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APPENDIX.

Statement showing the prices of the Kirloskar Ploughs Nos. 9 and 100 for the last 11 years.

Year.	K. P. No. 100.	K. P. No. 9.
	Rs. A. P.	Rs. A. P.
1915-16	33 6 6	40 11 3
1916-17	43 12 0	46 14 3
1917-18	43 12 0	52 0 0
1918-19	43 12 0	52 0 0
1919-20	70 6 0	74 0 0
1920-21	70 6 0	74 0 0
1921-22	59 0 0	64 0 0
1922-23	30 0 0	33 0 0
1923-24	34 0 0	37 0 0
1924-25	34 0 0	37 0 0
1925-26	30 0 0	33 0 0

**Rao Sahib BHIMBHAI M. DESAI, Deputy Director of Agriculture,
Gujarat, Surat, Bombay Presidency.**

Replies to the Questionnaire.

QUESTION 2.—AGRICULTURAL EDUCATION—(i) The number of vernacular agricultural schools is insufficient. There should be at least one such school in each district.

(iii) Yes, as far as possible.

(iv) Yes.

(v) (1) if the education is perfect and interesting;

(2) if the lad after going through the course can earn his livelihood independently or is able to secure some employment.

(vi) Yes, to a greater extent.

(vii) The present courses do not suit the wants of rural population. On the contrary, they have induced the farmer to leave his farm and go seeking other occupations in towns and cities. In short, the rural education should have agricultural bias in all elementary schools; that agriculture should be one of the compulsory subjects in all middle and high schools; that agriculture and rural economics should be kept as optional subjects in all the arts, engineering and forest colleges, and that post-graduate teaching in agriculture should be introduced in the agricultural colleges of each Province.

(viii) They are all important adjuncts for creating interest in agriculture to growing children, if funds allow.

(ix) The majority of students have taken to service in agriculture. Only 3 to 5 per cent. have actually taken to farming, and a very negligible percentage to other occupations.

(x) (1) Agriculture can be made attractive to middle class youths, by offering them lucrative posts both in the Agricultural and Revenue Departments, and especially so in the latter where at least 25 per cent. of the posts should only be filled with agricultural graduates.

(2) That a guaranteed post should be given to the student who passes first class first every year.

(3) Facilities and encouragement should be given to those who go in for farming in the shape of (1) special training for a couple of years in the technique of commercial farming by keeping them on Central Government Farms as well as on specially selected private farms, by giving them a special stipend for the period for their maintenance while under training; (2) suitable lands if available in our territory on easy terms or securing them such lands from Indian States; and (3) long-term loans on easy interest to start their concerns.

(4) By treating agriculture as an honourable profession in the eyes of the public; and lastly

(5) by starting agricultural colleges in representative tracts of the Presidency, e.g., Sind, Gujarat and Karnatak, in addition to the one at Poona; as many people do not seem to favour the idea of sending their youths to Poona where soils, climate and crops differ very widely from their own and where the expenses are enormously greater than those in the localities mentioned above.

(xi) No. Not in my knowledge.

(xii) By starting night schools as in Pardi taluka of the Surat district where some 20 are recently started with good attendance. These could be popularised if (a) good, sympathetic teachers are selected for this job, (b) if of backward classes, by supplying them with slates, books, etc., and also by giving them prizes. These may be only aided schools.

(xiii) The question of rural education is a big one, but it must be faced, if agriculture—the *basic industry of India*—is to be improved; by introducing compulsory primary education in all the rural areas in addition to the foregoing.

(a) The administration should be left to the Local Boards as at present arranged; but the Director of Agriculture might have his say in arranging the curriculum for the same.

(b) As regards finance, Government may assist the Local Boards with substantial contributions, but if that is not possible, they may empower the Local Boards to levy special cess for the purpose.

QUESTION 3.—DEMONSTRATION AND PROPAGANDA.—(a) The most successful measures in modelling the practices of cultivators have been:

1. The departmental demonstration farms or plots. These should be one in each district or at least one for a similar tract. Nowadays, in some quarters it is argued to effect economy that these demonstrations should be conducted on cultivators' fields with a view (1) to lessen the cost of maintaining such farms, (2) to convince the cultivator on the spot as he seems to doubt about the correctness or costs of the results obtained on Government farms and (3) to attract the attention of more cultivators on the spot as most of them will not take the trouble of going to visit the farms. This is mostly true in case of introducing new crops or better crops than their own, but is not so in cases where improvement or change in their existing cultivation practices is desired as it is very difficult for the propaganda officer to exactly copy the farm practices on a cultivator's field with untrained men and bullocks taken on hire or on loan from the cultivator and also due to want of knowledge of the environmental conditions of the plots he selects. It actually takes several years before the cultivator is induced to accept the new methods of tillage shown to him year after year on a demonstration farm. Once they are convinced, the method spreads like anything without any further propaganda.
2. Small demonstrations and shows in central places or in places where big fairs are held or where large numbers collect for pilgrimage on certain days in a year.
3. By bringing parties of selected cultivators to demonstration farms.
4. By issuing literature in the form of leaflets, bulletins, etc.
5. By lectures with magic lantern.

The above measures are all in the order of merit. Perhaps a moving cinematograph will be better than many of the foregoing and requires to be tried if finances permit.

(b) (1) If the propaganda officer is supplied with trained men and bullocks for conducting field demonstrations and, if they are found to be successful, to collect parties of cultivators of the surrounding villages and show them the results in their own midst.

(2) The present propaganda staff is too inadequate for carrying on any effective propaganda and should be extended to a very large extent, i.e., up to nearly 3 to 4 times the present strength.

(3) A greater co-ordination of the Revenue Department in this respect is a sheer necessity.

(c) (1) The cultivators must have full confidence in the expert selected for giving them advice; (2) the expert must be able both by arguments and actual demonstrations to convince the cultivators he has to handle; and lastly, (3) he must guarantee any losses sustained by cultivators in following his advice.

QUESTION 5.—FINANCE.—(a) Government as supreme landowner of the soil should finance all such operations tending to improve the soil. It should also arrange for long-term credit to cultivators. The short-term credit may be left to be managed by the co-operative societies or the village *sowcar*.

(b) The rate of interest charged on *taccavi* should not be more than that which Government has to pay for borrowing money *plus* the establishment cost; the *taccavi* rules should be made more elastic and lastly it should be made available within a very short period after application and it should be distributed directly by a responsible Revenue Officer not below the rank of an Assistant Collector.

QUESTION 6.—AGRICULTURAL INDEBTEDNESS.—(a) (i) (1) High charges of litigation and several other indirect taxes falling on the cultivators, (2) no good banking facilities, (3) absence of suitable facilities for safe borrowing, (4) poor and precarious harvests, (5) to some extent excess expenditure incurred after social customs, (6) illiteracy and last but the most important is (7) absence of keeping accounts.

(ii) The sources of credits are mostly from village *sowcars*, to a very small extent from the co-operative societies and still less from Government in the form of *taccavi* loans.

(iii) (1) Precarious harvest; (2) precarious rainfall; in some years the cultivators for the sake of one last rainfall lose almost the whole crop and in addition their labour, seeds, manure, etc.; (3) high rate of interest.

(b) By showing better method of farming, by introducing compulsory and adult education and by keeping a sympathetic eye on the cultivator's wants such as grazing facilities, fuel, in doing away with the middlemen's profits in marketing their produce, in providing good roads and transport concessions on railway freights and in customs on their manures and machinery. They are not in favour of rural insolvency. They are more sensitive to pay up their debts than to declare themselves insolvent. The Acts *viz.* the Agriculturists Insolvency Act or the Usurious Loans Act or an Act to facilitate the redemption of mortgages will not help the cultivator to any large extent unless and until Government is prepared to finance them by opening agricultural banks in the rural areas, as the cultivators will lose almost all their credit and they will not be able to finance their needs without help from Government. We have already an example of the Agriculturists' Relief Act which, instead of giving the desired relief, has done some mischief.

(c) I do not think it will be a wise policy to control the credit of cultivators by restricting sales or mortgages of their lands. Such practices exist in several Indian States where the cultivators instead of being better off than ours are in a worst condition as compared to our cultivators or to those in whose States the right of sale or mortgage is not restricted. Not only that but some of our departments such as the Registration, Stamps, Revenue and Civil will suffer a good deal in their revenue. On the contrary, if the loss in revenue to be thus sustained is used in the improvements of the cultivators' needs, they would be well benefited. Not only that, but as stated above, no capital will be attracted to this business nor any capitalists with capital and money will ever try to enter the profession.

Answer to the 2nd question under the same item is also in the negative, because it will have the same effect as stated above. Not only that but the cultivators will be obliged to make the conditional sales without any written guarantee or actual sales at low prices.

QUESTION 7.—FRAGMENTATION OF HOLDINGS.—(a) No. They are adjusting themselves though slowly. The speed could be accelerated by good education and by propaganda. They may be seen more where people are poor and not able to purchase the parts as in Ratnagiri or where the land is most valuable under very intensive farming such as in the Amalsad group of the Jalalpur taluka of the Surat district. In the former case it may partly be due to the fact that the cultivator may not all be living on their fields but might be migrating to Bombay and hence may not be feeling the pinch of this harmful

practice. If, however, owing to the present clamour about fragmentation, something should be done, I would suggest that Government might order that Survey Nos. both of Jirayat and Kiari lands may not be sub-divided below certain minima fixed separately for each tract. It is generally seen that a cultivator with a smaller holding attends to his land very carefully and tries to produce more in comparison with that of a man with bigger holding.

(b) Consolidation of holding is a very difficult problem to be dealt with. A Bill is being drafted from Mr. Keatinge's time. It is heard it is now ready for being introduced in the Legislative Council and even though it may be passed it is feared it will remain a dead letter as there are several difficulties in the way of its proper working. I do not know the contents of the present Bill, but if they be on the lines of those of Mr. Keatinge's in principle, then I think there will be some of the difficulties in the way of its successful working, as under:—

(1) I doubt very much whether any one has tried to collect any data for economic holdings in different tracts of the Presidency proper on which to base the calculations.

(2) Hindu and Mahomedan law of inheritance will have to be changed much against the sentiment of both the communities.

(3) Even if they be changed the elder brother or brothers will find it most difficult to pay cash to youngsters for their share and the burden of debt will be so heavy on the elders so that they will not be free from the debt for several years and hence very little improvements can be expected from the elders when they are heavily involved in debt.

If it be decided to share the produce the elders will not work with honesty and zeal (in whose charge the holding may be) while the youngsters will have very little faith in the honesty of the elders.

(4) This enactment will throw out nearly 50 to 60 per cent. of the present cultivators into regular labourers without giving them any training for any sort of skilled labour.

(5) To finance the scheme will be a very difficult business for the elder brother to pay the value of the share to the younger brother or to pay the excess amount for exchanging good land with poor land or to pay the price of land of an uneconomic holder.

(6) The present arrangements of holding in a village are *kiari* and grazing lands or garden lands situated just in the vicinity of the village and they are the most valuable and very cared for lands.

Now according to consolidation scheme the *kiari* lands and other lands mentioned above only form a small portion of the whole village area and will only accommodate very few cultivators. The rest will be without such areas. Not only that but those getting their holdings at the extreme ends of the village areas will be at the greatest disadvantage of going to and returning from their holding or they will have to stay on their plots which is impossible looking to their social ties and also in the absence of arms through danger of being robbed.

The money difficulty can be overcome if Government tries to finance them by opening rural agricultural banks but the other difficulties will remain and hence I doubt very much if the scheme will work successfully.

(c) No. No legislation is necessary in the matter. But I shall be too glad if disputes could be kept out of court by any other means, e.g., instituting village panchayets on better lines.

QUESTION 8.—IRRIGATION.—(a) In Kaira and Ahmedabad districts the existing canals be so improved by providing more storage tanks that the water will be sufficient for rice and after crops. The new proposed canal be strongly recommended if a large storage area is reserved at its origin so that the water never fails for the *kharif* and *rabi* crops. If that is not possible, then extension of wells and tanks and the improvements of the present tanks be recommended to the utmost limit. In the case of wells all throughout Gujarat, a definite policy should be laid out and advances should

be made from the Famine Reserve Fund, because a greater part of the amount is being spent in Sind and Deccan after irrigation schemes.

The tanks will help irrigation and also help in increasing the underground supply of drinking water, so that the old ones be improved and new ones dug in several places. They will be very well done in the Panch Mahals.

In addition to the above, streams and nallas should be bunded as they will tend to increase the level of water in the wells for drinking and irrigation purposes.

(i) Perennial canals should as far as possible be aided by open drains; otherwise there is risk of salt coming up to the surface.

In order to see that the cropping and water on such perennial canals is conducted scientifically, an Agricultural Officer of the grade of Provincial Service should be attached to the Irrigation Department and that Department should be under the same Minister as for Agriculture.

(b) No. For distributing canal water adequately and regularly to cultivators, a committee consisting of an officer from each of the Revenue, Agriculture and Engineering Departments and an equal number of non-officials be appointed. It would be much better if canal water could be given by actual measurement and charged accordingly, instead of charging fixed rates for particular crops per acre, as this suggested method would compel cultivators to use water very sparingly and thus save a lot of waste caused by overflooding and percolation.

QUESTION 10.—FERTILISERS.—(a) Artificial manures do not pay when applied to dry crops due to their high costs. But *sann*-green manuring will do immense good if prepared and applied after the Chinese method as is done by Mr. Howard on his Indore Farm.

(f) (1) By propaganda. (2) By giving them facilities for obtaining cheaper fuel either from the forests near by or by giving concession rates on railway freights for taking fuel to localities feeling its want.

QUESTION 11.—CROPS.—(a) (i) The improvement of the existing crops could be effected by (1) selection of seed to a large extent; (2) by cross breeding; (3) by good cultivation and manuring, and lastly, (4) by judicious rotations.

(ii) The introduction of new early varieties of ground-nuts have done immense good to the cultivators in Khandesh where it has gone to more than two lakhs acres during the last 15 years or so, and to nearly 70 thousand acres in Gujarat during the last ten years or so, mainly through the departmental efforts. In fodder crops, Guinea grass, lucerne and *berseem* are the new introductions.

(iii) The distribution of seed is also a difficult problem. For the last 6 or 7 years I distributed between 17 to 20 lakhs pounds of improved cotton seed of 1027 A. L. F. type in the tract south of the Narbada, and several other seeds in other parts of my division, e.g., improved strains of *juar*, ground-nut, improved strains of tobacco and several others. In the absence of any executive orders from the Government like those in the Rajpipla and Chota Udaipur States to sow a particular seed, it goes very hard with the staff to wholly replace an inferior variety by a superior one. Not only that, but it requires more staff and more time to carry on the work properly. In the case of proved seed, if the majority use that particular seed, the minority should be made to use it under executive orders. This will simplify the work of the department to a very great extent.

(iv) The prevention of damage by wild animals. I was one of the members of the committee appointed to consider and adopt measures for the protection of crops from wild animals and stray cattle. I have nothing more to add to the recommendations made in paragraph 49 (pages 34, 35 and 36) of the printed report of the committee in 1923.

(c) These are:—(1) The introduction of 1027 A. L. F. cotton in place of the Ghoghari mixture in the tract south of the Narbada; (2) the introduction of tobacco strain No. 6 in Kaira district in place of the ordinary local mixture.

(3) Successful introduction of early ground-nut varieties on a large scale, nearly 50,000 acres in the Panch Mahals and Ahmedabad districts where there were practically no areas under ground-nut.

QUESTION 12.—CULTIVATION.—(i) In South Narbada tract, sowing wider apart, sowing or dibbling seed in squares and introduction of ridge cultivation. When the Surat Farm was started in the year 1896 cultivators of the above tract were sowing both cotton and *juar* 18' apart between the rows. Now in several places people sow 5" to 7" apart and in some cases between 24" to 36" apart. Bulletin No. 123 of 1925 of the Bombay Agriculture Department may kindly be referred to about Ridge Cultivation.

In Jalalpore, Bardoli and part of Chorashi talukas of the Surat district, people have been induced to sow *sann* as green manure crop between the rows of cotton and *juar* to be unrooted and laid by the side of the rows of crop when it attains a height of 15 to 20 inches, and the idea is spreading.

(ii) The customary rotation of *juar* followed by cotton is changed to *juar*, *til* and *tur* and cotton; or *juar* or *bajra*, ground-nut and cotton or only ground-nut and cotton in alternate years.

QUESTION 14.—IMPLEMENTS.—The improved iron ploughs did not make any headway in North Gujarat, due to their shares being worn out in a short time at most a day and it became very costly to replace it daily and in South Gujarat, the draft became so heavy on the black soils that they could not be worked economically though there was a very keen desire of the cultivators to get their lands ploughed with such ploughs as could be evinced by the number of tractors namely about 125 now working in Gujarat alone. The only difficulty they find is in procuring some spare parts of some of the makes.

QUESTION 15.—VETERINARY.—(a) It should be under the Director of Agriculture and Engineering, under the same Minister as Agriculture, Veterinary, Forest and Co-operative.

QUESTION 16.—ANIMAL HUSBANDRY.—(d) I was a member of the committee appointed to consider the question of the maintenance and improvement of the existing breeds of the Bombay Presidency in 1923. The summary of the recommendations is given on page 14 (Part VII) of the committee's printed report of 1923.

QUESTION 18.—AGRICULTURAL LABOUR.—(a) (i) 1. By paying higher wages and giving them other facilities.

2. By allowing them to work on contract system instead of on daily wages, they could still earn more.

(ii) To induce labourers of fairly good means to take up lands for cultivation on easy terms of occupancy price of much better still to make them sub-tenants on share system or on fixed rent system.

(b) There is seasonal shortage of agricultural labour in Gujarat. The deficiency can be made good by indenting labour from Marwar and Kathiawar. The causes are good lucrative appointments in towns and cities as skilled labourers in mills, as ordinary labourers in railways, steamers, salt works and other private engagements and migration to big towns for domestic work. In most of these, cultivators are the greatest sufferers as the labourers take from them several hundred rupees up to Rs. 700 or so for marriage and other functions and within a very short time run away to any of the above places from which the cultivators are unable to dislodge them and bring them back to their respective homes. In this connection it will be very desirable to introduce card system in the interest of the cultivators.

(c) (1) By taking such labourers and supplying them with bullocks, seeds, implements, etc., to start with on easy terms and recovering the amount by small instalments; or (2) by giving them lands on share system; (3) or by employing them on labour by capitalists.

QUESTION 22.—CO-OPERATION.—(b) Almost all non-credit societies mentioned in items (ii) to (ix) may advantageously be placed under the control of the Director of Agriculture. If this is not feasible due to some technical objections an experienced agricultural officer of the rank of a Assistant Registrar

be appointed under the Registrar of Co-operative Societies to organise and supervise such societies.

(c) There will be no objection for introducing such a legislation in cases of co-operative irrigation and fencing schemes, but it would not be desirable in the case of consolidation of holdings.

QUESTION 23.—GENERAL EDUCATION.—(a) I do not want to make any fresh ones other than those made under "Question 2.—Agricultural Education."

(b) (i) To make the rural life more attractive and happy by improving the hygienic surroundings of the village, by creating suitable games and giving other facilities available in towns and taluka *kasbas*.

(ii) If you want to improve agriculture, compulsory education should be resorted to in all the rural areas and every cultivator taught to read and write irrespective of some short-comings.

(iii) It is the age at which many boys are detained by their parents to help them in their agricultural operations.

QUESTION 24.—ATTRACTING CAPITAL.—(a) I have already alluded to some of the causes which tend to discourage capitalists from taking to agriculture under Question 6.—Agricultural Indebtedness—and Question 7.—Fragmentation of Holdings. There are other causes also which do not induce capitalists to take to agriculture; *e.g.*,

- (1) Uncertainty of rains and harvest.
- (2) Dearth of agricultural labour.
- (3) Want of thorough practical knowledge required to make the business a paying concern.
- (4) The occupation is not looked upon as an honourable one.
- (5) No definite policy is laid down by Government as regards the land tenure, and other prohibitive legislation which Government intend to take in the near future or at a distant date; so that they are always hesitant to invest large capital in land.

(b) (1) Uncertainty of securing definite returns due to precarious nature of crops and rainfall.

(2) No certainty about the increase in assessment at every 30 years' re-assessment.

- (3) Poverty of the owners of lands; and lastly
- (4) Illiteracy.

Oral Evidence.

8525. *The Chairman:* Rao Sahib Desai, you are Deputy Director of Agriculture at Surat?—Yes.

8526. You have put in a very interesting note and my colleagues and I are greatly obliged to you. Have you any general statement to make at this stage or shall I proceed at once to ask you questions?—I have no statement to make.

8527. You say on page 572 of your note, that the number of vernacular agricultural schools is insufficient?—Yes.

8528. You say "There should be at least one such school in each district." What type of school exactly do you propose?—Just like the one that you saw at Loni. I have got two in my district, one at Godhra in the Panch Mahals and one at Surat.

8529. Are they conducted in exactly the same fashion as is the school at Loni?—Yes.

8530. How many districts are there altogether?—Five districts.

8531. You have got two schools, and you think one in each district is enough?—For my tract it would do if we had three, because I consider Surat and Broach as one.

8532. Are you attracted by that type of school because you think it makes a contribution towards the education of the farmer?—Yes.

8533. Have you followed the after-careers of boys who have been through these schools in your own district?—Yes, most of them have taken to agriculture.

8534. They have gone back to their own farms?—Yes; very few, about 5 to 5 per cent., have gone into the public service.

8535. Could you give us those figures definitely?—I will send them* later on.

8536. Perhaps you would consult with the authorities at the schools?—Yes.

8537. Do you know whether an accurate record of after-careers is kept in the case of those schools?—Not very particularly, but we try to find out how many are farming.

8538. You apparently agree with me that such accurate record of after-careers is very important?—Yes, it is necessary.

8539. On the page 572 in answer to sub-section (x) you say, "Agriculture can be made attractive to middle class youths, by offering them lucrative posts both in the Agricultural and Revenue Departments, and especially so in the latter where at least 25 per cent. of the posts should only be filled with agricultural graduates." You are here, of course, thinking of the educated non-agricultural classes, are you not? You are not thinking here of middle class youths of the agricultural and cultivating class?—In this connection I have taken into consideration all those graduates who come out from the Agricultural College.

8540. You are not thinking here of the boys of the Loni school type?—No, not of the middle or primary schools.

8541. I suppose most professions can be made attractive if the salaries are sufficiently lucrative?—Quite so, but then if agriculture, which is the main industry of India, is to be made lucrative, there must be some inducement held out.

8542. On page 573 you say, "As regards finance, Government may assist the Local Boards with substantial contributions, but if that is not possible,

* *Vide Appendix.*

they may empower the Local Boards to levy special cess for the purpose." What do you mean there by a special cess?—Something like a local fund cess such as Government is now levying, Re. 1. Finance is not my subject. I simply suggest how to raise money, that is all.

8543. Forgive me; you do not suggest how to raise money, you suggest money should be raised?—That is, by some means that will not be objectionable.

8544. I am trying to discover whether you harbour any ambition to levy an *octroi* tax, a local tax on produce?—Not on any special thing; it is only a special tax either on the assessment which might be increased by one or two annas, or any other cess that the authorities may think best.

8545. On page 574 you say, "Government as supreme landowner of the soil should finance all such operations tending to improve the soil. It should also arrange for long-term credit to cultivators. The short-term credit may be left to be managed by the co-operative societies or the village *sowcar*." How comes it, if investment in these securities is sufficiently attractive, that the public does not finance agriculture?—That comes later on.

8546. I know, but I want to ask you here in connection with this?—Because sometimes restrictions are put on the *sowcars* by Government.

8547. You say, "Government as supreme landowner of the soil should finance all such operations tending to improve the soil." I want you to tell the Commission how it comes about that private persons do not invest their savings or credit in the improvement of the soil?—Because they do not see the security in it.

8548. Do you think the security is there for Government?—The Government as supreme landowner has every right and power over it.

8549. I so often meet the idea that the Supreme Government is something different from the taxpayer. Now I want to know what fund do you suggest the Supreme Government should tap in order to create this credit?—That is the business of the Government; my suggestion is only that even if Government has to borrow money on loan, just as it does for other things, it should be done.

8550. There is no magic about a loan, you know; it is only pledging the taxpayer's money?—Yes.

8551. I should like to see the words "the taxpayer" inserted wherever the word Government comes in this memorandum of yours?—There would be a little difference there.

8552. I only want wherever possible to make it plain that there is no magic about Government; the only funds available to Government are the funds of the taxpayers of this country. You know that, do you not?—I know that.

8553. On a point of detail, you said that private persons were disinclined to finance agriculture because of certain restrictions. What did you mean by that?—The Agriculturists' Relief Act has put certain restrictions on the *sowcars*.

8554. What restrictions?—As regards the mortgages or the rate of interest.

8555. Do you not think the general effect of the actions of Government over the last 50 years has been to increase the security to the lender out of all proportion to that which used to be enjoyed by *sowcars* in the old days?—I do not know the conditions in the old days; I know current conditions.

8556. Do you not think the power to recover in the courts has immensely increased the security of the *sowcar*?—Not in the case of agriculture.

8557. *Mr. Calvert*: Does that Act impose restrictions on the moneylenders as regards mortgages?—Yes, because they are considered as mortgages which have to be redeemed under the Agriculturists' Relief Act; instalments are given instead of possession of the land.

8558. Is the restriction on the cultivator or on the moneylender?—On the moneylender.

8559. *The Chairman:* Would it not be more correct to say that the restriction is on the cultivator, but its effect is felt by the moneylender; would not that be the position?—Take it anyway, but that is the general impression.

8560. You say, "The rate of interest charged on *taccavi* should not be more than that which Government has to pay for borrowing money *plus* the establishment cost." Do you suggest that Government is making money on *taccavi* loans at the moment?—No, I do not suggest that; I only suggest the rate of interest should be as cheap as possible to the cultivator.

8561. Do you think it ought to be cheaper than it is now?—Yes.

8562. Then do you think the Government is making money of *taccavi* loans?—I do not know that myself.

8563. You say that *taccavi* should be distributed directly by a responsible Revenue Officer not below the rank of an Assistant Collector?—Yes.

8564. Do you suggest that if officers below the rank of Assistant Collector distribute *taccavi* that the whole of the loan does not reach the cultivator?—do not want to make any imputations against anybody.

8565. But your imputations are in your words here?—Quite true, but then that is the safest way of expressing my views that there may not be any undue delay and undue harassment to the cultivators asking for the loan. I do not want to charge my colleagues with anything.

You want more security for your words than you are prepared to offer Government for its *taccavi* loan, I think!

8566. On page 575 you say, "It is generally seen that a cultivator with a smaller holding attends to his land very carefully and tries to produce more in comparison with that of a man with bigger holding." Do you wish the Commission to understand that you think the standard of cultivation in small holdings is higher than the standard of cultivation in large holdings?—Yes.

8567. Is that your experience after many years of service?—That is my observation during 30 years of service.

8568. *Sir Chunnil Mehta:* What do you mean by the expressions "smaller holding" and "bigger holding"?—The smaller holding is between 5 and 15 acres; between 35 and 50 acres we should call bigger holdings.

8569. *The Chairman:* I do not want to press the point too far, but holdings of, let us say, 5 to 6 acres, except in very peculiar and special circumstances, are not economic in the sense that they are capable of supporting a man and his family?—In dry areas they are not, except in very highly cultivated areas.

8570. On holdings of 5 to 6 acres is it possible for the cultivator to comply with the soundest rules of husbandry in the matter of crop rotation?—He does everything better than the bigger holders. The only difficulty is that he does not find employment for the whole year; he has to shift somewhere else to seek employment in his spare time, and he generally does that. It is only the small cultivators who try to raise the crops in the rainy season, either themselves or with their families; and then they try to get further occupation.

8571. I suggest to you it is infinitely easier for a cultivator handling 20 acres to farm with sound practice in the matter of crop rotation, tillage and so forth, than it is for a man who is farming, let us say, 5 acres. What do you say to that?—I think the 5 acre man does it more efficiently than the 20 acre man.

8572. *Mr. Calvert:* May I ask what you mean by "more." You say "produce more"?—"More" is a comparative term.

8573. Do you mean more per man or more per acre?—More per acre.

8574. *The Chairman:* On page 575 you say, "This enactment will throw out nearly 50 to 60 per cent. of the present cultivators into regular labourers without giving them any training for any sort of skilled labour." What do

You mean by that exactly?—I do not know what the present lines of the Bill are, but in Mr. Keatinge's time he discussed with me his Bill, and from that I learned that he wanted to make an economical holding according to each district or each taluka, and the minimum limit was to be fixed for each taluka. In one taluka it was considered that at least 20 acres of land was necessary to support one family without any other occupation. Now if 20 acre holdings are to be produced, then all those between 5 and 20 acres will have to be eliminated. Most of the holdings are between 5 and 10, and 10 and 15 acres. If we are going to convert these holdings into 20 acre holdings, the greater portion of the present cultivators will be ousted. That is what I mean.

8575. Yes, I understand your views, without necessarily agreeing with them; but when you speak of "this enactment," to what precisely do you refer?—That is the consolidation of holdings.

8576. But I take it you refer to a particular Statute or Bill?—Yes.

8577. Which Bill?—I do not know; I have written already that I do not know myself, but it is rumoured that it is being introduced.

8578. You are being very hard on a Bill which you have not seen?—Yes, but it is referred to.

8579. *Sir Henry Lawrence*: There was a draft Bill, was there?—Yes.

8580. Which you saw?—Yes, that was discussed with me at Surat.

8581. *Dr. Hyder*: You are talking of Mr. Keatinge's Bill?—Yes, in Mr. Keatinge's time.

8582. *The Chairman*: But are you referring to Mr. Keatinge's Bill here?—Yes.

8583. With regard to page 576 as to fertilisers, we should like to hear a little more as to your views on green manuring. Have you had experience of *sann*-green manuring?—Yes, I have been trying my best for several years since. In Broach I have not been so successful because sometimes the manure does not rot in the soil if the September rains are not enough. Then it remains on the surface not rotted and is carried away by the wind. The best method I find is that as soon as the *sann* gets to a height of about 2 to 3 feet it is cut and dried for three days in the open fields; then it is made into oblong blocks interlaid with mud.

8584. Cowdung or mud?—Ordinary field mud. Then it is kept for about six months so that it becomes the best possible manure and gives the best results. I have seen the effects of this manure being applied on the farms. It would solve the great difficulty in some of the Gujarat tracts where the rainfall in September is very precarious.

8585. Have you ever tried spraying these successive layers with a weak solution of cowdung?—No, sometimes earth is put over it.

8586. So that you are making a compost?—Yes.

8587. That is not quite the same thing as ploughing in a green crop, is it?—No, it is not quite the same.

8588. When you plough in a green crop which you have also dried, does that involve a fallow?—Yes, that would be the best thing.

8589. A whole year's fallow?—Yes; but no cultivator is ready to keep up fallow for a whole year.

8590. Do you know any large cultivators who are prepared to have a fallow?—Very few cultivators.

8591. And no small cultivators I suppose?—No small cultivator can afford to do it.

8592. But you still think the small cultivator is the most efficient?—In his own inter-cultivation and other things.

8593. On the same page you give the examples of Rajpipla and Chotta Udaipur where Governmental action has been taken to compel the sowing of new varieties of cotton seeds?—Yes.

8594. You argue from that, I understand, that in British India the same compulsion might be applied?—Yes.

8595. You see the difference between the two conditions, do you not?—I know, and so I do not press it. I simply suggest it, if it is possible on political and other grounds.

8596. If it were capable of proof that 80 per cent. of the cultivators in an area were willing to adopt improved varieties, would you compel the remaining 20 per cent.?—I think it would be justified.

8597. It might be justified, but would it be expedient; would you do it?—I think I should do it.

8598. Have you wide experience of the co-operative movement?—In the ordinary routine I observe things and in some cases I also help; I cannot be said to possess so much experience as the people in the department.

8599. Do you think that the co-operative organisations are being used as fully as they might be to advertise improved methods of cultivation and improved varieties of crop; in other words, do you think they are being used for propaganda purposes or not?—To a very small extent.

8600. Do you think it might be well if the co-operative organisations were more active in propaganda?—I think so, because they have got a large number of people.

8601. On page 578 you say, "To make the rural life more attractive and happy by improving the hygienic surroundings of the village, by creating suitable games and giving other facilities available in towns and taluka *kashas*." What do you mean by creating suitable games?—That is for the children of the village to have suitable games like cricket; clubs might be formed in almost all villages to guide these people and create a taste for these games.

8602. Would you like to see an attempt made to revive the ancient village organisation with the panchayet at its head?—Yes.

8603. How do you account for the decline of that system?—During the very severe rule of Mohammedans and Marathas in the intervening period these things have been lost. In peaceful times like the present I think they will take that form again.

8604. You probably know the history of the panchayet system of local leadership?—Yes.

8605. How was the panchayet constituted?—In olden times the headmen and some people of the village took upon themselves the whole burden of paying the assessment to the Government and of managing any disputes arising in the village. They did various other things; they assisted each other in sowing and harvesting, and other things.

8606. Were they usually old men?—Old men of good reputation in the village. Where the villages were small, two or three villages combined.

8607. Do you think the theory that wisdom goes with old age is as popular as it used to be?—Now-a-days it is not so.

8608. *Sir James MacKenna*: You would not be offended if I called you one of the old stalwarts of the Bombay Agricultural Department, would you?—No, on the contrary, I should thank you.

8609. I think you told the Chairman you had had 30 years' service in the Agricultural Department?—Yes.

8610. At what pay did you commence?—I began as a clerk on the Surat farm at a salary of Rs. 25.

8611. And you have now risen to be Deputy Director?—Yes, drawing Rs. 700.

8612. I think it would be interesting if you told the Commission what your training was?—I was the first student in the agricultural diploma course, in the first batch perhaps, under Sir Thomas Middleton in the beginning, and then under Dr. Mollison afterwards.

8613. You took the diploma?—Yes, I took the diploma. I applied to take my degree, but I could not be spared, and my Director did not allow me to do so; he said my rights would not be overlooked because I was not a graduate; so I kept quiet and have been working since then.

8614. After that you took up an appointment at Rs. 25 a month?—Yes.

8615. After you got your diploma?—After I got the diploma, I was given the appointment by Dr. Mollison himself as a clerk on the Surat Farm.

8616. At Rs. 25 a month?—Yes.

8617. And after that what was your career?—After ten months I got the post of Superintendent on the same farm commencing at Rs. 50 to 100. In 1902 I was given a post at Rs. 150 to Rs. 250 at the Hissar cattle-breeding farm. That farm was in a very bad state; the Government wanted to improve it and Dr. Mollison wanted my services there as agriculturist; so I went there for one year. On my return I had an appointment at Rs. 150 to Rs. 200 on the Surat Farm.

8618. Then you became a Deputy Director?—I became Divisional Superintendent of Agriculture in the year 1908; I remained for ten years in that position. I got the post of Deputy Director in 1918, and since then I have been working as Deputy Director.

8619. So that you have had a nice steady upward tendency all through your career?—Yes.

8620. Ending up as senior Deputy Director?—Yes.

8621. A good deal of work was done in this Presidency by Dr. Mollison?—Yes.

8622. Do you think the progress since Dr. Mollison left has been very marked compared with the amount of work that was done when he was working single-handed in the Presidency?—I think the progress now is considerably more.

8623. But the groundwork done by Dr. Mollison was extremely sound?—Yes, I must say that.

8624. Some of your best known cottons were produced then?—Yes, it was he who did the first work in cotton-breeding at the Surat Farm in the year 1901, and after that he tried to popularise the whole movement throughout India when he became Inspector General.

8625. We are now talking about our own times; we belong to the old school?—Yes.

8626. As you know, the Indianisation of the services is the policy of Government now. What method of training do you think is best for young lads who aspire to become Deputy Directors?—I purposely omitted to deal with that; I am on the verge of retirement and I do not want to make any comments on that.

8627. Would you rather not give me your opinion?—I will do so if you wish.

8628. I think it would be very desirable, because you are a very senior officer; you have gone through one process of training; we want to know what is the best method of training young men?—After graduating here, any of the first class students, after, say, four or five years' experience in India, may either be sent abroad, or an institution which may compare with English institutions might be established and further training given here.

8629. You are a firm believer in their doing a number of years' work locally after taking a degree?—I think so.

8630. That is better than sending them abroad immediately after taking their degree?—Yes.

8631. You attach great importance to the value of practical training?—Yes: unless they can compare Indian agriculture with English agriculture, I do not think they will be successful.

8632. They must have a thoroughly good grounding in their own subject before they try anything new?—Yes.

8633. How many farms have you in your circle?—I have got three big farms and two smaller ones.

8634. Do you live on one of them?—No, I live just near the central farm, near the Surat farm itself.

8635. How often are you able to visit that farm?—Almost every week.

8636. Do you find time to conduct research yourself as Deputy Director now?—I must say that with my touring and the official work which is increasing very much, I have very little time to do any research work myself.

8637. Of course, you supervise it very closely?—Yes.

8638. And you have a large staff of trained research workers?—Yes, I have about 24 graduates and some three or four gazetted officers under me.

8639. But speaking from your own experience, would you not think it would be a good thing if the Deputy Directors had time to keep a little research going?—Yes, I think so.

8640. Great emphasis is laid on the close relationship between teaching and research; I should have thought the relation between research and propaganda was also close?—Yes.

8641. If you had time and had not so many farms under your charge you would be doing a good bit of research, I take it?—Yes.

8642. *Professor Ganqulee*: What are the precise duties of a Deputy Director of Agriculture?—The precise duties are to see that the farms are well managed; the Deputy Director is responsible for all the experiments conducted on the farms.

8643. Who organises the experiments?—Mostly the Deputy Director, in consultation with the Director if the farm is a new one.

8644. Experiments are organised in consultation with you?—Yes. Then the Deputy Director has to do propaganda in the district, that is the main item if any real good is to be done by the Deputy Director. He has to see to all the requirements of the district; that is to say, any correspondence or disputes arising out of land come finally to the Deputy Director for information, either from the Government, the Revenue Department or some other department; he has to attend to that. He gets so many letters that he has very little time to do all these important things.

8645. Then I understand the first item of your work is to carry on experiments in the field?—Yes.

8646. The second item is propaganda?—Yes.

8647. Propaganda in what form, in the fields of the cultivators?—Yes, in conversation, attending big shows, and giving lectures on important occasions anywhere in the whole of the division.

8648. Do you participate in the organisation of shows and things of that sort?—Yes, it is all under my guidance. If I can be present, so much the better; if not, my Divisional Superintendent will attend to it.

8649. And you have to attend to the administration of your officers?—Yes.

8650. What is the nature of correspondence of which you speak? Is it correspondence with the Government?—Correspondence with the subordinates, correspondence with the superior officer and correspondence with local bodies.

8651. Is there any correspondence with the public?—Yes, so many queries come that we are really tired of giving them answers and satisfying them.

8652. Is there any correspondence from the large cultivators?—Yes, they enquire about many things.

8653. Who records the results of field experiments?—The Superintendent.

8654. Under your guidance?—Yes.

8655. And you go through the collected data?—Yes.

8656. You are stationed most of your time at Surat?—No, nearly half the month I am out in the district, and sometimes even more; the rest of the time I am in Surat.

8657. You come into contact with the co-operative credit societies?—Yes.

8658. And any other village organisation?—Yes, the Development Associations and Agricultural Associations, or any other society, such as the Cotton Sale Societies, in which the department has any interest or to which the department has got anything to say. Whenever we go there we see the Presidents or Vice-Presidents of all these associations, discuss things with them and lay out the lines, for the work; there are so many things.

8659. I want to get an idea of the nature of your propaganda and demonstration work. You carry on both demonstration and propaganda?—Yes.

8660. What is the nature of your propaganda?—The nature of the propaganda is to arrange small shows in the district.

8661. Let us take a particular village; you want to visit that village?—Yes.

8662. Do you get invitations from the village?—In some cases there are some controversial subjects to be discussed; if they have got some complaint about their lands, or want to introduce something new, as for example, a cotton sale society or an implements society, they invite us; otherwise we go of our own accord.

8663. Then how do you proceed?—If I stay there I generally enquire of the leading gentlemen or leading cultivators of the place where I may be put up for the night; they generally come and we discuss other matters with them as to local requirements.

8664. Are you in touch with any agricultural school in your division?—Yes.

8665. On page 572 you say, "The present courses do not suit the wants of rural population." That is in regard to agricultural education. Have you any definite suggestion as to how these courses should be improved?—I was not referring to the agricultural schools when I said that; that is with regard to the ordinary schools in the rural areas that are managed by the Education Department. An agricultural bias should be given in the general education.

8666. On page 573 you advocate compulsory primary education, do you not?—Yes.

8667. Do you think the time has come for that?—I think the time is more than ripe.

8668. You think it would be a good thing for the country?—Yes.

8669. Do you think the country would be prepared to pay excess tax or cess for it?—That is not my look-out. I do not go so deep into the subject as that; that is the look-out of the politicians and the people on the Councils.

8670. I suppose you realise that you cannot get 9d. for 4d.?—If you want my personal opinion, I would sacrifice anything else for education. Whatever my personal needs may be, I would sacrifice them for the sake of education. But I cannot give a general ruling as to what Governments should or should not do.

8671. But you think compulsory education would be good for the country?—Yes, it is necessary, that is my point. Unless there is general education you cannot expect the agriculture of the country to improve.

8672. I agree, but do you think because it is a good thing for the country, the country ought to be prepared to pay for it?—Yes, they must pay for it.

8673. You say the administration of education should be left to the Local Boards?—Yes.

8674. Are you in touch with the local bodies?—Now the whole administration of primary education is being handed over to Local Boards.

8675. But are you in touch with the work of the Local Boards?—Some of the Local Boards.

8676. Do you think they will be able to manage it?—It is an experiment; I cannot give my opinion off-hand.

8677. *Sir Ganga Ram*: You intend to reserve your opinion until you have retired?—I am on the point of retiring.

8678. *Professor Gangulee*: On page 573 you emphasise the importance of having demonstration farms and lessening the cost of maintaining such farms. The sum and substance of it is this, that you want farm costings to be kept in every demonstration farm?—Yes.

8679. Do you keep costings?—Yes.

8680. Have you introduced any system of keeping farm accounts?—We have, on all our farms.

8681. What do you understand by farm costings? Detailed farm accounts?—Everything, every pie.

8682. Do you believe in maintaining the continuity of demonstration work?—Yes.

8683. Year by year?—Yes.

8684. Do you do that yourself?—Yes, I have been doing it for 20 years.

8685. On page 574 you attribute indebtedness to “High charges of litigation and several other indirect taxes falling on the cultivators.” What taxes are you referring to?—Taxes on tea, sugar, clothing, all the necessaries of life of the cultivator.

8686. Are you suggesting that they are so excessive as to be a cause of indebtedness?—In proportion to their earnings these charges are heavy.

8687. You also attribute indebtedness to some extent to excessive expenditure incurred on social customs. Do you consider that social expenditure is showing a tendency to increase?—No, it is not increasing; I should say there is a tendency for it to decrease.

8688. Can you give us any idea as to what percentage of the total income of the peasantry goes in taxes?—I have no data.

8689. Then you say, “We have already an example of the Agriculturists’ Relief Act which, instead of giving the desired relief, has done some mischief.” What precisely do you mean?—I mean that after the passing of the Agriculturists’ Relief Act the *sowcars* instead of lending money on mortgage or on personal security only, have been asking cultivators to sell their lands either with or without condition, on the merely oral understanding that when the money is repaid with interest the land will be returned.

8690. On the oral understanding?—Yes, no written agreement is made; and it is only when every pie is paid the land is returned. In the event of the *sowcar dying*, the heirs not being instructed as to whether it was a conditional or a real sale, difficulties arise and the cultivators lose their land.

8691. That is to say, you think land is passing into the hands of the moneylenders owing to this Act?—Yes.

8692. What was the original intention of this Act?—To protect the cultivator.

8693. So that the object of this Act has been frustrated?—That is my view.

8694. You think the rules as to *taccavi* should be made more elastic?—Yes.

8695. In what way?—When a man applies to the Collector for *taccavi* the correspondence goes to the *mamlatdar*. It is sent back to the village where a form has to be filled up saying that the man owns so much property, a house and other things. It then goes back again to the authority sanctioning the *taccavi*; then it comes back again to the *mamlatdar*, and afterwards the *taccavi* is paid. These routine formalities take a very long time.

8696. There is considerable delay in formalities?—Yes.

8697. Can you suggest any method by which these formalities could be obviated?—I have already said it.

8698. You think that it should be in the hands of responsible Revenue authorities?—Yes.

8699. On the question of fragmentation of holdings you say the proposed enactment "will throw out nearly 50 to 60 per cent. of the present cultivators into regular labourers without giving them any training for any sort of skilled labour." I do not understand that statement. What economic law, as a result of this enactment, would operate so as to throw out 50 or 60 per cent of the cultivators from their land?—The largest number of holdings are between 5 and 10 acres. The number of holdings between 10 and 15 acres come next, and then come the holdings between 15 and 20 acres. Above 25 acres the number is substantially decreased, and up to 100 acres still more decreased. 20 acres at least are necessary to maintain one family.

8700. *The Chairman:* You are thinking more of the sub-division than of the fragmentation of holdings?—Yes.

8701. *Mr. Calvert:* Do you mean an owner's holding or a cultivator's holding?—A cultivator's holding.

8702. *Professor Gangulee:* On page 578 you say the occupation of agriculture is not looked upon as an honourable one. Is that by the educated people?—By almost all people; above all, officials.

8703. They do not consider it honourable?—No.

8704. Do you consider it honourable?—I consider it most honourable.

8705. *Dr. Hyder:* Have you in Gujarat a proverb similar to the Hindustani proverb which says that the best occupation is trade and the worst is Government service?—The actual feeling in Gujarat is that the best occupation is Government service and the worst is agriculture.

8706. *Sir Ganga Ram:* As Deputy Director of Agriculture I suppose you share that view?—I am doing my best to urge people not to accept any service but to go in for agriculture; but a man in Government service with an income of Rs. 10 to Rs. 15 a month is considered to be in a better social position than a cultivator, even though he owns his land. In my district most of the land is owned by *pattadars* who consider it below their dignity to cultivate the land, as they did before 1900.

8707. *Sir Chaulal Mehta:* Why is that?—That is because of this general education which has caused people to give up agriculture and seek Government service.

8708. *Professor Gangulee:* Have you any suggestion to make as to how this mental outlook could be changed?—I can only make one suggestion; I found that during the War when prices were so high men in Government service could not maintain themselves on salaries of 15 to 20 rupees a month and they went back to the land.

8709. You mean that economic pressure would bring them back to the land?—Yes, if you raise the standard of living they will have to go back.

8710. Therefore the necessary pre-requisite of such a change of outlook is improvement of the standard of living?—Yes.

8711. On page 578 you say, "No definite policy is laid down by Government as regards the land tenure and other prohibitive legislation which Government intend to take in the near future or at a distant date." What prohibitive legislation are you afraid of?—I do not want to go into the details of what Government are going to do in the future. This Agriculturists' Relief Act is one thing; then every time there is fear of the assessment being raised. The system of giving receipts is a very big item in the mind of the cultivator nowadays; whenever I go into the district I hear a great clamour about that. The payment of the assessment to the village authorities used to be credited in the country account book; that system has now been discontinued and a receipt only is given. The people have misgivings; they say, "Government do not want to maintain our right on the land, we are

being treated like ordinary tenants." This sort of thing has had its effect on the mind of the capitalist and has deterred him from investing money in land. On the contrary. I know of some people who have been selling their land. Big people owning thousands of acres of land in Surat, for instance, a very well known family who have been doing this business for the last 100 years or more, have been selling their land simply because of that fear.

8712. Do people complain about it to you?—Yes, several of them.

8713. Is there any Taluka Development Association in your district?—Several.

8714. How are they working?—Those that have got good finances are working very well.

8715. Have they got good men?—Yes.

8716. Energetic young men who know the job?—Yes.

8717. You are quite satisfied with them?—In a taluka in Surat there is one of which the President is a young energetic man who has thousands of acres of land; he is a barrister of a very well-known family; he is an educated man and is interested in the land. An agricultural graduate of the best type is working very well for a Taluka Development Association which is doing very good work. That was the first association started; it was the work of Sir Chunilal Mehta. Since then I have been able to add about five associations while I have been in my division.

8718. *Mr. Calvert*: On page 572 you say, "Agriculture can be made attractive to middle class youths by offering them lucrative posts both in the Agricultural and Revenue Departments"?—Yes, or any other Department, such as Forestry, Engineering or even Education.

8719. But how do you propose to make agriculture attractive by taking youths away from it?—They will be very few out of the total population; if you take 100 or 200 people it will not matter very much. What I mean is this that if, instead of graduates in arts becoming *mamlatdars*, agricultural graduates became *mamlatdars*, they would understand things better than the ordinary layman; that is my idea.

8720. We have had evidence that these graduates prefer Government service to practical farming?—Up till now it has been so.

8721. Do you think the cure for that is to reduce the pay of the Agricultural Service until it is no longer attractive?—You will not get recruits for the college if you do that.

8722. Do you suggest that they should be forced into practical farming?—That is my desire; I have suggested that several times; but you cannot expect all of them to go in for farming.

8723. Is it your opinion that there is more money to be made from teaching agriculture than from practising it? For instance, could you have earned your present salary from practising agriculture?—Do not ask about individual cases.

8724. Are there in your circle any moneylending landlords?—Very few nowadays; there were many before this Agriculturists' Relief Act was passed. Now they are not going in for it unless on the condition that the land is sold subject to the oral condition that it is to be returned after the money is paid. There are *sowcars* who do business on those lines, but they will not advance money on the personal security of cultivators.

8725. You seem to advocate that Government should start agricultural banks. What exactly do you mean by an agricultural bank?—I mean that whenever cultivators want money it should be advanced by agricultural banks.

8726. Is that something different from co-operative banks?—Yes.

8727. Do you know any country in the world where agricultural banks have been successful?—I have read of it in some European countries, but I cannot give you definite instances now.

8728. You cannot tell me which country?—No.

8729. On page 575 you state a lot of objections to the consolidation of holdings?—Yes.

8730. Are those objections based on your practical efforts to consolidate holdings or is it merely theory?—My practical experience has been in Gujarat. In Baroda they saw what you had done in the Punjab and tried to copy you. They made permissive legislation, but it has been a dead letter.

8731. They passed their Act first and saw the Punjab system afterwards?—I do not know. I suggested to Mr. Keatinge that if this idea was to be tried in this Presidency, Ahmednager might perhaps be the most suitable place.

8732. On the same page you say you doubt very much whether the scheme will work successfully. If it succeeds in an out-of-the-way wild Province like the Punjab, why should it not succeed everywhere?—There may not be Calverts all over India who can do it.

8733. On page 578 with regard to attracting capital you give a number of reasons why capitalists do not invest money in agriculture; and yet they lend money to agriculturists?—Yes, on security.

8734. It was said of England once that the only persons who made any money out of agriculture were the lawyers who were engaged in drawing up the mortgages?—I said in the beginning that litigation was a factor.

8735. The people who make money out of agriculture are the money-lenders?—Yes.

8736. Could you tell us roughly what percentage of the cultivated area of Gujarat you have influenced with your new methods?—Do you mean taken as a whole, or with reference to cotton or any particular crop?

8737. Taken as a whole?—It will not be more than about 20 per cent.

8738. As high as 20 per cent.?—In the South it is more than that, while in the North it is less than that.

8739. Of all the crops?—Not all, only cotton.

8740. But taking the gross cultivated area how much will it be?—It would not be more than 10 per cent.

8741. (You are a very experienced gentleman; have you in the course of your cogitations compared the standard of cultivation by persons who are holding land on lease as tenants with that of persons who are cultivating their own land?—Yes.

8742. Which does the most intensive cultivation?—Those that have got their own land.

8743. And if a man is cultivating some land as owner and some land as tenant, what will be the position?—He will pay more attention to his own land than he will pay to the landlord's land.

8744. He gives more ploughing to his own land?—Yes.

8745. What about manure?—He would give more manure to his own land; that applies to everything.

8746. He is apt to concentrate on his own land?—Yes, and treat the rest as a side industry.)

8747. Mr. Kamat: You are advocating agricultural colleges for the divisions, are you not?—Yes.

8748. That is to say, agricultural colleges for Gujarat, Sind, Karnatic, and so on?—Yes.

8749. And it is part of your system of divisional agricultural colleges that 25 per cent. of the posts in Government service should be reserved for graduates of those colleges?—Yes.

8750. And yet you try to persuade people not to go into Government service?—I am against Government service, but the first thing is that I want to attract as many students to agricultural colleges as is possible by any means; so that if they do not get Government service they will have to return to the land; they will not go to other occupations.

8751. You think this system of guaranteeing 25 per cent of the posts in Government service will attract students?—It is not guaranteeing; it is an understanding by the Government.

8752. Without this understanding there would not be enough students attracted to divisional agricultural colleges?—I doubt it.

8753. You think that without this system of guaranteeing or understanding, there would not be enough pupils coming to the agricultural colleges?—Not so many. If there were one more college, there would be enough students for two colleges, but not for four.

8754. What is the value of these agricultural colleges from the point of view of practical farming in your opinion?—The only question that matters is how to train these people up; I have already suggested that those going in for farming must have something like a post-graduate course of two years' actual farming; if that could be arranged, I think it would be the best possible training.

8755. So far we have heard that very few people go back to practical farming after graduating from these colleges?—Yes.

8756. Therefore the value of the agricultural colleges lies in the scientific training and training of teachers?—Yes.

8757. Not turning out practical farmers?—No. When people come out of colleges, even from European Universities, they are not masters of their vocation; it is the after-study that makes the man. College merely affords a guide as to how to find out things.

8758. If so many of these students do not go back to actual farming, is there any point in insisting that those who are admitted to these agricultural colleges for training for the first year's course should be mainly from the agricultural classes?—If they come from the agricultural classes, so much the better; that is desirable.

8759. But they do not go back to farming?—Never mind, wherever they go they will always have that tendency to look to agriculture as their own subject, and even though they go into other occupations they will always be talking to the public and interesting them in agriculture.

8760. If you want to turn out scientific men, why not avail yourselves of the best intellectual material without this particular preference for students from the agricultural classes?—I say that is the most desirable thing, but if you cannot get that, then you can go to the next best.

8761. With regard to the seasonal shortage of labour, you say something about the card system. Will you amplify that?—I am Chairman of the Divisional Board of Agriculture for Gujarat; during the last three years several complaints have been made by cultivators as to this labour question. I have asked for several books on this labour question from different parts of India and outside India to see for myself whether there is any easy remedy that could be suggested to the Division and to Government. From all the literature I got from Bengal, Mysore, Africa and other places I have only elicited one point, that is that in Rhodesia there is a system by which once you employ a servant he has to complete his contract for two years, five years, or whatever may have been arranged. If he fails to complete his term of employment and wants to join another service, he must take his card with his employer's signature on it; without that card no other person could employ him.

8762. Is not that tantamount to a system of indenture?—No, not at all: it is not the system of indenture such as exists in Fiji and other places. This card system is very simple; if my servant has this card with my signature upon it, he can leave me and seek other employment.

8763. Will you require legislation to enforce such a system?—Yes, I think legislation will be required.

8764. And you think that is the only way to remedy the present position?—Yes. A cultivator may pay Rs. 700 or Rs. 800 to a single labourer and he may run away next day and get employment on some railway work or something of that kind; the employer cannot get the man back and he loses heavily. Some remedy is necessary. This is merely my suggestion after studying so many laws on this matter in different parts of the world; that is the simplest I can find.

8765. You explained the working of the Deccan Agriculturists' Relief Act to some of the Members of this Commission. That Act has defeated its own purpose?—Yes.

8766. Will you tell me why the psychology of the moneylender has not been changed by that Act, and why he is tightening his hold on the borrower? Is it that he feels that the law has created disabilities and difficulties in his way?—Yes, whenever he sues a cultivator, the tendency is for the court to give instalments either with or without interest and in very small amounts. He cannot afford to lend on those terms and therefore he tightens his grip on the cultivator. When he sues in the civil court to recover his money, in accordance with the Relief Act he is not given a decree committing the borrower to jail or ordering the sale of the borrower's cattle; he merely gets a decree ordering yearly instalments, or whatever the court may think fit. It is natural that the *sowcar* in those circumstances should take steps to protect himself before lending.

8767. So that mortgages on land are taken in the form of fictitious sales?—Yes.

8768. That is the result of the passing of the Deccan Agriculturists' Relief Act?—Yes, such sales did not take place before the passing of that Act.

8769. The real remedy is to provide finance through land mortgage banks and not try by artificial means to alter the psychological relations between lender and borrower?—I do not know anything about land mortgage banks.

8770. But you agree that artificial means of correcting the relations between moneylender and borrower have no effect?—That I agree with.

8771. *Deewan Bahadur Malji*: Having regard to the atmosphere that is created by the present education in primary schools, may I take it that the bias schools will really prove a turning point in the history of education in rural areas?—Yes.

8772. The education of the adults will play the next important rôle?—Yes.

8773. You are actually trying both these experiments in the Surat district?—Yes.

8774. And you think they are, on the whole, a success?—Yes.

8775. Some of the Development Associations to which you have referred have been registered under the Co-operative Societies Act and some not?—Yes.

8776. Is there any sentimental objection to having them registered under the Co-operative Societies Act?—Not so much sentiment; I think it is a personal matter in one or two cases. Some of them are willing to be registered under the Co-operative Societies Act, and I think the others will come round in the course of time. We ought not to magnify that point at all. When they see other associations registered under the Act and see their work, they will come round of their own accord.

8777. In the case of associations which are registered under the Co-operative Societies Act the members will have some sort of guarantee?—Yes.

8778. But not so in the case of mere individual members; they might drop out at any time by non-payment of the prescribed fee of Re. 1 per annum?—That will be so even if they are registered.

8779. In that case the society's membership is practically guaranteed; they continue as members?—But if they want to drop out they may.

8780. In that case, of course, it will be left to them?—Yes.

8781. It may be made compulsory?—Then people may not like to get themselves registered, if you make it compulsory.

8782. I refer to societies as such; they are practically made compulsory members of the Institute?—If they get themselves registered under the Charitable Endowments Act, we want security for the money.

8783. But the difficulty will be with regard to individual members dropping out at any moment?—They will not drop out; Government has authorised the collection of the fees from members.

8784. Did not an experiment of that kind fail in Broach and Khandesh?—That was long ago.

8785. And things have not yet settled themselves down?—No.

8786. In Southern Gujarat is there a tendency to grow more cotton or cotton with cereals?—It depends on the values of the individual crops; the cultivator will grow what is more profitable.

8787. Do they sow cotton upon cotton in the next year?—Yes, if cotton prices are good they will sow cotton after cotton for several years. It is a commercial matter; you cannot force them to do what you want them to do.

8788. Would you not use compulsion?—No, I will not give any consent to that; I would leave the cultivator free.

8789. Do you advise him?—We advise, but they will not follow our advice. They will only go according to the money they get, and if by growing cotton they can get more money, I would certainly allow them to do so.

8790. *The Chairman*: I suppose that is without prejudice to what you told the Commission just now about your desire to compel the 20 per cent. why might resist the plan of improved cotton varieties?—Yes.

8791. *Dewan Bahadur Malji*: Would you advise it even at the expense of deterioration of land?—No, it will not deteriorate cultivation. Now instead of growing 2 feet apart they are growing 6 feet apart.

8792. You mean ridge cultivation?—No, they are growing cotton 4 to 6 feet apart; next year they are changed so that the roots do not come on the same row, that makes alternate rotation.

8793. A sort of half fallow?—Yes.

8794. What do you take to be the ordinary return of cotton crop per acre?—It depends on the price; if you tell me the price I will give you the outturn.

8795. And could you tell me the costings?—Yes.

8796. What is the ordinary thing?—For the Broach district I take it at 400 lbs. an acre, and the cost of cultivation is between Rs. 50 and Rs. 60.

8797. Will the difference be the net result or do you deduct other allowances?—No, there are no other allowances.

8798. Then what is the margin of profit?—You can calculate it according to the price you put on the crop.

8799. *Professor Gangulee*: Do you mean 400 lbs. of lint?—No, 400 lbs. good cotton, *kapas*; that is the average yield for the Broach district.

8800. *Sir Ganga Ram*: What is it in America?—1,000 lbs. per acre; in Egypt it is 1,500 lbs. per acre.

8801. *Sir Chunilal Mehta*: Do you think the prices of cotton are now going down?—Yes, with the result that food crops will be grown instead of cotton crops.

8802. *Dewan Bahadur Malji*: The exchange question also affects the situation?—That is a political question; I have no concern with it. I do not desire to express my opinion on that unless you desire it.

8803. Do you think the agriculturist will suffer in any way because of the exchange?—Yes.

8804. You are in favour of loans on easier rates of interest?—Yes.

8805. The present rates do not pay the agriculturist?—No, and will not pay.

8806. You told us that agricultural banks are required?—Yes.

8807. Am I to take it that you desire some sort of zamindars' banks which may advance large sums of money to large landholders?—I suggest Government agricultural banks financed by Government.

8808. Such as exist in Baroda territory?—Yes.

8809. You have also advocated the extension and repair of wells and tanks out of Famine Reserve Funds?—Yes, that is the greatest necessity where no canal irrigation is to be had.

8810. That is a great need of the day in Gujarat?—Yes, in the whole of Gujarat.

8811. You have referred to the fragmentation of holdings in Baroda territory. I think you have inadvertently omitted to mention Sokhda. Have you seen that is being done in Sokhda?—No.

8812. Will you be surprised to learn that half or three-quarters of the work has been done there?—I should be glad to see it.

8813. That is the consolidation in Baroda territory?—I should not be surprised at anything that that State does.

8814. *The Chairman*: Do you mean that nothing they could do would surprise you?—No; take the case of the States of Rajpipla and Chhota Udaipur; they wanted to have the whole of the land sown with one kind of seed and they did it with one stroke of the pen.

8815. *Sir Chunilal Mehta*: In Baroda it is a voluntary system?—Yes.

8816. *Sir Ganga Ram*: In the Punjab it is subject to consent?—Our Government would desire it, but they have to consider whether it would be palatable to the people; they have to take public opinion into consideration.

8817. *Sir Henry Lawrence*: I think you said you looked to the panchayets to help in the improvement of agriculture?—I was thinking of the petty litigation in which cultivators become involved; if that could be handed over to the panchayets I think it would lessen the evil to some extent.

8818. Then you do not advocate using the panchayets for the improvement of agricultural practice in any way?—I doubt whether they will be of any great use in that respect.

8819. You want the panchayets to help to settle disputes between cultivators and their creditors?—Yes.

8820. Do you look to panchayets of the old type or the new type?—Of the new type. They could deal with village problems such as hygiene and roads. During the last monsoon the villages got into such dirty state that on entering a village one got knee-deep in mud. The village panchayets could deal with matters of that sort. That is why I have suggested that the village panchayets might be asked to see to certain improvements in and around the village itself.

8821. Do you want these panchayets to be constituted in the way in which they used to be constituted or in some different way?—On the lines that have been charted out at present, with some small additional powers.

8822. The present panchayets are very different from the old panchayets?—Yes, they are different from the old panchayets; I do not advocate the old panchayets at all.

8823. The old panchayets were for each separate community?—Yes.

8824. There were separate panchayets for *patidars*, Brahmins, and so on. Do the *Dhuralis* have panchayets?—I cannot say exactly what they were, but they had some such thing.

8825. So that in one large village you might have four or five different panchayets under the old system?—It may be.

8826. Whereas now the custom is for one panchayet to represent all the different classes of the community?—Of the whole village.

8827. Do you think the old form of panchayet can still be effective?—I make no comparison with the old panchayet; I only advocate the new form of panchayet which is representative of the whole village and is able to deal with these things.

8828. Representative of all classes?—Yes.

8829. That is what you advocate?—Yes.

8830. Do you propose to entrust to a panchayet of that kind powers of compelling cultivators to improve their practice? If, for instance, 80 per cent. of the cultivators are prepared to adopt a certain practice, is the panchayet to have powers of compulsion with regard to the remaining 20 per cent.?—No.

8831. Then what authority is to enforce that improved practice?—Government; nobody else.

8832. The *mamlatdar*?—No.
8833. Then who?—The Government itself.
8834. But the Government must act through some local agency?—No doubt they might act through the Revenue authorities, but the final judgment should rest with the Government.
8835. But the final judgment of the Government must be enforced in actual detail by some local agency; what is your local agency?—My local agency is the *mamlatdar* and the village officers.
8836. You advocate that?—Yes, but I do not agree that these panchayets should be given that power.
8837. But you wish to have this compulsory power?—Only in very rare cases.
8838. Where it does occur you want to have it enforced, by the *mamlatdar*, the village *patel*, and so on?—Yes, if it is to be administered at all.
8839. But that is what you advocate?—Yes.
8840. You mention that some change in the system of keeping village accounts has deprived *sowcars* and capitalists of any confidence and prevented them from investing capital in land. Has that view of yours ever been represented to Government?—I do not know.
8841. You have not reported on it?—No, but I have heard that people have protested against it several times.
8842. *Sir Chunilal Mehta*: What is the change?—Some ten years ago there was a regular book kept showing the rent a man had to pay and what he owed, and these books were checked. Now that system has been abolished, and only a small paper is given for the amounts received, and most of these papers are lost by the cultivators.
8843. *Sir Henry Lawrence*: Has that been inquired into by the Revenue Officers and any report made to higher authority?—No.
8844. You have never represented this?—No.
8845. How long have you been aware of these difficulties?—It is five or ten years since the change was made. I did not think it was my duty to report the matter; it is the duty of the people themselves.
8846. *Sir Chunilal Mehta*: You are not aware that the people have made representations about it at any time?—They have made representations to local officers. Villagers have asked me what the idea was, and I told them they used to get their receipts in a book, and now they get them on pieces of paper. Personally, if I get a receipt I do not care whether it is on a piece of paper or in a book.
8847. *Sir Henry Lawrence*: But you say intelligent men, capitalists, do care?—Capitalists and *sowcars* do not know what these things are.
8848. They are all ignorant?—Not exactly ignorant, but they know very little about this Government business.
8849. *Sir Ganga Ram*: Did I understand you to say to the Chairman that only 3 to 5 per cent of the product of your school take to agriculture?—Of the college graduates. Of the graduates of Poona college, 3 to 5 per cent have taken to agriculture and the rest have gone into service.
8850. What do you refer to here, in what you say on page 572?—The agricultural graduates.
8851. How many years' service have you?—30 years.
8852. During your service, what agricultural improvements have you introduced to justify your salary?—I have enumerated them all.
8853. I can only find one paragraph, in which you say you or your department introduced ground-nut; that is all?—That is my own thing.
8854. I give you credit for that, but what else have you done?—Introduced improved cultivation. The cultivators used to sow at a distance of 18 inches apart when we started the Surat farm.
8855. Give me the economic value of that. How much more do they get now?—10 to 15 or 20 per cent.

8856. You say your capacity is only 400 lbs. an acre; our cotton is 700 lbs.?—It is not 700 lbs.; it may go to 500 or 550 lbs.

8857. Do not contradict me; I say what I mean. We can produce that amount up-country; what have you been doing in the direction?—Have you read my ridge cultivation pamphlet? It has gone up to 1,000 lbs. on the Surat farm. It is all done by ridge cultivation.

8858. What do you mean by 'ridge cultivation'?—Our method of planting cotton on ridges. We are trying to spread that as much as possible.

8859. To what extent have you spread it?—This is only a recent introduction, it was introduced in the last three or four years. It may take six or even ten years to spread it over the whole tract.

8860. By that time you will have retired?—Somebody will succeed me.

8861. Is there any possibility of irrigation from the four rivers that pass through your territory? Have you ever noticed that these rivers bring down volumes of water, and no use is made of it? Have you ever made representations about that?—I know the history of this matter, because when the Irrigation Commission came in 1901 I was Superintendent of the Surat farm and collected almost all the data for them. I know from conversation with them then and from what I have learned from our department that it is impracticable to have any canal irrigation from the Narbada or the Tapti.

8862. Is that the opinion of the irrigation people now?—I do not know what their opinion is, but since then the matter has never been gone into by anybody else.

8863. You have never given thought to it?—It was found to be impracticable; how could thought be given to it?

8864. Can you point to one paragraph where they say it is impracticable?—You must refer to the Irrigation Commission Report of 1901.

8865. You live at Surat?—Yes.

8866. Have you ever observed the desolation on both sides of the Tapti river?—Yes.

8867. Have you ever represented that that might be improved, and that the river might be taken advantage of to a certain extent?—It cannot be.

8868. Do not say 'it cannot be'?—The country is too level near the sea; there is no gradient for a canal.

8869. Have you never thought about it? It has pained me every time I have passed that way?—I do not think anything can be done.

8870. You said in answer to Sir Henry Lawrence that you advocated panchayets; do you mean for a village or a taluka?—For big villages, and for small villages combined together.

8871. How many people would you have in it?—2,000.

8872. Two thousand?—A population of 2,000.

8873. That is not what I mean. How many people would there be on the panchayet?—Half a dozen at the most.

8874. How would you select those men, by franchise? I suppose there are different castes in the villages?—Yes.

8875. Would you give them representation according to the number of people?—That must be decided by others.

8876. Have you seen panchayets working in any other Presidency?—No, but I have seen them in my own district.

8877. Are they working well?—They are not working very well, but they are working now.

8878. If their decrees are not accepted by the parties, would you give them powers to enforce them?—Yes.

8879. When you talk of long-term loans, how many years have you in mind?—10 to 20.

8880. At what rate of interest?—5 per cent.

8881. Simple or compound interest?—It may be simple interest.
8882. Government themselves pay compound interest; why should they charge only simple interest?—If you want to, you could charge compound interest; I do not mind.
8883. I only wanted your opinion?—Government can get money at 4 per cent, and I say they should charge 5 per cent.
8884. You have said that in Surat there are big landlords. One is Mr. Modi, a barrister?—Yes.
8885. How much does he own?—About 2,000 acres.
8886. Taking it at 1,500 acres, how much can he make?—At least Rs. 15, and it may be Rs. 20 an acre. It may be more, but it will not be less than Rs. 15.
8887. With 1,500 acres that means Rs. 30,000?—Yes.
8888. Does he make that?—Yes.
8889. He is a private practising barrister?—Yes.
8890. You say the rate of interest on *taccavi* should not be more than what Government has to pay. How much interest does Government charge now in this Presidency?—6½ per cent.
8891. You think they should only charge 5 per cent?—5 per cent or whatever they have to pay.
8892. Do you think that money before it reaches the cultivator filters through their fingers somehow?—I do not want to make that suggestion.
8893. What is your opinion? We want to find out if this sort of thing happens?—I refuse to make that assertion.
8894. We want your opinion?—I have given that already, in very plain terms.
8895. What is the cost of a well?—From Rs. 400 to Rs. 1,000 or Rs. 1,500 according to the tract.
8896. According to depth?—According to the depth in the tract.
8897. You say fragmentation of holdings is slowly adjusting itself?—Yes.
8898. How?—If I have to divide my property with my brother I will either take it myself or hand it over to him. That is the way things are being done.
8899. But by law?—By mutual understanding.
8900. On page 575 you refer to the Malommedan law of inheritance. There is no such thing; they simply followed the Hindu law, so far as fragmentation is concerned. Tell me something about the rotation of crops. With a holding of 20 acres, what would be sown in the first year?—It depends on the type of land. We have two types of soil. On the black soil it will be cotton and *juar*, and sometimes wheat.
8901. Give me the rotation?—If it is a systematic rotation it will be cotton followed by *juar*.
8902. What do you expect to get out of it?—Our average with cotton is 400 lbs. an acre.
8903. What is the gross value of the income you get from that?—It depends on the market price of the commodity raised.
8904. Take the average rate?—About Rs. 10 to Rs. 15 per acre. Rs. 200 to Rs. 300 for 20 acres.
8905. What is the pay of a *chaprasi*?—About the same.
8906. If you cannot teach them to make more than that, you must not blame them if they go into service, where they have a safe job and no fear of famine and so on?—No, we do not.
8907. If you are to justify the existence of your department, you must teach them to earn more?—We are trying to teach them better farming.
8908. Not more lucrative farming?—Better farming means that.

8909. How much can you teach them to earn?—15 to 20 per cent. more.

8910. That means Rs. 400. If it was an irrigated area, how much would you expect?—We have no such thing. Our black soils are unirrigated, and there are very few localities where the wells are working now.

8911. There is no canal irrigation?—No.

8912. Absolutely none?—In North Gujarat there is one small canal.

8913. *Dr. Hyder*: You do not think it will be a wise policy to control the credit of cultivators by restricting the sale or mortgage of their land?—No.

8914. How old are you?—55.

8915. You have no doubt studied the *sastras*?—Very little.

8916. I wondered whether in your study of the *sastras* you had come across the following passage: "And the Earth said, 'Let no mortal give me away.'" Have you pondered over the meaning of this passage?—I have never studied the *sastras*. My study has been agriculture all my life.

8917. To go back to the panchayets, can you give me the causes of the decay of this institution? I understood you to say in reply to the Chairman that the causes were purely political?—Yes.

8918. The question is important, because everybody is talking of the institution of panchayets. Do you think the India of the present day is the same as the India of old?—No.

8919. Did they have railways in the old days?—No.

8920. Did they have a postal service?—No.

8921. Did they have legislative councils?—No, but something of the same type. There were councils attached to the Rajahs, but I am not a historian and I am not supposed to know all this.

8922. People in the old days did not have Government institutions reaching every village. To-day the humblest cultivator can go to the nearest police station, to the court of the *mamlatdar* or, if not satisfied, to the Collector?—Yes.

8923. Such things did not exist in the old days, so that the people had to fall back on institutions of their own?—Yes.

8924. In view of the changed conditions in India to-day, do you think a revival of the panchayets would be successful?—Yes.

8925. You still think so?—Yes, because the litigation and waste of time involved are much worse than the advantages due to railways, posts and other things.

8926. *Sir Chunilal Mehta*: In answer to the Chairman you said only 3 to 5 per cent. of the boys from agricultural schools go into service?—Yes.

8927. The others go back to the land?—Yes. That is from my Gujarat schools; I do not know about Loni.

8928. You have two such schools?—Yes.

8929. When was the one at Surat started?—In your *régime*, three or four years ago.

8930. You cannot have much experience of what happens to the boys from that school?—Two batches have left. From the other school, which was started in 1919, there have been five batches.

8931. What class of boys attend those schools?—Mostly sons of cultivators.

8932. Do any Bhils go there?—Yes. I think eight to ten boys belong to the backward classes.

8933. These boys of the backward classes have nothing else to fall back on?—No, they must go back to their land.

8934. Anyhow, the number of boys turned out by both your schools is small?—It is limited to 30 students a year.

8935. And these schools have only been going for about five years?—Yes.
8936. You said something about cotton-breeding on your farm at Surat?—
Yes.
8937. When was Dr. Mollison in charge?—In 1900 he went to America, and on his return started cotton-breeding on the Surat farm.
8938. In 1901?—Yes. He taught me as soon as he came to India.
8939. How long was Dr. Mollison in charge of that farm?—Until he became Inspector General, towards the end of 1901.
8940. He was in charge only a few months?—Yes.
8941. Who took charge of it afterwards?—Mr. P. Mehta was there temporarily for two years.
8942. Who came after him?—Mr. Fletcher.
8943. How long was he there?—1903 to 1908.
8944. And after 1908?—Dr. Main was in charge for ten years; then came Professor Patel, who was in charge for two or three years, and since then I have been in charge.
8945. Has there been any change in the method of cotton-breeding since the time of Dr. Mollison?—There was some change after Mr. Fletcher came, about 1908.
8946. Has there been any change since 1908?—No, it has been going on the same lines.
8947. Giving very good results?—Yes.
8948. On page 572 you say post-graduate teaching in agriculture should be introduced in the agricultural colleges. What are you referring to there?—Post-graduate teaching for these agricultural graduates, as in other countries. These people when they go out are not so well trained as we expect them to be. Some of the intelligent men who graduate, if they had two years post-graduate training, would be the best men possible.
8949. Are you referring to practical training?—To training in whatever line they want to take up; practical agriculture, commercial farming, scientific research, agricultural chemistry, botany, etc.
8950. That would fit them for the work of practical cultivation?—Yes. I have suggested practical work for those people who wish to take up commercial farming. They should have two years' training on commercial or Government farms before taking up agriculture. Some of the graduates who have taken to agriculture have lost instead of gained, and they should receive a thorough practical training before they take to actual farming.
8951. With regard to *taccavi*, you say Government should charge the rate of interest at which they are able to borrow, plus establishment charges. Would you also include any allowance for losses on *taccavi* loans?—Yes.
8952. Is it your opinion Government is now charging more than would be covered by those three items?—I think so.
8953. On what data?—It is only my rough calculation. The losses are very few.
8954. How do you know that?—I see it is rigidly collected.
8955. If you look in divisions other than your own you will find there are plenty of losses. You have said that the cultivator who has only a small holding is more efficient and farms better than the big farmer. What exactly do you mean by that?—He is able to take more care of his land and crops; a man with 15 acres can look after them better than a man with 100.
8956. *Sir Ganqa Ram*: I am cultivating 50,000 acres?—Your conditions may be different; you are doing it on a commercial scale.
8957. *Sir Chunilal Mehta*: Will a man who cultivates 5 acres show better results than a man cultivating 25 or 30?—A man cultivating only 5 acres is able to find the labour within his own family; he will not want any hired labour. No supervision is required.

8958. How many acres can an ordinary family (a man, his wife and two children) look after properly?—It will vary according to the taluka. In some places 5 acres will be enough; in other, dry areas 20 acres may be required to support a family.

8959. You would rather go in for small plots?—Yes.

8960. After your long experience in the Agricultural Department you say about Rs. 15 an acre is the net return to the cultivator?—Yes.

8961. *The Chairman*: In a dry area?—Yes.

8962. *Sir Chunilal Mehta*: It is almost all dry. People require more than what to live a decent life?—Yes.

8963. What do you propose to remedy this state of things?—To improve their agriculture and increase their yield is one thing.

8964. You say that better seed will only increase the return by 15 per cent?—Better cultivation will give some 10 per cent more.

8965. How much more can you add altogether by your efforts?—By better seed, 10 to 25 per cent more. By better cultivation, proper rotations and manuring, about the same amount.

8966. By all your improvements you might be able to raise the return from Rs. 15 to Rs. 30?—Not beyond that, certainly.

8967. If you could do that, would Rs. 30 be sufficient to attract people to cultivation?—It is not enough.

8968. Then what should be done?—There should be some subsidiary industries for smallholders.

8969. You say nothing about that in your note?—I had no time.

8970. What do you suggest?—There are several side industries. First and foremost there is the keeping of cattle.

8971. Do the cultivators in your Division keep cattle?—Yes, as many as they can maintain on their farms.

8972. *Sir Ganga Ram*: On what percentage of their land do they actually grow crops?—On the whole of it.

8973. Then what do they keep the cattle on?—They grow *juari*, *bajri*, *kadab* and rice-straw.

8974. *Sir Chunilal Mehta*: Cows and bullocks?—The higher people keep buffaloes chiefly; they have some prejudice against keeping cows. They do not castrate the bulls, the progeny of the cows, and so the cows do not pay them.

8975. Do they purchase their bullocks?—Yes. Only the low-caste people keep cows, and then one, two or three at the most.

8976. You consider cattle-breeding is a feasible proposition for cultivators?—Yes.

8977. Is cattle-breeding a possibility in Gujarat?—Yes, except in the most southerly part of the Surat district, where there is heavy rainfall, and which may not be suitable for cattle-breeding.

8978. Is cattle-breeding being taken up more now than it was 10 or 15 years ago?—No; less.

8979. Why?—Because the areas lying under grass have all been brought under cultivation on account of the high price of cotton and foodstuffs, so that they are not able to maintain the number of cattle they had before.

8980. Do not they stall-feed?—No.

8981. What other subsidiary occupations are there?—Poultry, sheep and goats, in the case of low-caste people who have no religious objection. They do that now to some extent, but it requires to be much improved. The poultry are in very bad conditions; very inferior birds are kept throughout India. Then there is spinning and weaving. I do not know about spinning, but I would like weaving to be introduced as far as possible.

8982. Do the cultivators do any weaving now?—Yes.

8983. What kind of cloth do they weave?—When I was a boy all my relations used to weave. Our people are *Desais*, and we used to weave all our requirements.

8984. Has that died out?—Almost.

8985. Why?—Because they do not want to take the trouble. They go to the market and get ready-made clothes.

8986. Do you think with propaganda hand-weaving could be introduced again?—Yes; people are realising they are losing a lot of money by purchasing these things.

8987. What other industries would you recommend?—There are several others which depend on the locality, like lac-making.

8988. *Professor Gangulee*: Do you consider the present standard of the graduate course of the agricultural college is low?—No.

8989. It is quite satisfactory?—Yes.

8990. But you want a post-graduate course added?—Yes.

8991. Is the post-graduate course satisfactory?—It has not been arranged yet.

8992. You have the M.Sc. course at Poona now?—That is different from what I have suggested; I want special training.

8993. You referred to the system of recruitment of agricultural labour in your district. What are the outstanding features of that system?—In former times the cultivator advanced a man sufficient money for his marriage, say Rs. 40 to Rs. 70, and for that the man and his wife used to serve the cultivator for the whole of their lives.

8994. A sort of slavery?—They were fed and clothed by the cultivator and given burial expenses if anybody died. That has been replaced by the contract system with contracts for a term of years, and the money advanced has risen to Rs. 700, and then often the men run away and the cultivators lose their services.

8995. Would you restrict their freedom of movement?—Unless a man has settled with his former master he should not go to another one.

8996. Have you made a study of the exchange question?—No. I have read the newspapers; that is all.

8997. *Mr. Calvert*: Do I understand your view is that so far as agriculture alone is concerned, the poverty problem is insoluble?—I think so. The only solution is for the cultivator to work eight or ten hours a day throughout the year.

8998. *Sir Chunilal Mehta*: Does that apply to irrigated tracts, or only to dry?—In the irrigated tracts they have to work all the year.

8999. *The Chairman*: How long have you known rural India intimately?—At least since I entered the service.

9000. How long is that?—Nearly 30 years.

9001. Have you known the same district through all those years?—I have gone over most of India. I served for six months on special duty in Sind; I served eleven months in the Punjab and then went to the Central Provinces, the United Provinces and Bihar and Orissa with Dr. Mollison on a tour.

9002. *Sir Ganga Ram*: You have served in the Punjab?—Yes, for a year on the cattle farm there.

9003. *The Chairman*: Are you familiar now with the districts you knew intimately 30 years ago?—I know Gujarat very well indeed.

9004. What do you think about the standard of living of the cultivators in that district you know so well?—It has increased to a large extent.

9005. It is higher now than it was 30 years ago?—Yes.

9006. To what do you attribute that?—Outside influences.

9007. I want something more definite?—On account of the railways and other facilities, people get about and see things. They acquire habits like drinking and smoking. Formerly very few people drank tea; now no one will go to work without taking a cup of tea. That is the worst of it. A man who used to have only one coat now requires three or four. Their houses have materially improved.

9008. *Sir Ganga Ram*: Do they eat wheat or *juar*?—It is according to the local produce. Southern Gujarat produces *juar*. If they grow rice, they eat rice; if *bajri*, *bajri*.

9009. *The Chairman*: My colleagues have been enticing you off the main line of my question. So far you have described changes in the habits of the cultivator; what I want to know from you is whether you think the purchasing power of the cultivator has risen in the years during which you have known this district so well?—It increased to some extent up to the outbreak of the War, but very slowly. After the War it increased rapidly, between 1918 and 1924. Now a depression has set in, and their purchasing power has been much reduced. For a year or two it does not matter, but if it continues for five years there must be a contraction in the standard of living.

9010. They are still attempting to maintain the standard of living to which they attained in 1920-21?—Yes.

9011. But if the period of depression continues, that standard will have to be contracted?—Yes.

9012. But you are definitely of opinion that on the whole the purchasing power of the cultivators in Gujarat has risen during the period of 30 years during which you have known the district?—Yes.

9013. Are there more power pumps in Gujarat now than there were when you first knew the district?—There were practically none to start with, and now in one taluka there are more than 100.

9014. Are there any other power machines?—There are now 125 tractors in Gujarat alone.

9015. What has been the effect of the introduction of labour-aiding machinery on the well-being of the cultivator?—If the machinery and spare parts could be supplied, it would materially help them.

9016. Have you ever taken a course in agricultural economy?—No.

9017. You rely on your common sense?—Yes.

9018. *Sir Ganga Ram*: You say "if the agricultural machinery was supplied". Do you mean supplied free?—No.

9019. What is the cost of ploughing with a tractor?—Rs. 10 to Rs. 25 an acre.

9020. For one ploughing?—Yes.

9021. If I undertook to do it for Rs. 5 what would you say?—I would give you a very big contract!

9022. *The Chairman*: What do you propose to do when you reach the moment for retirement?—I would like to go in for private farming. I have already applied to Government and to the Collector of Surat to give me the worst piece of land that they have, which is not occupied by anybody, and I want to show what can be done with it and utilise my experience there. I do not know whether I will get the land, but if I do I want to utilise my knowledge by farming myself, at the same time placing my experience at the disposal of the Agricultural or the Co-operative Department. My sole ambition is to do farming myself.

(The witness withdrew.)

The Commission then adjourned till 10 a.m. on Tuesday, the 9th November, 1926, at Bangalore.

APPENDIX.

The Vernacular Agricultural School, Godhra, was started in 1920-21. Out of 89 students that were admitted, 68 went successfully through the complete course of the school till the end of 1925-26. Of these successful students 32 are reported to have engaged themselves in their own agricultural pursuits independently, 1 in private agricultural service, 8 in the Agricultural Department service, 4 in other departments, 11 have joined other occupations, and as regards the remaining 12, no definite information is available.

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PATEL, Mr. B. S., N.D.D., N.D.A., C.D.A.D., Professor of Agriculture, Agricultural College, Poona, 8025-8524, (527-540, 571).

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SALIMATH, Mr. S. S., B.Ag., Deputy Director of Agriculture, S. D., Dharwar, Bombay Presidency 6598-6797 (370-380).**AGRICULTURAL INDEBTEDNESS :**

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BOMBAY
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GLOSSARY

Adti, Adatya or Aratya. A broker.

Bajri A small millet (<i>Pennisetum typhoideum</i>).
Bandhara ..	.. Dam.
Bavto (Ragi) ..	.. An inferior kind of millet.
Berseem ..	.. Egyptian clover (<i>Tripolium alexandrinum</i>).
Bund ..	.. Dam.
Chamars ..	.. Workers in leather. One of the depressed classes.
Chaprasi ..	.. Peon (a messenger in the employ of Government).
Chavdis ..	.. Places where village officers hold their office.
Choola ..	.. An oven.
Cutchra (see Kutcha).	
Dalal ..	.. A broker.
Damdopat ..	.. An ancient Hindu provision by which the total interest on a loan may not exceed the amount of the principal.
Dharalaa ..	.. A backward class of cultivators in Gujarat.
Dhoti ..	.. Loin cloth worn by men.
Dokara ..	.. A unit of weight for cotton, usually about 12 maunds or 336 lbs.
Gauthan ..	.. Village site.
Gowrakshak ..	.. A refuge home for cows (lit : a cowkeeper).
Gowshala ..	.. A refuge home for cows (lit : a cowshed).
Gul ..	.. Unrefined Indian sugar.
Guntha ..	.. 1/40th of one acre.
Hamals ..	.. Porters.
Inamdars ..	.. Holders of beneficiary grants of land.
Jamabandi ..	.. An annual account of lands held in a village and the amount of land revenue due on them.
Juar ..	.. The large millet (<i>Sorghum vulgare</i>).
Kacheri ..	.. The office of a Government official.
Kadbi ..	.. Dried straw of jowar (millet).
Kamgar ..	.. Petty Officer.
Kapas ..	.. Cotton with cotton seed still adhering.
Kharif ..	.. Summer-sown (crops).
Kilhanavi ..	.. A way of preserving fodder by plastering the stack with mud.
Koli ..	.. An aboriginal tribe found in Gujarat and in the Deccan.
Kumri ..	.. Temporary cultivation in jungle clearings.
Kunbi ..	.. A cultivator.
Kutchra ..	.. Literally "not solid." Used of country roads, roughly constructed buildings, etc. (Opposite term is "pucca.")
Kutchra ..	.. Refuse.
Mahars ..	.. A depressed class.
Mamlatdar ..	.. The Revenue head of a taluka.
Mote (Mhote, Moth) ..	.. Water-bag.
Nilgai ..	.. Blue buck (<i>Boselaphus tragocamelus</i>).
Nullah (Nallah) ..	.. A water course

Palla ..	.. A measure of varying capacity.
Pancha ..	.. A loin cloth.
Panchayet ..	.. Literally a Committee of five. Used to describe an association of any number of persons instituted for objects of an administrative or judicial nature.
Patel (Patil) ..	.. Headman of a village.
Patidar ..	.. Holder of an ancestral share in village lands.
Patwari ..	.. Village accountant or registrar.
Pinjrapole ..	.. A refuge home for cows.
Rabari ..	.. A caste of cattle breeders.
Rabi ..	.. Winter-sown (crops).
Ragi ..	.. An inferior kind of millet (<i>Eleusine corocana</i>).
Salutri (Salutari) ..	.. A veterinary assistant.
Sari ..	.. A long piece of cloth worn by women as a shawl.
Sastras ..	.. The Hindu scriptures.
Senji ..	.. A forage trefoil (<i>Medicago parviflora</i>).
Seva Sadan ..	.. Literally "home of service." A charitable organization.
Sirkar ..	.. Owner (used as a synonym for the Government).
Sowcar ..	.. A moneylender.
Taccavi ..	.. Advances made by Government to cultivators for agricultural purposes.
Tal (Tahl) ..	.. Dam.
Taluka ..	.. A local revenue division of a district.
Tur ..	.. A variety of pulse (<i>Cajanus indicus</i>).
Vafa ..	.. Division of a field into squares for irrigation.
Zilladar ..	.. Term used in the Punjab for the Revenue Officer in charge of a group of villages. The term corresponds to a Circle Inspector, Bombay.