | +2 |
| Kílara... ** | $\cdots$ | $\cdots$ |  |  |  | show variations in the cropped area. Such variations are due to season, except in so far as the figures (under current fallow chiefly) have been altered by adjustments. But for such adjustments and variations in the area of available statistics, column 4 of the table should show precisely the extent of new land occupied in the year or thrown out of occupation by resignation. The reports received do not enable me to show exactly how far the difference is due to the last named factors. As to adjustments, it is reported from Belgaum that about 29,000 acres, or nearly the total net difference shown in column 4, are due to adjustment. This, being unoccupied land in alienated villages, had been before erroneously

treated as "unoceupiot" land. It is umoceuphed in the sense that the alience has notemant for it, but is occupicd in the sense that Government has a tonant, ri..., tho alicnce. It is now shown under "current fallow," the decrease in which is, therefore, diminished to 63,0010 from 97,000 acres, as the figure would otherwise have stood.

In Thana, where the difference is also large, one reason is the exclusion of six alicnated villages from the reporting area. This only accounts for a difference of 10,000 acres. An adjustment, similar to that described above under Belgaum, accounts for 8,000 aeres more.

It is not the province of this report to deal minutely with increased or decreased occupatiou. That subject will bo fully dealt with by tho Commissioners in their Jamábandi Reports. The most striking contrast is that in the three harnitak districts where the drought last scasou reduced the cropped area by a figure nearly as large as that by which it is increased under a more favourable scason this year. In Broach the execssive July rain reduced the area of cotton, and perhaps some cottou land remained uncropped. In Sholípur, Sititira and Poona tho decrease is due to escessive rain at rabi-sowing time. In Ahmadnagar it is nominal, due to incorrect inclusion of fallow in cropped land last ycar. The noteworthy increase in land cropped more than once, though attributable principally to the moistare left by heavy rain enabling an extousion of late second crops, is also probably partiy due to more attention to the registration of sccoud crops.
46. The following is the summarized information afforded by the new fallow return:-

Details of Current Fallow (Percentayes).

| Province. | $\begin{gathered} \text { Tutal } \\ \text { fallow on } \\ \text { ovenpical } \\ \text { arcat. } \end{gathered}$ | Fallow on total Fallow. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Fallow in rutation. | $\begin{gathered} \text { Grass } \\ \text { linal. } \end{gathered}$ | $\begin{aligned} & \text { Griass. } \\ & \text { bountl } \end{aligned}$ lancl. | Ráb land. | Land misown nan on account of scason. | Other fallow. |
| Gujarát ... | 21.91 | 10.72 | 31.97 | 2.02 | ... | $3 \cdot 32$ | 51.97 |
| Deccan... ... ... | 12.05 | $25 \cdot 44$ | 19.49 | 4.68 | $1 \cdot 43$ | 6.65 | 39.31 |
| Kardátak | $11 \% 5$ | 13.94 | 24.79 | 21.35 | 0.02 | $2 \cdot 55$ | $37 \cdot 35$ |
| Konkan (esclusive of | 44.9 | 32.55 | $22 \cdot 33$ | 4.92 | 28.69 | 1.01 | 10.50 |
| Total ... | 15.61 | $22 \cdot 61$ | 23.68 | $7 \cdot 35$ | $5 \cdot 91$ | $4 \cdot 10$ | 36.29 |

This is a new return, and its preparation does not appear correct. It was enjoined to slow how far bare fallow in rotation is practised, how far the cultivators set apart occupicd land for the growth of grass or for the production of ráb matcrial, how far cultivable land is out of cultivation on account of deep rooted grasses, prickly-pear and the like, and, lastly, how far deficiency or excess of rain prevented sowing.

The extcnt of fallow under the miscellaneous head is manifestly incorrect, It is impossible to believe that half the fallow in Gujarit is other than the specificd descriptions of fallow.

Nevertheless the table is interesting and instructive. It will serve for valuable comparison, when availahle for several years; and when acceptable as fairly correct, will bo the basis of ralzable deductions.
47. Under the head "Uncultivated" (i.e., unoccupied) land, $\Omega$ decrease is noticeable in Belgaum, Násik, Klándesh and North

| - District. |  |
| :---: | :---: |
|  | $\pm$ |
|  | ${ }_{4}^{5}$ |
|  | $\stackrel{+8}{+8}$ |
|  | $\xrightarrow[+1]{+{ }_{+1}^{1}}$ | Gujarat, which is due to reasons given above under changes in the cultivated or occupied area. In the Panch Mahals a transfer from "Uncultivated" to "Forest" arises from an extension of Government forest. The fluctuations in the forest area are shown marginally. Disforestment is observable in three districts. On the whole, however, the area under forest has been enlarged by a net addition of 13,000 acres.

43. The present condition of each district is shown clearly by the table below, which is annually included in this report-not so much. to indicate variatious, though these are evident if the table of any year is compared with those of other years, as to show the gradually contracting margin for future occupation especially and the other main features of Returns Nos. $\cdot 1$ and 2 combined :-


8 971-9

| District. | $\begin{array}{\|c\|} \text { Perentage } \\ \text { on Gress Areas } \\ \text { ffr which } \\ \text { Statistics } \\ \text { are nit } \\ \text { arailable } \end{array}$ | Pebeettage on Net Abea for which Statistics alie ayaleaile, of Area. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cultivated, i.e. occupied. |  | Uncultivatel, i.e. mocen pied. |  | Forest. |
|  |  | Actually cropped. | Current fallows. | $\left\|\begin{array}{l} \text { Availabie } \\ \text { for } \\ \text { cultivation. } \end{array}\right\|$ | Not available for cultivation. |  |
| B.-Sind. |  |  |  |  |  |  |
| Earáchi ... ... | 29.4 | 7 | 7 | 17 | 67 | 2 |
| Myderabad ... | ... | 15 | 24 | 40 | 19 | 2 |
| Shikárpur ... ... | $2 \cdot 1$ | 19 | 17 | 43 | 15 | 6 |
| Upper Sind Frontier ... | $48 \cdot 4$ | 24 | 39 | 18 | 14 | 3 |
| Thar and Párkar ... | ... | 7 | 10 | 5 | 76 | 2 |
| Averame B. $\left\{\begin{array}{l}\text { 1S92-93 ... }\end{array}\right.$ | 11.9 | 12 | 15 | 23 | 47 | 3 |
| Average $\mathbf{D}$. $\{1891.92$... | 13.9 | 11 | 15 | 23 | 48 | 3 |
| Average for the \{ 1892-93 ... | $9-5$ | 40 | 12 | 12 | 25 | 11 |
| Presidency ... $1891-92 .$. | $9 \cdot 9$ | 39 | 13 | 12 | 25 | 11 |

## Return No. III.-Crops.

49. As a necessary result of the features of the rainfall alrcady described, there is a large increase in the area sown. In exceptional cases, which will be specially noticed, the sowing rain was unfavourable. The increase is found both under food and non-food crops. All cereals, including early jowari, all pulses, and cotton show a considerable increase, while, on the other hand, there is a large decrease under late jowári and a small decrease under tobacco, sugarcane and oilseeds:-

## Table to show effect of season on area snow.



Jowari. -Jowari is here divided into kharif and rabi jowari. The decreast

| District. |  |  | ACRES (000 OYitted). |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Kharif. | Rabl. | Net variation. |
| Sheolanpur -- |  |  | $+1$ | -426 | -425 |
| Bijapur | ... | $\ldots$ | $+101$ | -870 | -379 |
| Ahmadnagar | ... | $\cdots$ | +4 | - 233 | -229 |
| Poona -.. | $\cdots$ | $\ldots$ | $\cdots$ | -198 | -190 |
| Pelgaum ... | - | ... | +185 | -252 | -67. |
| Satara | ... | .. | $+17$ | -47 | -30 |
| Broach | $\bullet$ | $\cdots$ | +37 +3 | -48 | -9 |
| Kaira |  |  | +19 | $+13$ | -6 |
| Dháraxar |  |  | $+180$ | $\pm 29$ | $+131$ |
| Ahmadabai | $\because$ | $\cdots$ | +10 | $\cdots$ | $+10$ | in the total of the latter is more than counterbalanced by increase in the former, taken togetherwith the increase in baijri. The early rains tempted large sowings of bajri or kharif jowari, especially in the Deccan and Kurnatak, in preference to leaving the land for rabi. In this year the barvest result was unfortunate, and the selection would have been different had the rayats been able to forecast the injurious harvest rain.

Bujri.-The large increase, chiefly noticeable in the south Deccan and

| District. |  |  | Acres omitted). | District. |  | Acres 0000 omitted). |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bijajpur |  | $\cdots$ | - 261 | Broach ... |  | $+7$ |
| Sholápur | $\cdots$ | .-. | +249 | Khándeth ... | - | - 88 |
| Poona ... | - | $\cdots$ | +100 | Ninik | - | -35 |
| Belgaum ${ }^{\text {A }}$, ${ }^{\text {a madabad }}$ | $\cdots$ | $\cdots$ | +58 +48 |  |  | - 35 |
| Ahmadragar | $\cdots$ | .. | +18 +12 |  |  | -10 | Karnátak, has just been explained. The north Deccan districts show a small decrease, but this is simply because in these tracts early jowari is the early cereal and not bijri.

Paddy--The net increase is fairly distributed over all districts, being especially large in Ahmadabad ( 20,000 ) and Kaira ( 17,000 ), Bijapur ( 18,000 ) and Sholápur ( 7,000 ), where the rice is largely an irrigated crop and not a rain crop as in the Konkan and Glaat districts of heavy rain. Elsewhere the increase varies froin one to four thousand acres. In a season of heavy early rainfall, tanks are full, and plentiful water is available in running streams, and thus rice is encouraged.

Wheat.-Wheat is a rabi crop. It shows a net increase of 10.4 per cent.,

| District |  |  | Acres, 000 omitted). |
| :---: | :---: | :---: | :---: |
| Ahmadabad ... | - | $\cdots$ | $+69$ |
| Pharwar ... | -* | .. | $+64$ |
| Sumat ... $\quad$... | $\cdots$ | $\ldots$ | +111 |
| Broarh.... ${ }^{\text {.- }}$ | $\ldots$ | ... | $+9$ |
| Panch Maháls | ..* | $\cdots$ | $\pm 8$ |
| Satcra | $\cdots$ | $\cdots$ | +8 +5 |
| Ahmadnagar .... | $\cdots$ | $\cdots$ | -48 | specially noticeable in Ahmadabad and Dhárwár. In the former district the August rain was excessive for cotton, which, though there sown late, is still sown before wheat. Much land under cotton was swamped, and was, therefore, re-sown with wheat. In Dhárwár and elsewhere heavy late rains favoured the sowing of late wheat. Abmadnagar is exceptional, because cotton, sown early, occupied much land, which but for promising early rain would have been kept for wheat.

Other Cereals.-Other cereals give a net increase of 4 per cent.; the increase
 being specially large under vari and rúla, early cereals, in tracts where the average rainfall is too great for jowári and bajri.


Pulses.-There is a net increase of 47 per cent.; chiefly under tur ( 79 per cent.) and gram ( 23 per cent.) The increase is geueral and is due partly to favourable sowing rain, both for the early and late pulses, and in some degreo to increased attention paid to registration of mised crops and second crops under. the introduction of the Circle Inspector Staff. The tendency on the part of the village officers is to allot too small a portion of area to the minor ingredients of the numerous crop-mixtures and to evade the late inspection, by which alone the area of late after-crops of pulses can be ascertained.


Cotton.-There is a

| District, . . | Acres (0, omitted). |
| :---: | :---: |
| Dhárwar ... | $+116$ |
| Bij.pat i.. ... | +. 77 |
| Ahmadoagar | $+\quad 57$ $+\quad 1$ |
| Belgaum ... | + 38 |
| Shulapur ... | + 12 |
| N4sik ... | + 9 |
| Poona $\quad . .9$ | + 7 |
| Ahmadabad... | -- 123 |
| Broach ... | - 22 |
| Khandesh ... . ... | - 22 |
| Surat $\quad . .6$ | 14 |



Tobacco.-Tobacco gives again a decrease of 8,000 acres, or 10.5 per cent., which is chiefly found in Kaira and Kbándesh. It is attributed to the excessive rain of August, which was unfavourable for tobacco sowing.

Sugarcane.-The decrease (7,000 acres) is partly the natural result of larger growth of cane in the previous year ( 12,000 acres over 1890-91); for, usually the crop is grown in rotation. Further, the deficiency of last year's rain at the time when the now reported crop was planted, made growers cautious, and the bad season made capital scarce.
arge increase of 181,000 acres, or 7 per cent., bringing back the fall last year in the Karnátak owing to scanty rain. The large - increase in Ahmadnagar, where cotton is grown as an early crop, has already been noticed under wheat. $\Lambda$ similar, though smaller, increase appears in other Deccan districts. In Khandesh, however, where very carly rain is red quired for cotton, the season was unsuitable, as was exemplified on the Government farm. In Gujarát Augast raiu both restricted sowings and eutailed complete failure of cotton in much land,' which, low: ever, was immediately put under wheat.

- Oil-seeds.-These shavt on the whole a net decrease of 0.5 per cent. There is a large increase under kharif crops of sesame and niger, which is counterbalanced by an equally large decrease under rabi crops of safflower and linseed. Linseed is largely grown with late jowári and wheat, as also saflower with the latter and its area is curtailed with that of sattoiwer, because lảte jowári was displaced by bajrīand̈ early jowári.

Sesame and linseed have been specially dealt with in the forecasts. As these are specially important, the following detailed notice appears advisable :-,

Under Sesame there is a net increase of 67,000 acres, or $29 \cdot 5$ per cent., a general decrease in Gujarat ( $-16,000$ ) with a general increase in the Deccan! and Karnatak $(+84,000)$. In Gujarit the rain of September, in which month the crop is generally sown, was excessiye, aud the damaged crop had to be removed. Where sown with bájri it was crowded out by the luxuriance of the bajri crop, and at the inspection was rightly credited with a small area: Timely sowing rain following previous year's scarcity encouraged extended sowing in the Deccan and Karnátak.

Linseed is chiefly grown in. the Deccan and Karnatak. Aldecreased area is chiefly attributed to the extended cultivation of Eharif crop owing to..favourable early rains which resulted in a general contraction of all rabi crops;

Potato.-The area under this crop is 8,700 acres against 9,800 aeres of last year. The decrease of 1,100 is chiefly confined to Poqna (9:0Q), and is no doubt due to the bángdi or ring-disease noticed in paragraph 30 which has seriously. checked the progress of potato cultivation.

Green Fodder.-Lucerne and hot weather joxari are the only two important crops under this head. The former is confoed to Poona (425), : Ahmadnagar (382), 'Tbána-(130) and Násik ( 66 acres). Hot weather jowáríshows a'small net decredse from 18,500 to 18,145 acres, the decrease ( 1,800 ) in Gujarat being counterbalanced by an equally large increase ( 1,900 ) in the Deccan.

Kharif and Rabi Crops.-The details given in the appended table show varia: tions uurler kharif and rabi cereals and pulses ;-

37

| Year. | Area in Acres (000 omitted). |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Kharif. |  | rabi. |  |
|  | Cereals. | Pulses. | Cereals. | Pulaes. |
| $\begin{aligned} & 1891-92 . \\ & 1892-93 . \end{aligned}$ | 10,664 | 1,403 | 7,56 ) | 792 |
|  | 12,246 | 2,235 | 5,65; | 980 |
|  | + 1,582 | $+832$ | -1,914 | $+188$ |

Detailed comment on particular crops has already explained the variations.
50. I now give the usual tables showing the distribution of crops. Statement A shows the distribution of the principal crops in each district. Sind is included in this statement. Statement B slows the proportion which the area of each crop in each district holds with respect to the gross area of that crop in the Presidency Proper:-
A. - Distribution of Crops -Percentages shown on District Areas.

B.-Distribution of Crops-Percentages shown on Presidericy Area.

51. Oattarn of Crops.-The following table gives the anna valuation of the outturn of the principal crops in each district. The raluation (by Mámlatdars). purports to conform to the prescribed standard, i.e. 16 annas represent an average crop. The table must, however, be taken as representing a merely approximate estimate.

Approximate Anna Valuation of Principal Crops in each District, 1892-93:



Nots.-In the above table the valuations ere calculated ou the standard by which 16 annas represent an average cropy
The outturn was, on the whofe, fairly good. 'It would have been much better but for the injurious rain of August in Gujarát and of October in the Deccan and Karnátak. Paddy, wheat and gram yielded fairly average harvest all over. Jowári, bájri and cotton did fairly well.
52. Fruit-Trees.-Increase is reported except under jack and date-palm. The increase is large in cocoanut aud mango. The attempt to show the number of important fruit-trees is continued. It may not be accurate, but it shows the distribution well. 'Irees in forest and on village sites are not enumerated.

Fruit-trees (exclusive of Ratnáairi).
(000 omitted.)


The enumeration includes a special estimate of trees of local value in par ticular districts, thus :-


## Return $\mathbb{N} \mathbf{O}$. IV.-Irrigation.

53. The net irrigated area in the year under report amounts to $3 \cdot 18$ per cent. of the net area cropped in the Presidency Proper, and 86.71 per cent. in Sind, as against $3 \cdot 23$ and $87 \cdot 31$, respectively, last year.

The yariations under the principal sub-heads are shown below:-
Irrigated Area.

| No. | Detail. | Presidency Propre miclusivi of Ratidgiri. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Acres (000 onitted). |  | Increase per cent. | Decrease per cent. |
|  |  | 1891-92. | 1892-93. |  |  |
|  | A.-Area Irrigated. |  |  |  |  |
| 1 | Irrigated from canals - ... . ${ }^{\text {a }}$ | 131 | 123 |  | $6 \cdot 1$ |
| 2 | Do. from tanks, wells, \&c. | 659 | 673 | 2.1 | ... |
| 3 | Total Area Irrigated ... | 790 | 796 | 0.7 | . $\cdot$ |
|  | B,-Crops Irrigated. |  |  |  |  |
| 4 | Rice ... ... ... .. | 152 | 145 |  | $3 \cdot 9$ |
| 5 | Wheat ... ... ... ... | 153 | 197 | $28 \cdot 7$ | ... |
| 6 | Sugarcane ... . .. ... | 74 | 67 | $\ldots$ | - 9.4 |
| 7 | Uther Crops ... ... | 4.96 | 498 | 0.4 | . . |
| 8 | Total Crope Irrigated ... | 875 | 908 | $3 \cdot 7$ | ... |

Note. - The clference between columns 3 and 8 is due to the inclusion, in column 8, of the area cropped under irrigation more than once.

The chief variations in the areas irrigated from various sourcos are noted in
 the margin. Canal irrigation shows a considerable decrease in tracts of the South Deccan, where the rainfall was very scant last year, and the demand for water unusually large. In tracts where owing to more certain rain the irrigated area is not so variable, the full supply of the canals made a larger area possible. Kaira is exceptional. Area irrigated from tanks and wells gives a general increase as might be expected, when it is noticed that the increase is chiefly conspicuous where irrigation from tanks and running streams (pathasthal) is most practised. Kaira is again exceptional. The probable reason is that dry-crop cultivation under favourable rainfall promised sufficiently good results. In Ahmadnagar the derease is not so easily explained.

Among irrigated crops wheat shows a general increase of 44,000 acres, chiefly in Poona ( $+11,000$ ), Násik $(+10,000)$ and Sátára $(+7,000)$. Sugarcane and rice show a decrease of 7,000 and 6,000 acres, respectively.

## ReturnTNo. V.-Agricultural Stock.

54. Cattle exhibit àtal increase of 296,000 or 3.8 per cent. The increase occurs under all heads, except that sheep give a small decrease of 31,000 or 1.5 per cent. The result of the enumeration under principal heads is shown in the following table:-

Agricultural Stock.


[^0]The district variations are noted below :-

| No. | District, |  |  | Plough <br> Oxon. | Cows. | Shebuffaloes. | Young Stock. | Totai Cattle. | Sheep. | Goats |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
| 1 | Ahmadabad ... .. |  |  | $\begin{array}{r} -1,627 \\ -2,763 \end{array}$ | $\begin{aligned} & +2,642 \\ & -1,007 \end{aligned}$ | +998 | +2,276 | +3,677 | -2,258 | +1,149 |
| 2 | Kaira ... |  |  |  |  | -633 | -2,115 | -6,211 | -4,284 | $-1,702$ |
| 3 | Paoch Mahils |  |  | +9,427 | +5,901 | +2,502 | +2,948 | +19,707 | +386 | +2,758 |
| 4 | Broach ... |  |  | + 1,212 | $+247$ | +888 | +1,714 | +4,045 | -1,277 | +2,335 |
| 5 | Surat |  |  | - 69.7 | -5t | +535 | -1,065 | -697 | -2,586 | -2,064 |
| 6 | Khíndesh . |  |  | $+4,7 \overline{5}$ | +6,201 | +4,723 | +31,271 | +47,241 | +4,392 | +35,565 |
| 7 | Násik . |  |  | +10,425 | +9,883 | +1,937 | +17,741 | +44,921 | +15,530 | +17,778 |
| 8 |  |  |  | +10,936 | +6,946 | +1,425 | +22,506 | +44,060 | +18,824 | + 31,615 |
| 9 | Ahmadnagar |  |  | +12,678 | +12,25t | +565 | +8,291 | +35,072 | +908 | +35,293 |
| 10 | Sholapur |  |  | +9,942 | +4.99! | +520 | +2,819 | +16,986 | -14,081 | +21,305 |
| 11 | Eátira |  |  | +4,984 | +7,915 | +2,132 | +10,896 | +25,066 | -23,184 | +16,462 |
| 12 | Belgaum |  |  | +8,645 | $+4,541$ | +5.666 | -9,034 | +9,415 | -14,640 | +3,461 |
| 13 | Bijapar |  |  | +12,345 | +10,569 | +4,576 | $-5,508$ | +24,185 | +6,210 | +13,841 |
| 14 | Dhárwar |  |  | +11,727 | $-1,215$ | +2,354 | -11,204 | -4,032 | -14,476 | -378 |
| 15 | Tluána |  |  | +5,415 | +6,621 | +959 | +8,212 | +20,369 | +442 | +2,460 |
| 16 | Kolibs |  |  | +1,115 | +4,58:3 | +1,219 | +6,535 | +16,244 | - -304 | +1,676 |
| 17 | Kánara |  |  | $-2,489$ | -4,176 | $-1,805$ | +7,589 | -4,305 | -465 | -678 |

Cattle.-All districts of the Presidency Proper, except Kaira, Surat, Dbárwár and Kanara, show a general increase. The increase is especially large in the Deccau and Karnatak, where owing to scarcity of fodder there was a considerable shrinkage in the previous year. The general increase indicates a prosperous year. In Gujarát the increase is marked in the Panch Muhals and is attributed to new births and to influx from outside induced by plentiful supply of fodder. In Poona the increase is partly attributed to inclusion of cattle withiv municipal and cantonment limits. In Thána, advances made to cultivators fur purchasing cattle are said to havo helped the increase. Decrease in Kaira is credited to sale of spare cattle, and in Dhárwár to sale and deaths caused by effects of last year's scarcity of fodder. Decrease in Kánara is caused by return to their home of cattle taken to Kánara last year in search of food.

Sheep and Goats.-Sheep show a small decrease, while goats a larger increase. Sheep appear to have decreased in soutli Deccan and Dhárwár. Goats have increased in 13 districts. The increase is very large in the Deccan and in Bijapur. Return of flocks at the end of scarcity is said to be one of the causes. It must, however, be noticed that the enumeration of herds of sheep and goats is specially defective owing to the roving habits of herdsmen.

Horses and Ponies: also exhibit an increase, chiefly in the Deccan, Abmadnagar ( $+2,400$ ), Khándesh $(+1,300)$ and Poona ( $+1,7002$.

## C-CROP EXPERIMENTS.

55. As noted in last year's report, the work of crop experiments was carried out on an extended scale under the orders of Government (Government Resolution No. 8139, dated 13th October 1892). In all, 127 experiments on. crops noted in the margin were conducted during $1892-93$ as against 83 in the year before, showing an increase

Rice 28 ; wheat 29 ; pulses 19 ; kodra and other hill millets 12 ; mixed crops 10; jowári 9; oil- seeds 7; potatoes and cotton 3 each; bájri and onions 2 each; sogarcane 2 and navani 1. of 50 per cent. Of these 54 were reported from the Northern, 39 from the Central and 34 from the Southern Divisions. A separate report on these experiments will shortly be submitted to Government as usual.

## D.-FORECAST OF SEASON, 1893-94.

56. There was a remarkable and very unusual rainfall in May, which, however, favoured early sowings of rice in the Konkan and of eotton in Khándesh. The June rain was unusually heavy in Gujarát and north Konkan, but deficient in parts of the Karnátak. This irregularity continued through July, for the July rain was generally deficient for young crops in the Deccan and Karnátak and for rice transplantation in the Konkan, but in Gujarat the break proved beneficial for completing kharif sowings delayed by incessant heavy rain. Serious injury from rats and caterpillars was reported at this time in parts of the Karnatak and Deccan. August rain was generally seasonable and sufficient t $_{\text {: }}$ and injury from rats began to lessen. Rainfall in September. was also favourable for standing.
kharif crops and for rabi sowing, except in parts of the Karnátak (especially Dhairwar) and the Deccan, where it was deficient. Good rain has fallen in October throughout the south Deccan and Karnátak, where it was most needed, being favourable for standing kharif crops and promising a good rabi harvest. Prospects of the autumn crops are decidedly good all over the Presidency. The anxiety paturally arising from initial irregularity has been removed.

## VIII.-TRADE AND TRADE STATISTICS.

57. A detailed report on rail-borne traffic on the figures compiled by the Examiner of Guaranteed Railway Accounts for the year ending 31st March 1893 bas already been submitted to Government with a separate report for Sidd with reviers. The trade registered is shown below:-

| Year. | Prisidency Proper. |  |  |  | Sind. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | External Trade. |  | $\begin{gathered} \text { Local } \\ \text { Trade. } \end{gathered}$ | Total | External Trade. |  | LocalTrade. | $\begin{aligned} & \text { Total } \\ & \text { Trade. } \end{aligned}$ |
|  | Imports. | Exports. |  |  | Imports. | Exports. |  |  |
|  | Maunds, 1 maund $=32 \mathrm{lbs}$. (00000 omitted). |  |  |  |  |  |  |  |
| Average ... ... | 302 | 98 | 294 | 694 | 80 | 21 | 70 | 171 |
| 1891-92 ... ... | 383 | 118 | 333 | 834 | 185 | 33 | 86 | 254 |
| 1892-93 ... ... | 342 | 112 | 300 | 754 | 57 | 27 | 51 | 135 |
| Increase + or decrease - over average ... ... | +40 | +14 | +6 | $+60$ | -23 | +6 | -19 | -36 |
| Increase + or decrease - over |  |  |  |  |  |  |  |  |
| last year ... ... | -41 | -6 | -33 | -80 | -78 | -6 | -35 | -119 |

.The total trade of the Presidency Proper during 1892-93 was $8 \cdot 64$ per cent. above average, but $9 \cdot 59$ per cent. below that of last year ; while the total trade of Sind decreased by 21 and $46: 85$ per cent. as compared with average and with last year respectively.

The road-borne trade was, as usual, registered at six selected nákas. Road trafic was also registered by the Public Works Department in parts of Gujarát.
IX.-ARCHEOLOGY.
58. No reports on the subject have been received from the District Officers under Government Resolution No. 1672, dated 13th April 1889, General Department.

## X.-MINERAL STATISTICS.

59. The annual return of minerals was submitted to the Government of India in June last in the much abridged form now prescribed. .

The grant of a prospecting license in Bijapur noticed in last year's report has been deferrod pending the settlement of terms in consultation with the Remembrancer of Legal Affairs.

## XI.-COLLECTIONS FOR the IMPERIAL INGTITUTE.

60. The collection of silk and cotton products and manufactures referred to in paragraph 77 of the last year's report was made and sent to the Imperial Institute.

## CONCLUSION.

61. Mr. Mollison, the Superintendent of Farms, thrice inspected the Bhadgaon Farm and conducted its sale. The special potato experiments at Khed were conducted under his direct supervision, and visits to Khed were frequent. He attended the Abmadnagar Horse Show, accompanied Mr. Cappel to Hyderabad to report on the oapabilities of the local farm, and purchased at Karíchi, Sind, milch cattle for the Poona Farm and the Ceylon Government. The working of the Poona Farm and the Ganesh Khind gardens was conducted under his supervision. He also conducted the duties of Joint Secretary to the Empress Gardens
now under the $\boldsymbol{\Lambda}$ gri-Horticultural Society of Western India. He reviewed the reports of the Experimental Farms, and Horse, Cattle and Agricultural Shows, and studied and prepared the review of crop experiments for my annual report thereon. He personally made three crop experiments. IIe gave lectures for the prescribed courses at the College of Science. Mr. Mollison's local experience has been greatly enlarged, and his services are not only highly valuable, but he has proved how short a time is required for an agricultural expert to master new systems of agriculture. His special attention is being directed to the improvement of dairy breeds of cattle-a subject which his experience enables him to take up thus early in his Indian service.

Mr. Mehta's services are temporarily lost to the Agricultural Department by his transfer, on the sale of the Bhadgaon Farm, to the Survey Department, especially with a view to his qualifying for the post of Divisional Inspector, Land Records and Agriculture, in the Northern Division.

The Assistant to the Agricultural Chemist to the Government of India lectured at the College of Science on agricultural chemistry from June to September.

My Personal Assistant Ráv Bahádur Ichhárám Bhagvándás has maintained his high character for zeal and ability. Though the amalgamation of the Survey and Agricultural Departments has made my charge very heavy, the work has not fallen into serious arrears-thanks to the devotion to duty shown by my two Personal Assistants, Mr. Ichhárám in the Land Records and Agricultural Branch and Mr. H. V. Sáthe in the Survey Branch, which has secured like energy from the Superintendents and subordinate members of the large office.

I have the honour to be,
Sir,
Your most obedient Servant,
E. C. OZANNE,

Survey Commissioner and Director,
Land Records and Agriculture.

## STATISTIOS.

A.-RAINFALL.

## EXPLANATORY REMARKS.

Rain Pcriocls and their dutce.
Early Raius ... ... ... ... ... ... 1st January-10th April.
Snte-Monsoon-
11th Apriil to 4th June ... $\left\{\begin{array}{lll}\text { Aslivini } & \ldots & \text {... 11th April-24th April. } \\ \text { Bbaravi } & \ldots & \ldots \\ \text { 25th April-8th May. }\end{array}\right.$
11th April to th June ... $\left\{\begin{array}{llll}\text { Krittika } & . . . & . . & 9 \text { th May-22nd May. }\end{array}\right.$
Rohini ... ... 23rd May-4th June.
Monsoon-Kharif-
5th June to I4th August. $\left\{\begin{array}{llll}\text { Mrig... } & \ldots & \ldots & \text { 5th June-10th June. } \\ \text { Ardra } & \ldots & \text {... } & \text { 20th June-1rd July. } \\ \text { Punarvasu } & \ldots & \text {... } & \text { 4th July-17th July. } \\ \text { Pushya } & \ldots & \ldots & \text { 18th Julg-31st Joly. } \\ \text { Ashlesha } & \ldots & \ldots & \text { 1st August-14th August. }\end{array}\right.$
Munsoon-Rabi-
(Magha ... ... 15th August-27th August.

- 15th August to 21st Oct . $\left\{\begin{array}{llll}\text { Magha } & \ldots & \text {... 15th August-27th August. } \\ \text { Prra } & \ldots & \text {... 28th August-10th September. } \\ \text { Utara } & \ldots & \text {... } & \text { 11th September-24th September. } \\ \text { Hast... } & \ldots & \text { 25th September-7th October. }\end{array}\right.$
... ... 8th October-21st October.
Late Rains-
22nd Oct. to 30th Nov ... $\left\{\begin{array}{llll}\text { Sváti } & \ldots & \ldots & \text { 22nd October-3rd November. } \\ \text { Vishákha } & \ldots & \ldots & \text { 4th November-17th November. } \\ \text { Anurádha } & \ldots & \ldots & \text { 18th November-30th November. }\end{array}\right.$
December.

The average given in the tables is that for eleven years ending 1892, except for very few statinns. The rainy days are compared with last year only.

The anna valuation given in the remarks is on the basis of 16 annas representing an average crop.

## iii

Synopsis of Rainfall Summary, 1892-93.


West Khándesh， 1882.

| Rain Periods． | Difuri． |  | Pinfalisere |  | Nanderba＇r． |  | Nata＇pur． |  | Taloda． |  | Sua＇midn． |  | Stirfur． |  | Sinditirda． |  | Amalner． |  | Pa＇rolat． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall． | $\begin{aligned} & \dot{\Delta} \\ & \text { 岇 } \\ & \text { 合 } \\ & \stackrel{y}{3} \end{aligned}$ | Fall． |  | Fall． |  | Fall． |  | Fall， |  | Fall． |  | Fall． | $\begin{aligned} & \text { 宮 } \\ & \text { 岂 } \\ & \text { 霽 } \end{aligned}$ | Fall． | $\begin{aligned} & \text { 感 } \\ & \text { 感 } \end{aligned}$ | Fall． |  | Fall． | 管 |
|  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | Iv． |  |
| Earls Rains ．．． | $\cdots$ | －＊＊ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | 0.09 | $\cdots$ | $\cdots$ | ．．． | ．${ }^{\prime \prime}$ | $\cdots$ | $0 \cdot 05$ | ‥ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ |
| Ante－dionsoon | 2－31 | 3 | $1 \cdot 60$ | 4 | $2 \cdot 43$ | 2 | $2 \cdot 22$ | 9 | $1 \cdot 00$ | 2 | $2 \cdot 40$ | 1 | 8.97 | 4 | 170 | 1 | $0 \cdot 06$ | 1 | 1 30 | 4 |
| Monsmon－Kharif－ | 8.37 | 29 | c． 21 | 13. | 13－72 | 23 | 22.87 | 35 | 18.38 | 35 | 17－23 | 94 | 8．73 | 22 | 11－25 | 19 | 10－52 | 15 | 14．39 | 27 |
| Monsoor：－Rali | 12：38 | 21 | 12.28 | 16 | 11．29 | 20 | 17．69 | 24 | 13－24 | 21 | 12.58 | 19 | 11.84 | 17 | 9038 | 14 | $14 \cdot 31$ | 20 | 28.01 | 23 |
| Late Rains ．．． | 0.91 | 3 | 1.73 | 3 | C． 25 | 1 | $1 \cdot 31$ | 2 | $2 \cdot 15$ | 1 | 0.63 | 1 | 0.71 | 8 | 0.79 | 2 | $0 \cdot 52$ | 8 | 2•36 | 8 |
| Tutal | 2i－37 | 49 | 24＊32 | 96 | 20.69 | 46 | 44．19 | 64 | 34．72 | 69 | 82．84 | 55 | 25－30 | 46 | $22 \cdot 81$ | 86 | $26 \cdot 61$ | 39 | 41.06 | 60 |
| Average ． | $27 \cdot 01$ | 34 | 24－37 | 33 | 32－31 | 37 | 35：08 | 52 | 83．90 | 42 | 30．09 | 35 | 28－77 | 41 | 21.52 | 35 | 28.33 | 35 | 32－51 | 40 |

General characteristics，－A billy and rogged tract，except where the wide black－soil plains extend ou either side of the Tápti and its tributarics．Rainfall very heavy in the Dángs．
liemarls．－Rainfall below average only at Nandurbar．Owing to favourable ante－monsoon showers the fields were ready prepared for kbarif sowings，which generally commenced with Mrig rain，but a long break immediately following，a portion of the kharif area remained unsown till good rain in early July had come．August opened（A＇shlesha）with favourable rain for the young croprs which was fcllowed（Magha）by a partial break，useful for weeding．Heavy rain fell in Septemberi which，though untimely and excessive for bajiji and other minor crops，was on the whole benefictial． A rery valuable break followed in late September（Hast），and the damaged crops considerably itm－ proved．Sváti rain is nearly always bad，and showers in this rain period were again injurious tôo bájri and cotton ready for harvest，though useful for rabi sowings which，were completed by the end of November．liabi crops were generally good except whero slightly damaged by unseason－ able rain coming at the time of harvest．The season was on the whole good．Outturn of kharif crops estimated at $8-16$ aninas and that of rabi at 12 annas．

East Khándesh 1892.

| Rain Periods． | Cha＇lig－ GAON： |  | P4＇ghora， |  | BHade GAON， |  | Erandoln |  | Chopda |  | Jalgajor． |  | Ja＇miner |  |  |  | Edal $=$ ABAD． |  | SA＇vDA． |  | Ya＇vai． |  | Ra＇ver |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall． |  | Fall． |  | Falu． |  | Fall． |  | Fall． | $\begin{aligned} & \text { 感 } \\ & \text { 它 } \\ & \text { 品 } \end{aligned}$ | Fall． |  | Fall． |  | Fall． |  | Fall． |  | Fall． |  | Fall． | $\begin{aligned} & \text { b } \\ & \text { 感 } \\ & \text { 鿖 } \end{aligned}$ | Fall． |  |
|  | In． |  | In． |  | In． |  | 10. |  | In． |  | In． |  | In． |  | In． |  | $\mathrm{In}_{0}$ |  | In． |  | In. |  | In． |  |
| Early Rains |  |  | $\ldots$ | －．． | $\cdots$ | $\cdots$ | ＊－ | $\cdots$ | $\cdots$ | ：．．． | 0.08 | $\cdots$ | ．．－ | －${ }^{\circ}$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | －．．． | $\bullet$ | $\cdots$ | －． |
| Ante－Monscon ．－－ | 0.30 | 2 | 0.45 | 1 | 0.27 | 2 | 0－65 | 2 | 1.81 | 4 | 1－13 | 4 | 0.15 | 1 | 0.55 | 2 | $\cdots$ | ＊＊ | 0.33 | 1 | 0－16 | 1 | $2 \cdot 68$ | 6 |
| Monsoon－Kharif ．．． | $20 \cdot 47$ | 24 | 15－58 | 27 | 12－85 | 28 | 16．71 | 29 | 14．09 | 23 | 13－74 | 25 | 20＊88 | 27 | $10 \cdot 63$ | 25 | 15．88 | 22 | 15．39 | 20 | 12．55 | 20 | $11 \cdot 70$ | 19 |
| Monsoon－Rabi ．． | 24－65 | 27 | 32－10 | 27 | 28.37 | 29 | 25－20 | 23 | 17－34 | 20 | 20－14 | 23 | 24r46 | 25 | 22－4 | 23 | 1716 | 20 | 22．03 | 21 | $22 \times 20$ | 23 | 18－35 | 25 |
| Jate Rains |  | 6 | 1－91 | 4 | 3.28 | 7 | 1－63 | 5 | 0.75 | 2 | 2．39 | 6 | ．8162 | 8 | $4 \cdot: 9$ | 6 | ．1380 | 9 | 8－87 | 6 | 0．75 | 1 | 2＊00 | 5 |
| Total | 46.62 | 89 | 50.04 | 59 | $42 \cdot 75$ | 68 | 44．18 | 89 | $33 \cdot 89$ | 49 | 87－4．5 | 57 | $40 \cdot 21$ | ． 18 | 43．83 | 56 | $34 \cdot 51$ | 45 | 41.08 | 48 | $85 \cdot 68$ | 45 | 35•3 | 65 |
| Average ．．． | 36．01 | 41 | 34．33 | 34 | 80：69 | 35 | 35．17 | 80 | 82412 | 44 | 86－20 | 43 | 87－23 | 48 | 86．32 | 89 | 30．14 | 40 | 32．33 | 38 | 29：80 | 88 | 82－21 | 40 |

General characteristics．－In－the north；high bills of the Satpudas．The soathern and western portions are also hills，bat the hills less high and continubus．Drainage by the Tápti，the Girna and the Parna．Rainfall larger than in the West Khándesh，but less certain，

Remarks．－Rainfall generally aboveaverage．Ante－monsoonshowers，though less heavy than in west，were on the whole favourable for preparing land．Kharif sowings commenced after general rain of Mrig and continued favourably under occasional fair showers in late June．Early July rain was favourable except in south－western talukas where sowings retarded till end of that month． Angust rain falling at short intervals was very beneficial to standing crops．Uttara rain，however， was heavier than in the western division and was very injurious to crops especially in the Girna valley．The break at end of September improved prospects considerably．With the heavy rain of Uttara there was little need of more rain，but it came in the Sváti rain period and was too abandant as well as unseasonable．It damaged ripe cotton，bajri，\＆c．，and was injurions to rabi seedlings，The rabi crops were further damaged by unseasonable rain at the time of harvest． Season was on the whole fair．Kharif outturn estimated at 6－12 annas and rabi at 8－16 annas．

Násik， 1892.

| Rain Perlods． | Na＇sis． |  | Iastpodt． |  | Sinsal． |  | Nipis＇d． |  | Yroum |  |  | Nu＇nde |  |  | M Ms＇LI． |  | S．tra＇te． |  | Kalus． |  | Cras． |  | Dispori， |  | Pesmy． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall． |  | Fall． | 宮 | Fall． | 成 | Fall． |  |  | Fall． |  |  | Fall． |  | Fall， |  | Fall． | 安 | Fall． | 安 | Fall． | 㝘 | Fall． | 蕀 | Fall． | 㫛 |
| Larly Rains | In． |  | In． |  | mm ． |  | In． |  |  |  | － |  | 1n． |  |  | In， |  | - | In， |  |  | － | In． |  | ${ }^{12}$. | － |
|  | 08 | $\left.\begin{array}{c} \cdots \\ 8 \end{array}\right\}$ | $\stackrel{.}{2 \cdot 02}$ | … | ．．． | $\begin{array}{c\|c} . . . \\ \cdots & 2 \\ \hline \end{array}$ | $\begin{gathered} \cdots \\ \text { 2-75 } \end{gathered}$ | $\cdots$ |  | $\begin{gathered} . . \\ 1.05 \end{gathered}$ | －． | $\begin{array}{l\|l} \cdots \\ \hline \end{array}$ |  | $\begin{gathered} \cdots \\ 8 \end{gathered}$ | $\cdots$ | ．．． | － |  | － |  | ． | ．．． | － 3 |  | $\begin{aligned} & 0.48 \\ & 8.37 \end{aligned}$ | 1 |
| Antemongoon ． <br> Mensoon－Kharil ． | ． 2 |  |  |  |  |  |  |  |  | 1 |  |  |  | 0.81 |  | 1 | 2＇60 | 8 | 3.05 | b | $\cdots$ |  |  |  |
|  | $14 \cdot 40$ | 29 | 85.68 |  |  | 25 | 18.45 | 31 |  |  | －36 | 23 |  |  | $13 \cdot 13$ | 21 | 12．46 | 16 | i•13 | 18 | b่ 39 | 25 | ． 80 | 84 | 1405 | 20 | $38 \cdot 02$ | 2 |
| Monsoon－Rabi | 54 | 22 | 47.601.55 |  |  |  |  | $\left.\begin{array}{r} 20 \\ 1 \end{array} \right\rvert\,$ |  |  | ${ }^{21}{ }^{21}$ |  | $\begin{gathered} 21 \cdot 47 \\ 0.80 \end{gathered}$ | $\begin{gathered} 21 \\ 4 \\ 2 \end{gathered}$ | $\begin{gathered} 23 \cdot 22 \\ 0.56 \end{gathered}$ | $\left.\begin{gathered} 22 \\ 1 \end{gathered} \right\rvert\,$ | $\begin{gathered} 15 \cdot 88 \\ 1.07 \end{gathered}$ | $\begin{gathered} 23 \\ 2 \end{gathered}$ | $\begin{aligned} & 15 \cdot 62 \\ & 0.37 \end{aligned}$ | 242 | 0．50 | $\left.\begin{array}{r} 24 \\ 2 \end{array} \right\rvert\,$ | $10 \cdot 14$ | 25 | 15.500.30 | 1 |
| Late Rains | B8 |  |  |  |  |  |  |  |  |  |  |  | 0.40 |  |  |  |  |  |  |  |  |  | 1 |  |  |
| Total | 35．14 | 60 | 188.73 |  |  | 51 | 37－46 | 31 |  | 91 | 49 |  |  | 35．83 | 48 | 96．70 | 40 | 2279 | 42 | 26407 | 53 | \＄0．85 | 64 | 91.65 | 68 | $8 \cdot 57$ | $\frac{1}{01}$ |
| Average | 38.74 | 43 | $141 \cdot 10$ |  |  | 38 | 25.97 | 81 |  | $\cdot 78$ | 33 |  | $4 \cdot 11$ | 87 | 25.24 | 84 | 25－10 | 30 | $20 \cdot 67$ | 84 | 31.41 | 38 | 33．05 | 42 | 41 | $\frac{010}{06}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

General characteristics．－The district is divisible into the Desh（or open country）and the Dángs（near the Sahyadris with heavy rainfall and primitive cultivation）．The west portions of Násik，Dindori and Igafpari and the whole of Peint belong to the Dangs．

Remarks．－In the Desh rain up to or above average，while in the Dángs（Igatpari and Peint） though not perceptibly below arerage it was spread over the unusual number of days，e．$g$ ．，in Igatpuri where there were，with a less total；many more rainy days than usual．This feature is noticeable throughout the district．Ante－monsoon showers in Rohini were favourable for preparing land and for sowing catch（tashár）crops in the Desh，and rice，nagli，\＆c．，in Dángi talukas．Kharif sowings were late，commencing after fair showers at evd of June（Ardrá），but were nearly com－ pleted at end of July except in east，where owing to scauty rain in middle of July sowings retarded and sown crops sulfering．Rainfall in Angast was generally favourable for standing crops and for completing kharif sowings in east．September（Purraand Uttara）rain．though slightly excossivo for cotton，bajri，til，\＆cc．，in the Desh，was on the whole seasouable．The damaged crops were im proved under the favourable break in October．Sváti showers in latter part of October，though slightly injorious to harvested and ripe bajri，were favourable for rabi sowing．llabi crops were geperally gcod，but slightly damagad by rats in Málegaon．Seison was on the whole good．Oat－ turn of tushár crops was generally $6=10$ annas，but in Chándor 20 annas．Kharif outturn estimated at 20 annas in Násik and 4－8 annas in Nandgaon ；elsewhere 10－16 annas．Rabi outtarn was 12－20 annas，except Yeola and Satána，where 6 to 8 annas．＂
Ahmadnagar， 1892.

| Rain Periods， | $\frac{1}{\text { NAGAX. }^{\circ}}$ |  |  |  | $\left\lvert\, \begin{array}{ll} \cdots & \mathbf{g}^{-} \\ \text {SizEIGONDA. } \end{array}\right.$ |  |  |  |  |  | SEEveion. |  | Nsvise |  |  |  |  |  | $\begin{gathered} 10 \cdots \\ \text { SARGAYMa. } \end{gathered}$ |  | $\text { AroLa. } 11$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall， |  | Fall． |  | Fall |  | Felle | $\left.\begin{gathered} \text { 合 } \\ \text { 突 } \\ \text { 总 } \end{gathered} \right\rvert\,$ | Tall． |  | Fall， |  | Fall． |  | Fall． | 啇 | Fall． | 域 | Fall． |  | Fall， | 彦 |
|  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | In． |  | 10． |  | In． |  | In． |  |
| Larly Rains | －$\quad$－ | ．．． | 0.11 | 1 | $\cdots$ | $\cdots$ | － | $\cdots$ | － | $\cdots$ | $\cdots$ | ． | $\because$ | ． | $\cdots$ | ． | － | $\cdots$ | $\cdots$ | － | ． | ． |
| Ante－Monsoon | $8 \cdot 0$ | 6 | 2．38 | 5 | s＇89 | 5 | 1.95 | 5 | 5058 | 8 | 2．32 | 5 | 1.20 | 5 | 2－29 | 5 | 0.88 | 4. | $1 \cdot 37$ | 6 | 1.18 | 8 |
| Monsoon－Kharit ． | ． $10 \cdot 72$ | 28 | 17.78 | 29 | 10.74 | 14 | $10 \cdot 26$ | 15 | 15 ： 84 | 23 | 1510 | 19 | $0 \cdot 38$ | 21 | 1－69 | 20 | 0.84 | 29 | $10 \cdot 09$ | 20 | $16 \cdot 0$ | 25 |
| Monsoon－Rabl | 14．11 | 28 | 18.87 | 25 | 12.86 | 18 | 11－38 | 18 | 18.04 | ． 26 | $15 \cdot 17$ | 23. | $10 \cdot 6$ | 16 | 14.45 | 18 | 15.61 | 19 | 10.81 | 19 | 12．81 | 2） |
| Late Raing | $5 \cdot 38$ | 6 | 9．81 | 6 | $2 \cdot 57$ | 8 | $5 \cdot 08$ | 4 | 3008 | 7 | 9．44 | 7 | 778 | 8 | 4.61 | 6 | $1 \cdot \frac{1}{2}$ | ． 1 | 8．36 | 6 | $8 \cdot 68$ | 6 |
| Total | $\frac{42 \cdot 16}{}$ | 63 | $\frac{10.87}{}$ | ${ }^{83}$ | 29888 | $4)$ | $28 \cdot 62$ | 40 | 39：64 | 64 | 42．12 | 54 | 28.79 | 50 | $35^{\text {Ps }}$ | 40 | 2 cs | 40 | 81．11 | 47 | $33^{\circ} 57$ | 63 |
| $\Delta$ verage | $28 \cdot 8 \underline{7}$ |  | $26^{\prime 7}$ |  |  | 20 |  | 81 |  | ${ }^{36}$ | 18.50 | 95 | 28.21 | 27 | 26.01 | 27 | 20.11 | 30. | $23 \cdot 20$ | 25 | 24＊日 | 81 |

General characteristics．－（1）Desh－Godávari valley（tálakas 6 to 9）：rich alluvial plains grow－ ing much wheat．Rainfall very uncertain．Bhima and Ghor valley（tálakas 3 and 4）allavial，but less fertile．Rainfall more capricious．Good year exseptional．Talukas 1， 2,5 and 10 lie between these valleys．Alternation of bare hill and treeless plain with occasional fertile well－wooded trarts． Rain more regular．（2）Dangs－Half Akola has very heavy raid，half abats on the Desh．The record shows the fall of the plain portion．

Remarks．－Rainfall thronghout above average and number of rainy days very large．Mon－ soon commenced early in June with good showers，sufficient for eurly catch crops（tushár）and kharif sowings，except in north－west where too mach fell in the first week of Jaly．Pashya rain at end of July was rather seant，bat not so as to cause injury to young crops．Rain in Aagust， falling at short intervals，was on the whole very beneficial to standing crops．Uttara rain in middle of September was untimely for bajri，causing sproating in the ear and delaying sowing of rabi jowári．Partial break in Hast and Chitra was favourable for rabi sowing and for standiñ kharif crops．Sváti rain，however，at end of October was aunsually heary，damaging cottons reaped and ripe bajri and rabi seedlings．Sowing of wheat，gram，\＆e．；was completed in November and rabi crops generally throve well except where slightly danaged by rats and rust．Season was en the whole fair．Outturn of tushár and kbarif crups estimated at 8－12 annas，except Nagar and Karjat．Cotton was 10 annasin Nerása；elsewhere 6 andas．Rabi outtura was throughont $8-12$ ans． －971－2 $a_{F}$

Poona, 1892.


General characteridics.-The diatrict veries from a heavy certain rainfall to a most acant capricious one. Sare rain is enjoyed by the west portions of Junnar, Khed, Háveli and all of Mával. A moderate but regalar rainfall charaoterises the central belt, while the Ihhimthadi and Indapar talukas are uncertain and irregalar like the adjoining talukas of Sholappur.

Bemarks.-Number of rainy days large. Rainfall generally up to or above average. Monsoon set in with good showers early in June, and kharif sowings commenced everywhere. A'rdra rain at end of June was scant in the Mával where heary rain best. But in July the rain was throughout heavy and favourable for transplantation of rice and nagli in the Mával and for sowing bajri and other lharif crops in the Desh, except Indápar. August rain was throughout seasonable and safficient for atanding cropa, being especially heary and favourable at Indépur, where previoua rain was deficient. Rainfall of Porva and Utbara in Leptember, thoagh slightly injarious to bajri in some places, was on the whole beneficial both to atanding kharif crops and rabi sowinge The partial break in Hast was nseful, . Heary rain of Svati, however, damaged kharif cropa ready for harvest and rabi seedlings all over except Khed and Indápar, where it was less heavy and more favourable. No rain foll after Svati, and rabi crops wore generally good except where damaged by clondy weather. Season was on the whole good. Outturn of kharif orops was generally estimated at. 11-14 annas and that of rabi , wheat and gram at $10-12$ annas and kardai at 7 annas

Shole'pur, 1892.


General characterietics.- The isolated talluke of Bársi is richest, and has the enrest rain ; but the rainfall is scanty all over the district, and very capricious.

Remarks.-Numbor of rainy days very large. Rainfall throughont above average. Ante-monsoor showers were favourable for preparing land, and heavy showera of June (Mrig and A'rdra) were sufficient for kharif sowings, bat. rain was short, when sowinge were over, for young kharif crops which began to wither in places at end of July. The break, however, was well relieved by the heavy fall of A'shlesha in second week of Angust. Again after a weet's break heavy rain fell in Magha, being very favourable for standing kharif and for rabi prospects. Uttara rain in September, though exceptionally heary in Sángola, was on the whole seasonable. A favourable break followed in first half of October, but the excessive Spati rain at end of October did much damage to standing kharif and young rabi crops. No rain fell after this in November and December, and rabi crops were generally thriving. . Rabi yield, however, was slightly reduced by heavy rain at the reaping time. Season was on the whole fair. Ontturn of kharif crops was generally estimated at 6-12 annas, except Pandharpar and Malbiran, where it was below 4 annas. Rabi outturn waa generally $6-12$ annaa,

Sátára， 1893.


Generul characteristics．－Western Belt－Parts of Jávli，Pátan，Wái，Sátára and Válva，hills． Regnlar and heary rainfall．－Central Belt－East portions of above and all Korvgaon and Karád． Rich，－well－watered valleys．＇Eastern Belt－The rest chiefly a waving plain and of poor land． Uncertain rainfall，But south portion of Tásgaon rich，well－wooded plains．

Remarks．－Rainy days very numerous．Rainfall above nverage．Ante－monsoon showers fairly heavy and favournble for preparing land and for kharif sowings in west．Mrig and Ardra rain with occasional short breaks was very favourable for kharif sowings thronghoat the district． July rain was seasonable and sufficient for transplantation of rice and nágli in weat and for com． pleting kharif sowings elsewhere．The partial break in Ashlesha and Magha was good for weeding， and the general heavg rain in Parva was very beneficial to standing erops．Kainfall of Uttara and Hast was heavier in enstern rabi tracta，and，though slightly harmfal to early crops ready for harvest，was on the whole useful for standing kharif and for rabi sowinga．So far season all that could have been desired，bat beary main of Chitra and Sváti was injurious to kharíf cropa ready for harvest as well as to rabi seedlings．Rabi crops，however，were thriving by the ample moisture produced，till the harvest time when they were slightly damaged by untimely rain．Season was on the whole fairly good：Kharif outturn was estimated at 10 annas and rabi at $12-14$ annas． Sugarcane and groundnat，for which the heavy October rain was favourable，yielded a bumper crop．

Belgaum， 1892.

|  | Bryastu． |  | Chamicad |  |  |  | 8ampeatar． |  | 8avirdaty |  | Mumod． |  | Gosa＇r． |  | Chikony． |  | HDREII． |  | Arikie |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rain Perloda， | Fall． |  | Fall． |  | Fall． |  | Fall． | 腺 | Fall． |  | Tall． | $\begin{aligned} & \text { 耍 } \\ & \text { 量 } \\ & \hline \text { 曾 } \end{aligned}$ | Tall． | 㖴 | Fall． | 盛 | Fall． | 曾 | ［all | 5 5 5 0 |
|    <br> Zarly Rains $\ldots$ $\ldots$ <br> Anto－Moncoon $\ldots$ $\ldots$ <br> 8   | In． <br> 0.40 <br> 8． 59 | $\begin{gathered} \\ 8 \\ 12 \end{gathered}$ | In． |  | In |  | $\begin{gathered} \text { In. } \\ 0-92 \\ 5.91 \end{gathered}$ | － | In． | ， | In． |  | In． |  | Id． |  | In． |  | In． |  |
|  |  |  | 0.34 | 1 | 0.87 | 2 |  | 8 | 1－11 | 1 | 1.78 | 9 | $1 \cdot 60$ | $?$ | 1.55 | 4 | $2 \cdot 4$ | 2 | 0.85 | 8 |
|  |  |  | $7 \cdot 17$ | 11 | 6 －84 | 12 |  | 18 | －10 | 8 | 784 | 11 | $7 \cdot 28$ | 18 | $0 \cdot 30$ | 8 | 7720 | 10 | 4.88 | E |
| Monsoon－Kharif．．． | 2505 | 40 | 64－22 | 51 | 1070 | 4 | 074 | 24 | 7．4 | 16 | 909 | 28 | 6－84 | 21 | 10087 | 27 | 10.22 | 18 | 6.01 | 14 |
| Monscon－Rabl | 20－61 | 28 | 82－81 |  | \％ | 98 | 9－94 | 29 | 18．35 | 22 | 18.98 | 28 | 15109 | 10 | 15．17 | 24 | 7.02 | 17 | 14，78 | 28 |
| Late Rains ．．．． | $9 \cdot 37$ | 11 | 178 | 8 | 8.50 | 8 | $8 \cdot 43$ | 5 | $5 \cdot 68$ | 7 | 486 | 7 | 408 | 8 | 707 | 8 | 8.60 | 7 | 4 | 6 |
| Total | 6401 | 94 | ｜09＇07 | 107 | 70.45 | 02 | $20^{\prime} 04$ | 07 | 181．96 | 64 | 36．00 | 71 | 84＊68 | 62 | 10．45 | 71 | 12.68 | 36 | $80 \cdot 7$ | 81 |
| Average | 61－40 |  | 107．20 | 90 | 07－27 | 4 | $29 \cdot 16$ | 50 | 24.78 | 40 | $26 \cdot 64$ | 4 | 28.72 | 48 | 20．28 | 50 | 26074 | 47 | 24.07 | 48 |

General characteristics．－Near the Sahyadris the rain of the sonth－west monsoon is very con－ stant and hoavy（Belgaum and Khánápur）．Further east，Chikodi，Gokák and Sampgaon，it is fitful．The eastern túlukns show a fitful fall，brit this is supplemented by a scanty supply from the north－east monsoon（which comes．generally in October and later）．

Remarks．－Rainy days more numerous than nsual；and rainfall throughont above average． Ante－monsoon showers were useful for preparing land and valuable for commencing early sowings of rice，nagli，\＆c．，in western tracts．Rainfall in Jane，though rather deficient in sonth－west，was on the whole favourable for kharif sowings．July rain was throughout aeasnnable and aufficient for transplantation of rice and nágli and for completing kharif sowings．In Augast rain fell generally in drizzling showers，which were insufficient，especially in north．Heavy rain of Purva followed by partial break in Uttara was very useful for weeding and cotton sowing．Heary rain of Hast was very beneficial to all standing crops as well as to rabi cultivation．So far all went well．
－But the excessive fall of Chitra and Sváti in latter part of October proved very injurions to almost all crops．Very little rain fell in November，and rabi crops throve well owing to plenty of moisture produced by beavy October rain．Season was on the whole fairly good．Kharíf outturn was $8-14$ anuas．Rabi outturn was $10-16$ annas in northeast and $6-8$ aunas elsewhere．

Bijápur， 1892.


General characteristics．－This district receives its rain from both the south－west and the north－ east monsoon．Hangand enjoys an even and generally sare rainfall．Bágalhot and Bádámi fare well as a．rule．The rich plains of the Krishna and Don vallegs are nocertain．The north tálukas of Bijápur，Indi and Sindgi have capricions and light rainfall．

Remarks．－Number of rainy days very large．Rainfall throughout above average．Fair prepara－ tory showers in April and May．Mrig rain was generally light，but heavy rain followed in Ardrn and －kharff sowings commenced everywhere．July rain was light，but on the whole favourable for com－ pleting kbarif sowings．Rainfall in Augast，though slightly excessive in north，was seasonable and with the partial break in first week of September proved beneficial to standing crops and for preparing rabl lands．Heavy rain in Uttara and Hast was slightly injurious to jowári，bájri，\＆c． A short break followed in first half of October，but in the latter part of the month very heary rain fell in Sváti，being injorious alike to kharif crops and rabi seedlings．Ripe jowari and bajri were laid，and grain in the ear spronted in some places；farther sowing of rabi wrs retarded，and rabi seedling suffered from excessive moistruc．A clear break came from 5th November，favourable for kharif harvest and completing rabi sowings．Cotton and gram slightly saffered from blight and rats in some places．Rabi putturn was further reduced by heavy ran at the reaping time．Season was on the whole fair， 0 gitturn of both kharif and rabi crops was estimated at 6－10 annas．

Dhárwár， 1892.

| Rain Periods， |  |  | Mogud． |  | Hubli |  | $\begin{aligned} & \text { KaL. } \\ & \text { GIATGX. } \end{aligned}$ |  | BAMEA＇． <br> PUE． |  | Hakali． |  | EOD． |  |  |  | Kapajar． |  | Gadag． |  | Muxdarai． |  | Natal GUND． |  | Nabaund． |  | Ros． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall． |  | Fall． |  | Fall． |  | Fall． |  | Fall． |  | Fall． |  | Fall， |  | Foll． |  | Fall． |  | Foll． |  | Fall． | $\begin{array}{\|l\|l} \text { 高 } \\ \text { 宸 } \\ \text { 訔 } \end{array}$ | Fall． |  | Fall． |  | Fail． | 号 |
|  | In． |  | In． |  | In． |  | In． |  | In |  |  |  | In |  | In． |  | $\mathrm{In}_{6}$ |  | In． |  | In． |  |  |  | In． |  |  |  |
| Early Raing | 0.78 | 2 | 1.12 | 1 | 0.15 | －－ | 0.19 | 1 | $0 \times 6$ | 1 | 1－40 | 2 | 010 | 1 | $1 \cdot 2$ | 2 | $0 \cdot 10$ | 1 | 0.40 | 1 | $1 \cdot 10$ | 2 | 0.41 | 3 | 0.50 | 1 | 0.06 | ．．． |
| Ante－Monsoon ．．． | 87 | 10 | 4.56 | 10 | 3＞65 | 8 | 7 | 10 | 6.35 | 12 | $5 \cdot 2$ | 10 | s | 8 | 457 | 7 | 4.38 | 9 | $4 \cdot 72$ | 7 | 4.45 | 8 | 3．75 | $\theta$ | ： 17 | 3 | 1－93 | 6 |
| Monsoon－Kharit．．． | 84 | 28 | 16.17 | 30 | $10 \cdot 56$ | 23 | 14.36 | 34 | 1074 | 28 | $18 \cdot 33$ | 38 | 9.80 | 28 | 3－89 | 10 | 10.52 | 29 | 4－95 | 19 | 8.8 | 12 | $10 \cdot 66$ | 17 | 741 | 14 | 75 | 15 |
| Monsoon－Rab | $15 \cdot 54$ | 22 | 16.85 | 24 | 18.50 | 24 | 19.78 | 32 | －07 | 23 | 11.82 | 24 | 9.21 | 17 | 5.71 | 9 | － 08 | 19 | 17.07 | 26 | 11－15 | 18 | $23 \cdot 32$ | 28 | 18\％0 | 21 | 20.0 | 24 |
| Late Rains | 4.45 | 8 | 290 | 5 | 8.76 | 6 | $4 \cdot \mathrm{~Pa}$ | 7 | $8 \cdot 77$ | 7 | 1．96 | 6 | 0.38 | 1 | 169 | 5 | 2.87 | 6 | $2 \cdot 18$ | 6 | 8.18 | － 9 | $5 \cdot 3$ | 4 | 480 |  | $4 \cdot 1$ | 8 |
| Total | 7－26 | 69 | 4180 | 70 | 3＊62 | 61 | 46.30 | 84 | 32．06 | 71 | 38．80 | 78 | 23－25 | 5 | 17.07 | 93 | $27 \cdot 00$ | 64 | $29 \cdot 32$ | 53 | $\frac{23}{} 91$ | 49 | $\frac{43 \cdot 07}{}$ | 61 | $33^{\circ} 68$ | 42 | $\times 4.73$ | 5 |
| Average ．－．．．． | 33.19 | 61 | $38 \cdot 73$ | 56 | 28.09 | 50 | $36 \cdot 41$ | 58 | 25482 | 53 | $41 \cdot 4$ | 64 | 29.11 | 55 | $21 \cdot 63$ | 41 | 25－15 | 4 | $25 \cdot 71$ | 39 | 20.11 | 22 | 28.51 | 31 | $20 \cdot 10$ | 95 | 28 | \％ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

General characteristics．－The district is composed of hilly tracts－the malad growing rice and hill grains（Hángal，Kalghatgi and Kod）and the black－soil plains growing cotton and wheat （Gadag，Ron，Navalgund and Hubli），or cotton bat no wheat（Karajgi and Ránebennur）．The Dhírwár and Bankápar tálukas are partly malad．The soil of the malad is red and gravelly，but the rainfall is steady and comparatively heavy．It is more sure and seasonable the further to the west．The proverb says：＇Good rain won＇t give a big crop，nor will bad raia bring famine．＇This is in comparison to the fertile black－snil plains，where with good seasonable rains the produce is very large，but where the fall is irregular and uncertain，and where there is always risk of drought．

Remarks．－Rainfall above average except in sonth（Hángal，Kod and Ránebennur）．Ante－ munsoon showers fairly heary and useful for preparing land and for sowing early rice and nágli in west．Kharif sowing commenced throughout with Mrig，but did not continue well owing to scanty rain in Ardra．July rain was generally favourable for completing kharff sowings and for young crops except in north－eastern rabi talukas．Ránebennur especially suffered from a prolonged break．Heavy rain came nll over at end of Angust and was very favourable for standing crops and for cotton sowing．Uttara and Hast rain was heavy in north，where sowing of cotton，here a rabi crop，was delayed for want of a break．Heavy rain fell again in October，and，though favour－ able in south；was injurious to ripening kharif crops in north．Very little rain fell in November， and the break was very valuable for harvesting of kharff crops and for rabi sowing，It was also beneficial to cotion，which was suffering from excess of moisture．Rabi crops weris further clamaged by rain at barvest time．Season was on the whole fair．Outturn of both kharíf and rabi crops wns estimated at $8-13$ amnns．

Ka＇nara， 1882.


General claraateristics．－A hilly and thickly wooded district，divided into two parts by a broken and irregular range of hills．The low land or coast tract has the heavier rainfall；in the upland the fall rapidly decreases with the distance from the Sahyadri crest．

Remarks．－Rainy days large in number．Rainfall throughoat above average，but a very heary fall can，if seasonable，give very good resalts．Monsoon broke very early（27th May）with heavy rain，sufficient for early rice sowings which were completed by middle of Jane．Ardra rain at end of Jane was scant，and transplantation delayed till second week of July．Rainfall in July and Angust was throughout seasonable and sufficient for transplantation and weeding；crops were generally thríving，though early rice on coast was slightly damaged by heavy rain of Purva．September rain was generally light and beneficial to standing crops．Heary rain of Spati at end of October， though harmful to ripe rice especially on coast，was beneficial to late rice and garden crops in upland talukas．Season was on the whole good，outturn being estimated all round at 16 annas． Cardamoms，however，were damaged by a beetle，and the yield was reduced to half the average．

## Ratna＇giri， 1892.

| ，Raln Periods． | Ratmáoirto |  | Vemotrla． |  | Ma＇lisax． |  | Divead． |  | Ra＇jastrino |  |  |  | Caiplo＇s． |  | Gена＇asm． |  | －Krid． |  | Da＇poli． |  | М．ммр．мо．s． |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall． |  | Fall． |  | Fall． | 呙 | Fall | 荗 | Fall． | 突 | Fall． |  | Fall． | 䔡 | Fall． | 盛 | Fall， | 菏 | Fall． | 号 | Fall． |  |
|  | 10. |  | In． |  | In． |  | In． |  | In． |  | In. |  | In． |  | In． |  | In． |  | In． |  | $\mathrm{In}^{\text {n }}$ |  |
| Early Raina ．．． | $\cdots$ | $\cdots$ | ．．． | － | $\cdots$ | ．．． | $\cdots$ | ．．． | $\cdots$ | ．．． | $\cdots$ | $\cdots$ | － | ．．． | $\cdots$ | ．．． | $\cdots$ | $\cdots$ | $\cdots$ | － | ．．． | ．．． |
| Ante－Yonsoon ．．． | $9 \cdot 69$ | 5 | 12．38 | 12 | 11.05 | 8 | 13.18 | 7 | $15 \cdot 48$ | 7 | $8 \cdot 19$ | 6 | 4.48 | 6 | 4.57 | 5 | $1 \cdot 62$ | $\bigcirc$ | 8.69 | 8 | 6.03 | 3 |
| Yonsoon－EKharif | $73 \cdot 1$ | 65 | 77.31 | 52 | 68．73 | 55 | 65.63 | 53 | 80.09 | 50 | 10274 | 59 | 88.20 | 61 | 58.09 | 52 | 01.97 | 69 | 80.20 | 53 | $139 \cdot 70$ | 4 |
| Monboon－Rabl ．．． | 47.50 | 40 | 65.02 | 42 | 59.51 | 41 | 35－80 | 87 | $68 \cdot 34$ | 42 | 69.91 | 47 | 68.47 | 48 | 61.84 | 42 | $0 \cdot 16$ | 47. | 71.85 | 63 | 63.70 | 13 |
| Inte Raina ．．． | $6 \cdot 50$ | 8 | 12－13 | 8 | 15．37 | $\theta$ | 16．30 | $\theta$ | 8.4 | 5 | 10.81 | 9 | 077 | 8 | 0.36 | 8 | $8 \cdot 00$ | 9 | 6＇e6 | 7 | 3.81 | $\downarrow$ |
| Total | 137．00 | 108 | 154．84 | 114 | 154＇69 | 118 | 132．85 | 108 | 191－35 | 118 | 100．48 | 121 | 18003 | 123 | 13088 | 104 | 166.75 | 118 | 168.68 | 118 | $211 \cdot 30$ | 17 |
| Average | 108．59 | 83 | 118.18 | 87 | 100.57 | 68 | 95.23 | 84 | 149.55 | 08 | 162＇62 | 03 | 155.74 | 93 | 10774 | 70 | 14748 | 87 | 140.50 | 04 | $165 \cdot 87$ | 103 |

General characteristics．－The district is formed by a narrow belt of low land ；though hilly，and rugged as a whole，the valleys are more open near the Sahyadris than towards the centre，and these again fall into nearly level plateaus towards the centre．The rainfall is abundantaud regalar， being considerably heavier inland than on the coast．

Remarks．－Rainy days numerons．Rainfall throughout ahove average．Monsoon set in at end of May and sowings commenced everywhere．Mrig rain，though too heavy in places，was on the whole seasonable for khanif sowings．A＇rdra rain at end of June was too light for transplantation，which， however，was seasonably completed in Jaly．Continuous heavy rain in Angust and September proved slightly injurious to early crops，delaying harvest，and also to rice crops in low lands． Hast and Chitra rain in early October being light allowed reaping of early crops．Bnt Sváti rain at end of October was again heavy and damaged reaped rice lyiag in fields．Very little rain fell in November，and the break was favourable for reaping of rice and varkas crops nnd for sowing second crops．Season was on the whole fair．Oatturn of rice and nagli，both early and late，wag estimated at $10-11$ annas，that of vari 8 annas and harik 9 annas．

Kolába, 1892.


General characteristics.-A ragged belt of country from 15 to 30 miles broad. Rainfall abundant and regular, being heaviest in parts towards the Sahyadris.

Remarks.-Rainy days numerons. Rainfall generally above average. Monsoon commenced early in June and kharif sowings were completed in good time. A'rdra rain was deficient for transplantation and for rice seedlings which began to wither. Heavg rain came in July and was throughont seasonable and sufficient for ploughing and transplantation. Rainfall in August and September; though slightly excessive in places, especially that of Purva (28th Angast-10th September), was on the whole beneficial to standing crops. Sváti rain, however, at end of October was throughont unseasonable and injurious to crops, delaying reaping, especially in sonthern tálukas. Break since 2nd November was favourable for reaping kharif and sowing rabi crops. Season was on the whole fairly good. Kharif ontturn was estimated at 14 annas and rabi at 12 annas.

Thána, 1892.

$G_{\text {eneral }}$ characteristics.-Inland, the district is well watered and well wooded. Rainfall abandant, being considerably more inland than on the coast and less towards the north than towards the south

Remarks.-Rainy daye numerous. Rainfall thronghoat above average. Monsoon set in with light rain, favourable for kharif sowing, except that of salt rice which needs heavy rain. Ardra rain was throughout scant, and seedlings began to wither in places. The much needed heavy rain came with Punarrasu in 2nd week of July and continued till middle of September, being throaghont seasonable and sufficient for plonghing, transplantation and vigorous growth of all crops. At end of September and in early October the rainfall of Hast and Chitra was insufficient for late rice, which slightly snffered in outturn. Unlike other Konkan districts, Thána did not receive the excessive and injurions rain of Sváti, which being light proved favourable for rabi sowings. Season was on the whole good. Ontturn of kharif crops was estimated at 15-17 annas and that of rabi at $12-14$ annas.

Surat, 1891.


General characteristics.-Western portion all along the coast poor sandy soil ; central belt with rich soil and moderate rainfall; further to the east Dángs with hespy rainfall but light soil. As a rule, rain lighter on the coast than inland.

Remarks.-Rainfall throughout above average. Fair showers of Mrig were useful for preparing land and for commencing kharif sowings of rice, cotton, \&c. Ardra rain was geverally scant. Heavy rain came in July, and though slightly injarious to cotton seedlings, was favoarable for kharif sowings and rice transplantation. Rainfall till end of Angust was generally favourable and crops were in good condition, but the fall of Purva in early September was unusually beavy, especially in south, and injurious to jowár, bájri and cotton. Showers of Chitra and Sváti in October also proved slightly injurions to cotton and reaped rice lying in fields. They were, however, usefal for rabi sowings. Season was on the whole good. Of kharif crops rice was good, (14 annas), other crops middling (8-12 aunas). Rabi crops were generally fair except vál, which suffered from blight. Cotton suffered from heavy rainfall, and outturn was reduced to 9 annas.

Broach, 1891.

| Rain Periods. | Broacri. |  | Antimetig. |  | Ha'nsor. |  | VA'GRA. |  | A $^{\prime} \mathbf{Y} \mathbf{O}$ d. |  | - Jambuan. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall. | Rainy days. | Fall. | Rainy day. | Fall. | Rainy days. | Fall, | Rainy day. | Fall. | Rainy daya. | Fall. | Ralny day= |
|  | In. |  | In. |  | In. |  | In. |  | In. |  | 10. |  |
| Early Rainis. . | * | " | - | $\cdots$ | - | ** | -• | - | $\ldots$ | $\cdots$ | * | - |
| Ante-Mfonsoon .. | 0.41 | 1 | 0.17 | 1 | 0.25 |  | 0.37 | 1 | 0.85 | 1 | 0065 | 1 |
| Monsoon-Kharif .. | 1974 | 26 | 19'76 | 25 | $21 \cdot 71$ | 26 | 17.42 | 2\& | 21.77 | 22 | 21-00 | 23 |
| Monsoon-Rabd .. | 18.85 | 23 | $17 \cdot 15$ | 20 | 16.24 | 17 | 14.67 | 17 | 10.01 | 16 | 16.38 | 20 |
| Late Rains .. .. | 0.64 | 2 | 120 | 1 | . | .. | -• | - | - | $\cdots$ | 0.02 | .: |
| - Total | 39.12 | 52 | . 88.08 | 47 | $38^{\prime 2}$ | 44 | 32.40 | 42 | 61.18 | 89 | . 88.00 | 44 |
| Averaga -. | 39•71 | 88 | 88*57 | 38 | $83 \cdot 95$ | 81 | 29.82 | 42 | 87.88 | 83 | 84.61 | 80 |

General characteristics.-Rich alluvial plains growing cotton and wheat. liainfall moderate but sure, being, as a rule, more plentiful in the Broach Talaka. The rainfall is supplemented by heavy dews from October to December.

Remarks.-Rainfall was generally up to or slightly above average. The beavy showers of Mrig were very favourable for kharif sowings of cotton, rice, kodra, \&c. No rain fell in ardra, and sowings delayed till 2nd week of July, when heary rain of regalar monsoon commenced. Kharif sowings were completed in the partial break in Pashya at end of July. Angust rain, being seasonably relieved by short breaks at iutervals, proved very beneticial to standing crops. The heavy rain of Purva and Uttara in September was slightly excessive for cotton, jowári, bájri, \&c., that were ready for harvest. Except light showers of Svati, mostly in south, very little rain fell in October, and reaping of kharif and sowing of rabi crops was carried on favourably. Rabi, gram and wheat, suffered a little owing to frost in Vagra. On the whole, season was good. Cotton and wheat yielded a full average crop. Rice was estimated at $10-10$ annas; juár and bájri at 9-11 annas.

Kaira, 1892.

| Rain Poriods | Enea, |  | $\underset{\substack{\text { Maruade } \\ \text { ABAD }}}{\text { cen }}$ |  | Мдтап, |  | NADIS ${ }^{\text {d }}$ |  | Rapadyand. |  | Tra'ma, |  | Aramp, |  | Bormad, |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fall. | $\left\|\begin{array}{\|l\|l\|} \text { Rainy } \\ \text { any } \end{array}\right\|$ | Fall | $\begin{aligned} & \text { Rning } \\ & \text { dayl } \end{aligned}$ | Fall. | $\begin{array}{\|l\|l\|} \text { Radny } \\ \text { dand. } \end{array}$ | Fall. | $\begin{array}{\|l\|l\|} \text { Raing } \\ \text { dayb. } \end{array}$ | Fall. | $\begin{aligned} & \text { Ralny } \\ & \text { dayb. } \end{aligned}$ | Foll. | $\begin{array}{\|} \text { Rainy } \\ \text { deyy } \end{array}$ | Fall | Rainy | Fall | $\begin{aligned} & \text { Raing } \\ & \text { dayi. } \end{aligned}$ |
|  | In. |  | m. |  | In, |  | ma. |  | In, |  | In. |  | In. |  | In. |  |
| Early Rulna " ". | $\cdots$ | $\because$ | " | - | 000 | $\cdots$ | * | - | " | $\cdots$ | 0.18 | 1 | -0, 0 | * | - | $\because$ |
| Antoryonsoon .. .. .. | 0001 | $\bullet$ | $\cdots$ | " | $\bullet$ | $\bullet$ | * | $\cdots$ | 0.08 | $\bullet$ | 0.02 | " | 0.08 | -• | $0 \cdot 25$ | 1 |
| Monsoon-Kharle., .0 | $20 \cdot 01$ | 26 | 80 | ${ }^{88}$ | 38-48 | 25 | $29 \cdot 27$ | 28 | 98.64 | 28 | 1000 | 28 | $25 \cdot 60$ | 97 | 28.88 | ${ }^{28}$ |
| Yoncoon-Brebi ." * | 20-48 | 21 | 55 | 85 | $27 \cdot 16$ | is | 29979 | 25 | 98.98 | 9 | 2487 | 21 | 2-48 | 88 | 81'15 | 24 |
| Lato Reinam * . | $\cdots$ | $\cdots$ | " | $\cdots$ | $\cdots$ | $\cdots$ | 0002 | $\cdots$ | - | $\cdots$ | 0.05 | $\cdots$ | 0.20 | 1 | - | $\cdots$ |
| Total .. | 60.45 | 4 | $55 \% 61$ | 58 | 60-68 | 4 | 0000 | 58 | 40.55 | 60 | $4{ }^{1} 71$ | ${ }^{5}$ | 50-80 | 01 | 60\%\% | 88 |
| Average .. | 58008 | ${ }^{6}$ | 83-29 | 28 | 35.99 | 29 | $97 \times 8$ | 28 | 88.14 | 28 | $88 \cdot 70$ | 97 | Sb-6] | 28 | 80:50 | 29 |

General characteristice.-The district is mostly one unbroken alluvial plain. In the north and north-east patches of rich rice land ; the centre, a tract of most fertile soil yielding the choicent crops ; and westward a bare, though well oultivated, tract of rice land.

Remarks.-Rainy days over-namerous. Rainfall throughout above average. Frair showers of Mrig were useful for preparing land and for aowing rice, kodra, \&c. But A'rdra rain held off and sowings soon retarded and aeedlings began to wither. Relief came from the 2nd week of July, the fall then being seasonable and sufficient for transplantation of rice and for mowing jaár, bajpri, \&co. August rain was excellent for standing crops, which were thriving till-haymful heary rain came in early September, especially untimely for bajri, which was almost r, hai for harvest. A break followed in Hast, which was very favoarable for weeding of tobsoco, fed has'g of bajif and sowing of rabi crops. It was also beneficial to standing crops. Chitre raik though slightly injurious to reaped rice lying in fielda, was on the whole be of 10 rath Chbps. Season was on the whole fairly good. Ontturn of kharif crope wan estimatec and-13 annas, that/ of rabi at 12 annas.

Parch Maha'le, 1892.

| Raln Perioda | Codzra. |  | K/roxp |  | \#®ıoz. |  | Dorkno |  | JHAfrob |  | Jamsuencil. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Trall, | Ratiny | Fall. | Refny deyns | Fall | Rafny diagas | Fall. | Mainy dinys. | Fall. | Radny dayt. | Fall | Rainy day. |
| - | In. |  | 13. |  | In. |  | $\mathrm{Im}_{0}$ |  | $\mathbf{I n}_{4}$ |  | In. |  |
| Early Rodme | $0 \cdot 16$ | - 1 | 0.00 | * | * | " | 008 | " | - | " | 0.01 | ** |
| Aate-Monsoon | 0004 | "* | $0 \cdot 0$ | * | 110 | 1 | " | - $\cdot$ | 0-11 | 1 | $0 \cdot 39$ | 5 |
| Monecom-Kharif | 28977 | 28 | 10.45 | 24 | 28.75 | 81 | 180\% | - 嫁 | 14.98 | 23 | 24.75 | 81. |
| Monsoon-Rabl | 2188 | 10 | 20.90 | 20 | $40 \cdot 70$ | 38 | 9838 | 22 | 29088 | 22 | 29.64 | 25 |
| Lata Rains of | 0110 | 1 | $\because 002$ | ** | ** | ** | $0 \cdot 10$ | $\cdots$ | 1959 | 8 | *0008 | *. |
| Total | 4178 | 47 | $48.40^{\circ}$ | 44 | 64.65 | 88 | $80 \cdot 88$ | 4 | 30954 | 40 | 65-87 | 58 |
| ' Average | $10 \% 1$ | 84 | $89 \cdot 69$ | 87 | 4889 | 87 | $28 \cdot 60$ | 88 | 80.16 | 88 | 480.6\% | 0 |

General characteristics,-Rainfall lighter and later in the east than in the western division:
Remarks.-Rainfall thronghout above average. Fair showers of Mrig, were favourable for commencing kharif sowings, which, however, soon retarded owing to break in A'rdra. Generai heary rain came in July, being seasonable and sufficient for rice transplantation and for completing kcharif sowings. Rain in Anguat was generally beneficial, but the abnormally heavy fall of early September (Purva) was injurious to all crops except rice. The partial break in Hast was rery valuable for kharif crops suffering from excessive moisture, as well as for rabi cowings Chitra rain in October was generally light and, though slightly injurioas to reaped rice lying in fields in Halol, wai on the whole beneficial to rabi crops, which would have turned out very good had not the untimely rain in Pebruary slightly spoiled them. Season was on the whole fairly good. Kharif outturn was generally estimated at 8-14 annas and rabi outturn at $10-16$ annas, except in Kalol and Hilol. where both the outtarns were reduced by 4 annass

Ahmadabad, 1892.


General characteristics.-Except in the hilly parts of Modasa, where the supply is sometimes considerable, the rainfall throughout the district is generally very light.

Remarlis.-Rainy days wery mumerous. Rainfall throughont above average. Fair showers of Mrig were useful for preparing land and commencing kharif sowings in places. General sowing rain came in Punarvasu in July, and sowings of juár, bájri, \&c., nearly completed. Rainfall in Angust, especially that of A'shlesha, was heavy and while not needed for other kharif cropp, was very favourable for rice transplantation. In September very heavy rain fell in Purva, affecting cotton, juár and bajri in particular. The most needed break came at end of September and was throughout favourable for reaping of kharif and sowing of rabi crops. Except a few cents of Chitra in middle of October no rain fell further on, and rabi crops tarned ont well owing to ample moisture produced by beavy rain in August and September. Season was on the whole fairly good. Though outtuan of juar, bajri and cotton was rcduced to half the average, rice was gencrally good (8-14 annas). Rabi autturn was 10-13 annas everywhere.
I.-Area of Available Statistics.
II.-Area, Cultivated and Uncultivated.
III. Crops.
IV.--Irrigation.
V.-Agricuitural Stock.
II.A.-Details of "Fallow."
III.A.-Details under Eharif and Rabi Crops
III.B.-Principal Fruit-bearing Trees.
I.-Area of Available Statistics, 1892-93.



III.-Crops, 1892-93.


III.-Crops, 1892-93-continued.


III.-Crops, 1892-93 - contin


III.-Crops, 1892-93-concluded.


IV.-Irrigation, 1892-93.


V.-Agricultural Stock, 1892-93.



## Accompaniment A to Agricultural Return No. II.

Details of "Current Fallow," 1592-93.


Note.-Dotaile for Sind are not available.

ACCOMPANIMENT A TO RETURN No. III.

Details of Kharif and Rubi under Cereals and Pulses, 1892-93.

| STo. | District. | I.-Cerrals. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Jowhri, Borghum Vulgare. Vugare | Bájri, Penniet tum Typhoideum. | Rico, | Wheat. | Barley. | Maize. | $\left\lvert\, \begin{gathered} \text { Kodre, } \\ \text { Paspalum } \\ \text { Berobico- } \\ \text { latum } \end{gathered}\right.$ | $\begin{gathered} \text { Ragi, } \\ \begin{array}{c} \text { Eleugine } \\ \text { Coracanan } \end{array} \end{gathered}$ | Hale, Panicum Italicum |  | Bant, P. flavidum. | Bhadll, <br> P. pilosum | $\underset{\text { Rajgira, }}{\substack{\text { Raranth. }}}$ | Othera. | Total Cereals. |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| $i$ | I.-Gujarat. |  |  |  |  |  |  | , |  |  |  |  |  |  | $\cdots$ | $\triangle$ creas |
|  | Ahmadabad ... $\quad . .\left\{\begin{array}{l}\text { Kharis } \\ \text { Rabi }\end{array}\right.$ | 364,193 | .1.73,292 | 800.0209 | . 2388,129 | 211,579 | ${ }^{4.007}$ | 18,799 | .....4509 | ${ }^{\cdots} \cdot{ }^{-132}$ | : ${ }^{13,613}$ | ${ }^{27.181}$ | $\checkmark \cdots$ | $\cdots{ }^{. . .1}{ }^{42}$ | $\therefore 49$ | 759,897 859,340 |
|  | - Total ... | 364,133 | 243,292 | 88,203 | 238,129 | 21,579 | 4,067 | 16,798 | 2,509 | 132 | 13,613 | 27,181 | ... | - 42 | $\cdots$ | 1,019,727 |
| 2 | Kaira ... ... ...\{县harif .. | 51,514 15,942 | ${ }^{239,788}$ | 112,226 ${ }_{1}$ | 17,683 | -6,407 | ...... ${ }^{403}$ | 101,023 | ${ }^{\text {c...,.420 }}$ | $\cdots$ | ${ }^{-1 .} 858$ | 1,779 ... .79 | $\ldots$ | ${ }^{* \prime} 223$ | :.... 5 | 658,148 41,858 |
|  | Total : | 67,456 | 232,768 | 112,227 | 17,683 | 6,407 | 403 | 101,028 | 58,420 | 249 | 853 | 1,779 | $\cdots$ | ... 223 | $\because 5$ | 599,501 |
| 3 | $\text { Panch Mahsls } \quad . . .\left\|\begin{array}{l} \text { Kharif } \\ \text { Rabl } \end{array}\right\|$ | $\begin{aligned} & \mathbf{5 . 2 9 2} \\ & \mathbf{2 , 2 0 0} \end{aligned}$ | .$^{. . .46,987}$ | 58,984 | $\cdots$ | 1,811 | 103,238 -0.4 | 21,907 .1 .10 | 1.15,823 | $\ldots{ }^{249}$ | $\stackrel{8,587}{\square}$ | $\therefore{ }^{\wedge} 16,741$ | : $\because 853$ | $\cdots{ }_{\square}^{1}$ | $\cdots$ | 272.244 268283 |
| 4 | Total ... | 7,500 | 46,967 | 58,964 | : 22,264 | 1,811 | 102,238 | 21,907 | 15,828 | 249 | 3,597 | 15,741 | 353 | 1 | 1,107 | 298,527 |
|  |  | $\begin{array}{r} 23,598 \\ .79,254 \end{array}$ | ${ }^{\text {a }}$....21,288 | - 20.437 | -101,381 | $\cdots$ | $\ldots . . .14$ | 8,780 | ...) 148 | $\ldots{ }^{. . . . .}{ }^{6}$ | $\therefore \square^{79}$ | $\ldots{ }^{. . . . .}{ }^{28}$ | $\cdots$ |  | $\cdots$ | $\begin{gathered} 73,983 \\ 171,635 \end{gathered}$ |
| 5 | $\cdots{ }^{-\cdots}$ Total $\ldots$ | 95,852 | - 21,286 | 20,437 | 101,381 | ... | 14 | 8,760 | 148 | 6 | 79 | 29 | ... | 9 | ... | 247,998 |
|  | $\text { Surat ... } \quad . . \quad \cdots \left\lvert\, \begin{array}{lll} \text { Kharrit } & . . . \\ \text { Rabl } \end{array}\right.$ | $\begin{array}{r} 120,366 \\ \therefore \quad 1,000 \end{array}$ | $\text { . } 7,887$ | 107,.498 | 46,886 | $\ldots$ | $\ldots \stackrel{2}{\square}$ | 88,143 | 13,065 <br> $0 \times$ | ..... ${ }^{\text {4 }}$ | $\therefore$ - 3 | - ${ }_{0}^{807}$ |  | $\because 11$ | . .....$^{260}$ | 285,887 47,886 |
|  | $\ldots$... Total ... |  | 7,687 | 107,496 | 46,486 | ... | 2 | 36,143 | 13,055 | 4 | : 32 | $-60 \%$ | 224 | ).n... ${ }^{\text {a }}$ | $\cdots 250$ | 333,753 |
|  |  |  |  |  |  |  | ; |  |  |  | , |  |  |  | : |  |
| 6 | II.-Deccan. ${ }^{\text {- }}$ |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |
|  |  | - ${ }^{\text {¢535,802 }}$ | 671,095 | ${ }^{29,140}$ |  | $\cdots$ | : 2.776 | 4,001 | $\xrightarrow{2,515}$ |  | ${ }^{1} 1_{8,718}$ | ${ }^{\text {..., }}$, 850 | \% $\begin{array}{r}\text { 2,023 } \\ \square\end{array}$ | .... 218 | ...... ${ }^{\text {® }}$ | ${ }^{*} \begin{array}{r}1,286,476 \\ \hline 262,707 \\ \hline\end{array}$ |
|  | Total | - ${ }^{\text {335, }}$, 802 | 671, | $\cdots$ | 262,704 | 3 | 2,774 | "'.". | $\cdots$ | 367 | 5,716 | 3,830 | 2,023 | $\cdots 218$ | 95 | 1,528,183 |
| 7 | $\text { Násik.. . ... } \cdots\left\{\begin{array}{l} \text { Kharii } \\ \text { Rabi } \end{array}\right.$ | $\begin{aligned} & 399.529 \\ & 59,898 \end{aligned}$ | ${ }^{\text {794,308 }}$ |  | -817\%,257 | $\cdots$ | -1,849 | ..... 1 | 118,236 | ${ }^{-9.0}{ }^{571}$ | 47,924 <br> ..... | $\ldots{ }^{-. . .}{ }^{98}$ | $\xrightarrow{\square}$ | .$^{188}$ | $\ldots . . .{ }^{1}$ | 3,088,210 |
|  | Total ... | 99,167 | 794,308 | 53,102 | 317,257 | ... | 1,849 |  | 148,236 | 571 | 47,324 | 98 | 3,203 | 188 | 1 | 1,465,305 |
| 8 | $\text { Ahmadnagar } \quad . . .\left\{\left.\begin{array}{ll} \text { Kharid } & \ddots \\ \text { Rabil } & \ddots \end{array} \right\rvert\,\right.$ | $\begin{gathered} 799,062 \\ 79,15 \end{gathered}$ | $991,181$ | 13,050 | -735,716 | 126 114 | 730 7 | ${ }_{-2 . .}{ }^{128}$ | 24,434 | $\stackrel{6,698}{ }$ | .12,311 | $\therefore{ }^{-1 . .45}$ | -4,795 | 324 | 592 | 1,057,964 |
|  | Total ... | 803,477 | 991,161 | 13,050 | 235,716 | 240 | 737 | 128 | 24,434 | 5,596 | 12,311 | 55 | 4,795 | 324 | 592 | 2,092,616 |

'Accompaniment A to Retorn No. III-continued.
Details of Kharif and Rabi under Oereals and Pulses, 1892-93.



Accompaniment B to Revurin No. III.
Number of Principal Fruit-beariny Trees, 1892-93.



[^0]:    - Note.-Changes in the figures of aheep and goats reported last year are due to subsequent corrections. s 971-11

