

MONOGRAPH I



GOVERNMENT OF GUJARAT

# Evaluation Survey of Agricultural Demonstration Plots

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**BUREAU OF ECONOMICS & STATISTICS**  
Government of Gujarat  
AHMEDABAD

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## FOREWORD

Today we have an urgent need for increasing agricultural production. It is not however an easy task. Achievements depend on the concerted efforts of millions of cultivators. Before they make the required efforts, they have to be motivated adequately regarding the need for, and methods of improved cultivation. Demonstration of improved practices in the fields of cultivators is one of the most valuable devices for putting across new ideas of better cultivation. But its success depends on the correct use of the demonstration method.

This survey was undertaken to find out how effective the demonstration method has been in Gujarat State. The results of the survey are not encouraging. It is now up to the Department of Agriculture and the Community Development Organisation to see that the demonstration method is used properly so that it can be effective.

I congratulate the Bureau of Economics & Statistics on carrying out this useful survey in a competent manner.

Ahmedabad, 18th March 1963.

V. ISVARAN,  
Chief Secretary to the  
Government of Gujarat.

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## 1. INTRODUCTION

### Object :

1.1. Demonstration plots laid on the cultivators' fields are an important plank in the propagation of improved agricultural practices. The practicability of improved practices, whether these be improved seeds, use of chemical fertilisers, pesticides, or the use of improved cultural practices, is sought to be demonstrated on the cultivators' fields under this programme, after these have been well established on the research farms and in field trials. The benefits flowing from the adoption of these improved practices are also thus demonstrated on the cultivator's fields. The Ford Foundation Experts' Report on India's Food Crisis and Steps to Meet it, has mentioned that "the Indian farmer bases his decisions on what in his mind has been clearly proven to work. Related to the low literacy rate in India is the cultivator's difficulty and distrust in dealing with abstract ideas from word of mouth or the printed page. His experience world, his world of proof, is what he can actually see and experience. Thus the demonstration, when properly carried out, should provide a successful educational experience". A cultivator is thus likely to be more readily convinced if he has the benefit of seeing a demonstration plot than through lectures, pamphlets, resolutions in the Panchayats, or even through watching the results of adoption of these practices on Government farms where conditions are more controllable and favourable than in his field. Therefore, the same beneficial results are sought to be demonstrated on some cultivator's fields, where conditions are equally less controllable or have more or less the same set of circumstances.

1.2. However, the demonstration plots programme to be successful must fulfil certain requirements. Even with a cooperative cultivator who permits a demonstration plot to be laid on his field, the results this programme seeks to achieve may not be achieved in the absence of proper attitude and effort on the part of the extension agency. Proper approach to the cultivators to whom improved practices are sought to be demonstrated; appropriate timings of visits; group visits; explaining the benefits through properly maintained accounts; location of the plot in places where cultivators would be well inclined to go when visits are arranged, or when a cultivator takes a trip alone or in a group without the Village Level Worker accompanying; follow-up of the visits at the appropriate time — these and similar conditions must be fulfilled before cultivators can be expected to visit the demonstration plots and later on, to adopt these methods on their own fields. Again, supply of materials at the proper time and in adequate quantum, and willingness of the extension agency to extend technical assi-

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stance to the owners of the demonstration plots would help bring out the maximum benefits following from the adoption of improved practices as against the traditional practices.

1.3. Having regard to the importance of this programme and of the need to fulfil certain conditions before it can be expected to yield dividends in the terms of wider acceptance of propagated practices, the Government desired that an evaluation survey should be taken up by the Bureau of Economics and Statistics with a view to assess the impact of this programme on the acceptance of improved practices and to ascertain reasons for non-acceptance, if any.

1.4. It must be stressed here that in the present survey the object has been to evaluate the impact of the demonstration plots programme from the angle of extension work and not from a technical angle of the appropriateness of a certain crop-type combination at a given place, or whether technical advice given and materials supplied were of the right kind and so on. A second limitation is that it has not been the object to measure in quantitative terms, the quantum of benefits derived through adoption of improved practices as compared to the returns accruing under the traditional methods; or in terms of the quantum of expected benefits against actual benefits accruing on the demonstration plots. Quantitative aspects have been largely omitted from the questionnaires and even though at one place — in questionnaire 3 — actual yields accruing from improved practices plot and 'check' plots were to be recorded, no attempt has been made to analyse the data, primarily because accounts of yield records, out-of-pocket expenditures, etc., have been conspicuously lacking.

#### **Sampling Design :**

1.5. There were in all 110 Stage I and II blocks (or 134 C. P. A. pattern blocks) in the State when the survey was planned. These blocks were classified into following five groups or strata according to the number of years they were in existence : (i) Stratum I: Stage I blocks which were in existence for less than one year. (ii) Stratum II: Stage I blocks which were in existence for one year or more but for less than 3 years. (iii) Stratum III: Stage I blocks which were in existence for 3 years or more. (iv) Stratum IV: Stage II blocks which were in existence for less than 2 years and (v) Stratum V: Stage II blocks which were in existence for 2 years or more.

1.6. 22 blocks (i.e. 20 percent) were selected for the survey by systematic sampling, selection being independent in each stratum. In each stratum the number of blocks to be selected was approximately 20 percent of the total number of blocks in the respective stratum. From the selected

blocks VLW circles were selected at random. The number of VLW circles to be selected in a block was determined according to the size of the block as follows.

Size in terms of CPA. pattern blocks	No. of VLW circles to be selected
Upto 1.5	2
1.5 to 2.5	3
2.5 to 3.5	4

In a selected VLW circle two villages were selected. One was the VLW headquarter village, whereas the other was selected at random from the remaining villages in the VLW circle.

1.7. In the selected villages, a list of all the cultivators normally residing in the village was prepared by house to house inquiry, and from this list, names of cultivators who had an agricultural demonstration plot during the years 1960-61, 1961-62 or both, were omitted. Similarly, the names of the five selected knowledgeable cultivators who were to be canvassed Questionnaire 2 were omitted for the purposes of the frame for selection of cultivators within the selected villages. From this frame for each selected village, ten cultivators were selected at random.

The selection of blocks, villages, etc., is shown below, for each stratum.

Stratum	Total No. of Blocks Stage [I & II]	No. of Blocks selected	No. of Villages selected	No. of Cultiva- tors se- lected	No. of knowled- geable Cultiva- tors se- lected	No. of owners of dem- onstrati- on plots.	No. of VLWs selected
I	12	2	10	100	50	2	5
II	12	2	10	100	50	18	5
III	43	9	42	418	210	64	21
IV	33	7	36	359	177	47	18
V	10	2	8	74	30	3	4
Total ..	110	22	106	1051	517	134	53

#### Estimation :

1.8. As explained in section 3.2, no elaborate estimation procedure has been used to get unbiased estimates. What has been done is to pool the data for the 1051 selected cultivators for the analysis of Q-1; for 517 knowledgeable cultivators for the analysis of Q-2; for 134 demonstration plot holders for the analysis of Q-3, and for 53 VLWs for the analysis of Q-4. Random sampling has been re-

sorted to get a representative sample of villages, cultivators, owners of demonstration plots and the VLWs without any bias entering into the selection. For the selection of knowledgeable cultivators subjective element has, however, entered, since no definite criterion of 'knowledgeability' was fixed before selection in order to construct a frame for selection. However, for the sake of completeness, unbiased estimates for a few characteristics have been worked out in Appendix I.

1.9. The unbiased estimates worked out illustrate that they are generally of the same order and in quite a number of cases, the statistical estimates underline the observations made in this report even more emphatically.

### **Questionnaires :**

1.10. Four different Questionnaires were canvassed to four different categories of persons as follows :

(1) Questionnaire 1 (Q-1): This questionnaire was canvassed to the ten selected cultivators in each of the selected villages.

(2) Questionnaire 2 (Q-2): This questionnaire was canvassed to the five selected knowledgeable cultivators for each of the selected villages.

(3) Questionnaire 3 (Q-3): This questionnaire was canvassed to the cultivators of selected villages who had demonstration plots in their fields in 1960-61, 1961-62 or both the years.

(4) Questionnaire 4 (Q-4): This questionnaire was canvassed to the VLWs of selected VLW circles.

Specimen of the four questionnaires canvassed in the survey are given in the Appendix II.

### **Field Agency :**

1.11. The Statistical Assistants in the Block Development Offices canvassed all the four schedules. In the selected blocks in which Statistical Assistants were not in position the work was entrusted either to the leave reserve Statistical Assistants or to the Statistical Assistants of neighbouring blocks. The District Statistical Officers of the respective districts carried out technical supervision and also kept a watch on the progress of the survey. In addition, supervision was also carried out from the Bureau's Head Office. The District Statistical Officers were imparted instructions in the canvassing of the questionnaires and they, in turn, imparted training to the Statistical Assistants in the blocks.



**Duration of the Survey :**

1.12. The field work of the survey was started on 15th November, 1961 and was completed by 15th March, 1962. The field work took longer time than expected because in some selected blocks, Statistical Assistants were not in position and the work had to be carried out through Statistical Assistants of neighbouring blocks.

**Tabulation :**

1.13. The tabulation of Q-1 and Q-2 data upto the block level was taken up by the District Statistical Officers and thereafter the block level tabulations were consolidated in the Bureau. Questionnaires 3 and 4 were completely tabulated in the Bureau.

**Coverage :**

1.14. As explained in section 1.5, Stage I and Stage II Blocks in the State were covered by this survey. Thus, the P. E. S., and the M. D. Ps., were excluded from the scope of the survey. As such, in all 106 villages out of a total of 13878 villages in the State were covered, accounting for 96,18,000 of the rural population of the State. Urban areas of the Blocks were also excluded from the scope of the survey.

1.15. The survey covered the period of 1960-61 and a portion of 1961-62 till the date of visit by the questioner to the respondent. Since the major part of the survey was carried out from December 1961 to February 1962, it can be stated that so far as 1961-62 is concerned, much of the rabi season of that year was also covered. For instance, a cultivator who had seen improved practices demonstration plot in 1960-61 rabi season could firmly report about their acceptance in the rabi season of 1961-62. Similarly, a large percentage of cultivators who had seen rabi season's demonstration plots in 1961-62 would be in a position to reply whether they intend to accept some of these practices in 1962-63. It is, however, true that the 1961-62 coverage will not be as complete as for the year 1960-61.

**Scheme of the Report :**

1.16. The report gives in Section I the introductory details regarding objects of the survey, its sampling design, estimation procedure, questionnaire pattern, etc. In Section II, a summary of the main results of the analysis of data collected by field enquiries is given. This summary also incorporates concluding remarks. Sections III to VI contain detailed analysis of the data available through Questionnaires 1 to 4 respectively. Thus

Section III is based on the data collected from 1051 cultivators; Section IV covers 517 knowledgeable cultivators; Section V gives the views and reactions of 134 owners of the owners of demonstration plots and Section VI analyses the replies given by the VLWs in Q-4. At the end of the main report, details of estimation procedure are given in Appendix I. This Appendix also gives Statistical estimates in respect of certain characteristics analysed in the main report. Appendix II gives the fascimiles of questionnaires 1 to 4.

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## 2. SUMMARY OF RESULTS

2.1. The summary of results, analysed in sections 3 to 6 is an attempt to bring the various aspects of the programme of demonstration plots into focus at one place. Observations made in this chapter are based on the analysis that follows and for details the reader will have to peruse the main report. Furthermore, while the later chapters analyse the data collected through the different questionnaires separately for each of the four questionnaires, the summary seeks to present the synthesis of the main results available in the different sections, aspect by aspect. Thus, summary starts with the description of the spread of demonstration plots and proceeds to describe the various aspects like the selection of plots and technical and material assistance, knowledge of demonstration plots, visits to demonstration plots, acceptance of the programme and practices, maintenance of records and accounts, and follow-up, and ends with some concluding observations that readily emerge out of this study.

### Spread of Demonstration Plots :

2.2. Analysis of Q-3 shows that out of 106 selected villages, demonstration plots were found in 1960-61 in 39 villages — 27 out of 52 VLW headquarter villages and 12 out of 54 'other' villages — and in 1961-62, in 48 villages — 32 out of 52 VLW headquarter villages and 16 out of 54 'other' villages. Thus in 1960-61, 1 out of 2 VLW headquarter villages had at least one demonstration plot whereas in the other villages, 2 out of 9 villages had at least one demonstration plot. The position had improved somewhat in 1961-62. The average number of demonstration plots per VLW headquarter was, however, substantially higher, being 1.1 in 1960-61 and 1.5 in 1961-62 as against 0.22 for both these years in other villages. The averages per VLW headquarter village reporting a demonstration plot had increased from 2.1 in 1960-61 to 2.4 in 1961-62 whereas in the case other villages it had decreased from 1.8 in 1960-61 to 1.4 in 1961-62. Although, therefore, the coverage of villages had increased in 1961-62 as compared to 1960-61, there was greater concentration of activity of laying demonstration plots in VLW headquarter villages in 1961-62 than in 1960-61 and the reverse was the case for other villages. It is also to be observed that by 1961-62, the target of having at least one demonstration plot in a VLW headquarter village had remained unfulfilled, only 8 out of 13 such villages reporting a demonstration plot in that year.

2.3. Obviously, cultivators having larger holdings had got relatively speaking, larger share of the demonstration plots. But one also finds that small cultivators had not been left out in the selection of cultivators in whose holdings these plots were to be laid. Most of the cultivators selected by the block agency for this purpose had some sort of a status and recognition, and only 14 percent were without any specific status.

Section III is based on the data collected from 1051 cultivators; Section IV covers 517 knowledgeable cultivators; Section V gives the views and reactions of 134 owners of the owners of demonstration plots and Section VI analyses the replies given by the VLWs in Q-4. At the end of the main report, details of estimation procedure are given in Appendix I. This Appendix also gives Statistical estimates in respect of certain characteristics analysed in the main report. Appendix II gives the fascimiles of questionnaires 1 to 4.

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2.6. Although about three-fourths of the VLWs have stated that supervision of plots is being done by higher level officers, their general opinion appears to be that it needs intensification. Two-thirds of these replies suggest intensification of supervision by the Extension Officer (Agriculture); about 18 percent of the replies suggest intensification by the Block Development Officers and about 13 percent indicate that the District Agricultural Officers should intensify their supervision. The fact that a large number of VLWs are feeling the need of intensification of supervision of demonstration plots by the Extension Officer (Agriculture), who are the immediate technical experts available, shows that whatever supervision is now being done by these officers may not be of the type from which a large number of owners of plots can derive as much benefit of technical guidance as the VLWs would expect them to derive. It may be that more technical guidance is made available indirectly in the form of instructions and advice transmitted through the VLWs.

2.7. There is some indication to suggest that a smaller percentage (81 percent) of owners of demonstration plots received technical guidance in 1961-62 than in 1960-61 (94 percent). Furthermore, such guidance as was received was confined more or less to initial operations of the manner in which demonstration plots were to be laid, etc., and little or no guidance was available regarding doses of fertilizers, their timings of applications, treatment of improved seeds and such other factors.

2.8. Well over 80 percent of the cultivators of demonstration plots have reported that they received material assistance in the shape of fertilizers, improved seeds, pesticides, implements, etc., in full measure. The assistance has been mainly in terms of priority allocation. Free allocations have been made in the case of fertilizers, presumably for free fertilizers trials carried out at certain places. Not in a single case, was any assistance not required for demonstration plots as such has been given as inducement for laying demonstration plots.

2.9. In the matter of supervision, technical guidance and material assistance, the VLW headquarter villages appear to be more advantageously placed than other villages.

#### **Knowledge of Demonstration Plots :**

2.10. That more than half the cultivator population (51 percent) had no knowledge of the existence of demonstration plot programme till the major part of the rabi season of 1961-62 was over, is an important finding of the survey. The extent of lack of knowledge was less in the VLW headquarter villages than in the other villages, as can be seen from figures given in 3.20. It is also seen that the extent of knowledge did not have

any strong relation with size of holdings, but a larger percentage of cultivators with some irrigation facility had knowledge of the programme (66 percent) than in the case of cultivators with no irrigation facility (40 percent).

2.11. As is to be expected, the knowledge of the existence of demonstration plots is better spread among the knowledgeable cultivators than among the general mass of cultivators. 85 percent of the selected knowledgeable cultivators had knowledge as against 49 percent of the average cultivators. This is presumably because almost all the knowledgeable cultivators have some irrigation facility, and also because by virtue of their status in the village community, they have better opportunities for acquiring knowledge.

#### **Visits to Demonstration Plots :**

2.12. While the knowledge of the existence of demonstration plots can be considered lacking among a large part of the cultivator — population in the rural areas after several years of the implementation of the programme, the proportion of cultivators who paid a visit to these plots was still lower, the figures being only 28 percent of the sample cultivators. 11 percent of these cultivators have seen the demonstration plot for the first time before 1960-61 and 17 percent during the two years of 1960-61 and 1961-62. These figures show that still 72 percent of the cultivators who are in a position to take decisions regarding adoption or otherwise of the improved practices have yet to visit a demonstration plot. And looking to this huge gap, the figure of 17 percent who paid a visit during the last two years (till 1961-62) for the first time cannot be considered satisfactory. For the villages which are VLW headquarters, the percentage of cultivators who visited a demonstration plot at least once is higher (35 percent) than for 'other' villages (22 percent) but even here, it is doubtful whether the percentage in the case of VLW headquarter villages can be considered satisfactory. Whereas in over 50 percent of 'other' villages no cultivator has seen a demonstration plot even once, the corresponding percentage of VLW headquarter villages is about 16. Seen against the figures given in 2.2, it would appear that there are some villages with at least one demonstration plot in each village but in which no cultivator might have seen it at all.

2.13. It is of interest to observe that whereas both the large and the small cultivators pay visits at least once to the demonstration plots more or less in the same measure, indicating no specific relation between size of holding and the proportion of cultivators seeing a demonstration plot at least once to the total in a given size of holding, there is a marked difference as between those having some irrigation facility and those having none. The percentage of those having some irrigation facility and seeing

demonstration plot is about twice as high (40 percent) as in the case of those cultivators who have no such facility.

2.14. Obviously, the more progressive and the more knowledgeable among the agricultural population should show a greater interest in paying visits to demonstration plots and the figures indicate that 60 percent of such cultivators have paid at least one visit. Of these 60 percent, 20 percent have visited even before 1960-61 and 40 percent during 1960-61 or 1961-62. The point of interest, however, in this case is that even among the knowledgeable cultivators, as many as 40 percent have yet to see a demonstration plot and that during the two years 1960-61 and 1961-62, only 36 percent of those not seeing a demonstration plot before 1960-61 have been added to the fold of those seeing a demonstration plot, as a result of the extension effort and spread of the demonstration plot programme during these two years. Even in the case of knowledgeable cultivators the differences are as marked as in the case of general mass of cultivators, so far as the VLW headquarter villages and 'other' villages are concerned. About 68 percent of knowledgeable cultivators in the former types of villages and 49 percent in 'other' villages have seen a demonstration plot. Furthermore, whereas about one-third of the 'other' villages are such in which none of the 5 selected knowledgeable cultivators has seen a demonstration plot, in only 6 percent of the VLW headquarter villages has not one of the selected knowledgeable cultivators seen a demonstration plot.

2.15. Having regard to the large number of cultivators not paying a single visit to the demonstration plots till 1961-62, it becomes important to probe further and make an attempt to know the reasons for not visiting a demonstration plot even once during all these years the programme has been in vogue. The reasons analysed amply indicate that in over 60 percent of the cultivators having knowledge but not visiting a single demonstration plot, it is the lack of (i) personal approach, (ii) proper arrangement, or (iii) fixing up convenient time, that has affected the widespread interest in visits to demonstration plots. These are remediable reasons and if efforts are made to overcome the difficulties which the extension staff may be experiencing in making a personal or special approach, proper arrangement and fixing up generally convenient timings, a large proportion of cultivators can be induced to pay visits to demonstration plots. About 16 percent of the non-visiting cultivators have indicated as a 'first priority' reason that the utility of such a programme to them is doubtful and another 10 percent, that the utility is nil. This shows that considerable extension efforts are necessary to break-down the barriers of resistance of farmers who doubt the utility of the programme or of the improved practices shown on the demonstration plots, or of both. It is only when a first breach is made in the mental reservations of the doubting farmers that further advance can be gained in terms of wider acceptance of improved practices.

2.16. In the case of non-visiting knowledgeable cultivators, the remediable reasons stated earlier are even more important, since over 70 percent of these cultivators having stated one or the other of these reasons as 'first priority' reason for not visiting demonstration plots. In view of the fact that the knowledgeable cultivators are in a position to influence the village opinion and acceptance of a programme or practice, it is important that a proper approach in persuading them to visit a demonstration plot is adopted by the extension agency.

2.17. Analysis of questions relating to consultations and approach indicate that less than one-fifth of the total knowledgeable cultivators were approached by Block officials during 1960-61 or 1961-62 and in almost three-fourths of the cases, such approaches were made by the VLWs. Details given in paragraphs 3.26 to 3.28 and 4.13 and 4.14 amply indicate some of these basic weaknesses of the proper implementation of the programme.

2.18. Since about 94 percent of the knowledgeable cultivators accept the utility of the programme of demonstration plots, and about three-fourths of this large majority have stated that they try to influence the village opinion in favour of visits to demonstration plots it is once again important to emphasise that proper approach and consultations with progressive farmers of the villages might considerably enthuse other cultivators into at least paying a visit.

2.19. A great deal would depend on how well the visits are conducted. An ill-conducted visit might either make cultivators visiting the demonstration plots indifferent to such a programme or it may fail to gain acceptance of improved practices demonstrated on the demonstration plots. In the extreme cases, development of an outright resistance to adoption of demonstrated practices can also be visualised. In the light of these dangers, it is of considerable importance to note that in about as many as 50 percent of the visits the cultivators were left to themselves to visit the demonstration plots. In about 35 percent of the cases, visits were conducted by the VLWs and in about 9 to 13 percent of the cases, owners of demonstration plots had themselves taken some interest in conducting visits. The role of Extension Officer (agriculture) or higher technical personnel appears insignificant in this regard. The role of village panchayats and cooperative societies which are expected to serve as important vehicles of propagation of new ideas in the village community is also insignificant. Group visits are conducted in only one-third of the cases. All these features of unorganised visits, in spite of the fact that almost 89 percent of cultivators see the demonstration plot in their own villages and only 5 percent, only outside the villages, point up to the absence of adequate and proper attention, on this important facet of the demonstration plot programme.



### Acceptance of practices :

2.20. For the purposes of the summary, it is not proposed to discuss the various types of improved practices which are demonstrated and which are accepted. The details of this aspect can be found in the main report. What is important from the point of view of evaluation is the degree of acceptance and reasons for non-acceptance. As seen earlier, only 28 per cent of the cultivators have at all seen a demonstration plot till the late part of the rabi of 1961-62; and as indicated in paragraph 3.37, out of 121 cultivators who visited a demonstration plot during 1960-61, 100 have not adopted any improved practices seen by them on demonstration plots. Thus, the achievement in terms of actual adoption is quite low, being less than 2 percent of the total number of cultivators. However, if larger number of persons could be brought to the demonstration plots through organised and well conducted visits, there seems to be sufficient justification to believe that this percentage can be much higher than mere 2. This is borne out by the fact that even when visits are largely unorganised, 19 out of 100 who had not formerly adopted an improved practice had adopted it in the subsequent agricultural season, after seeing the same in the current (i.e. 1960-61) season. If the intentions of adopting an improved practice in 1962-63 after seeing the same in 1961-62 are considered, the picture is still more optimistic since as many as 53 percent of those visiting a demonstration plot in 1961-62 have reported that they intend to so adopt an improved practice in 1962-63 after seeing it in 1961-62. And, even if allowance is made for the difference between intentions and actual adoption, the facts do indicate the need for better organised visits to demonstration plots and for larger involvement of the rural people in the programme. It is also seen here that it is not the higher size of the holding but the possession of some irrigation facility which leads to a larger degree of adoption of an improved practice.

2.21. In the case of knowledgeable cultivators, as many as 40 percent of those who had not adopted improved practices before 1960-61 but had seen them in 1960-61 indicated adoption in 1961-62. Thus, the level of achievement is, as is to be expected, higher in the case of knowledgeable cultivators than in the case of the general mass of cultivators. Also, 44 percent of those seeing a demonstration plot in 1961-62 seem to have an intention of adopting some of these improved practices in 1962-63.

2.22. A still higher level of adoption is to be found among the cultivators on whose fields demonstration plots are laid. 65 percent of such cultivators have either fully or partially adopted practices demonstrated by them on their respective fields.

2.23. Reasons for non-adoption indicate a pattern of considerable interest. Among the several reasons, the more important ones are the follow-

ing : adoption needs too much additional cash expenditure; additional irrigation facilities are not available, and new practices are not suitable to own farms. The last two reasons and to a smaller extent the first reason also, are important in the case of knowledgeable cultivators. Even in the case of owner-cultivators of demonstration plots, the principal reason for non-acceptance is the higher expenditure involved in accepting the demonstrated practices. Apprehension of these cultivators in regard to the availability of materials needed for acceptance of improved practices demonstrated on their farms is the second important reason for non-adoption. There also appears to be quite a few among the non-adopting cultivators who cannot assign any specific reasons for non-adoption.

2.24. These various reasons point up the direction in which efforts need to be made if the non-adoption is to ultimately result in adoption of improved practices. The first two reasons indicate the increased provision of facilities for credit and irrigation where feasible. That high cash expenditure is an impediment, indicates the inability of farmers to take to more expensive practices even if they result in better net returns. Whether the improved practices are not suitable on own farms is a reason which may need technical investigation on the farms of cultivators who hold such opinion and where these fears are not justified, the extension agency has to exert considerably to convince the cultivators of the unfounded fears about unsuitability of soil. It is an interesting side-light that some of the cultivators, on whose farms these demonstration plots are laid, are not sure of the future availability of material supplies which are now being made available for a specific purpose of demonstration plots, if they were to adopt these practices on their farms. Whether this fear is also unfounded — in which case the extension agency has again a special responsibility to remove such an impression — or whether such an impression is formed from their experience or knowledge of what may have happened in the case of some cultivators who might have adopted improved practices is a point which has not been probed in this survey.

#### **Records, Accounts :**

2.25. The survey amply brings out that while some sort of records are maintained; only a small percentage of VLWs (15 percent) maintained any detailed accounts of inputs, out-turn, labour-hours, differences in yields of crops grown through the adoption of improved practices and crops grown on the 'check-plot'. Only 13 percent of the VLWs have indicated that written instructions from higher authorities exist for maintaining detailed accounts. It is likely that this small proportion of VLWs who maintained accounts referred mainly to the free fertilizer trial plots which were treated as demonstration plots in case they were also used for that purpose.

2.26. The same picture of lack of detailed accounts is available when the replies of owners of demonstration plots are analysed. And, even smaller

proportion of them have cared to examine the accounts maintained by the VLWs. According to these cultivators, only 6 VLWs in the sample of 53 were seen explaining accounts to the cultivators at the time of their visit to demonstration plots.

2.27. Only about 5 percent of the visiting cultivators have reported that they had seen accounts of expenses and receipts regarding demonstration plots.

2.28. Thus, factual record of benefits in terms of higher yield, larger employment, better net returns which are likely to flow from the adoption of improved practices is an almost neglected aspect of the demonstration plot programme. It may be that the benefits of higher yield, etc., are so very obvious from a visual inspection on the crops grown on the demonstration plots that by and large the VLWs as well as the owner cultivator of the plot do not feel the need for keeping detailed accounts. But in the process, an opportunity of building up scientific material, on a large scale, is being lost. It is also perhaps not being realised that in explaining the benefits of adoption of improved practices to the mass of cultivators, or in discussion matters in village meetings or before a group of discerning cultivators, such accounts are of immense use. That higher cash expenditure also brings better net returns (gross receipts less out-of-pocket expenditure) in the aggregate is a point which can only be argued on the strength of detailed accounts.

#### **Follow-up :**

2.29. A large part of the demonstration effect is likely to be lost if the enthusiasm and interest of visiting cultivators is not later on sustained by a proper follow-up. The survey, however, reveals that a very small proportion of the VLWs kept any record of visitors to demonstration plots. Considering that only in about 50 percent of cases, visits were conducted by the extension staff — mainly by the VLWs — and that only 20 percent of VLWs kept any record of visitors who accompanied them, it is clear that very little is being done to have a proper record of all visitors whether they accompanied the VLWs or not. Whatever follow-up is being done is evidently on the basis of memory about the persons who visited demonstration plots. Only 17 percent of the VLWs have stated that they encourage the cultivators to use improved practices seen on demonstration plots. Only in about 23 percent of VLWs replies, it has been stated that results were discussed in organised meetings with villagers, village panchayats or among the VLWs themselves. These facts reveal another gap in extension effort which needs to be filled adequately.

### Concluding Observations :

2.30. Analysis of the evaluation survey of demonstration plots can be considered in two parts : (1) the operational aspect and (2) the extension aspect. The operational aspect would cover such item as the selection of crop-type combinations, selection of cultivators for laying demonstration plots, arranging for material supplies, technical supervision and assistance, and maintenance of records and accounts. The extension aspect would cover items relating to efforts made to involve people in the programme; encourage them to visit the demonstration plots in a well-organised manner; discuss with them the results of the demonstration plots at various stages of crop-growth; maintain a proper record of such visitors to be able to follow-up the visits and find out whether the impact of the visit has been favourable; whether they subsequently adopt the practices and if not, ascertain the reasons for failure in terms of adoption of demonstrated practices with a view to find out if something can be done to mitigate the difficulties experienced in the adoption of demonstrated practices or to re-fashion the programme, if necessary.

2.31. In the operational field, the survey shows that demonstration plots tend to be somewhat concentrated in fewer villages. This may perhaps be inevitable with the necessity of coping up with given quantum of work in a given time. Such a situation is also likely to facilitate supervision, technical assistance and supply of materials as smaller territory has to be covered. But due to this concentration, all the VLW headquarter villages are not covered, not to say of about 50 percent of other villages which do not find a single demonstration plot.

2.32. Technical assistance is in the main confined to the laying of demonstration plots, and initial operations but subsequently it seems to be somewhat wanting with the result that the demonstration plots may not bring out expected full benefits. Against this background, the supply of materials for the demonstration plots, which appears to be in adequate measure may be all too mechanical an operation only to fulfil certain targets of attempt to fill up the same.

2.33. Lack of adequate supervision at least by the Extension Officer (Agriculture) and transferring a large part of this load of work may not be desirable inasmuch as too much may be expected of the VLWs whereas the actual result may be to lose some of the gains that would accrue from following scientific direction of technical personnel.

2.34. Absence of detailed accounts may be partly due to the fact that targets in numbers of demonstration plots laid are only insisted upon, but it may also be the result of a complacent attitude that the results are

so very visible that no accounts are necessary. To a large extent, the reason for the absence of accounts is merely a reflection of the absence of a proper attitude towards their maintenance, inculcation of which should in fact start at the training level of the extension agency. It is little realised "that the accumulated results from successful demonstrations could be used by the extension staff to a greater extent as teaching material with other farmers".

235. But the major failing of the programme appears to be inadequate extension effort. The concentration of demonstration plots in few places requires that such concentration should be matched by adequate extension effort. The report shows amply that visits are largely unorganised, and where these are organised, there is no follow-up, that cultivators need to be persuaded to see the demonstration plots by better approach, and arranging visits at more convenient timings, and that the progressive cultivators who are in a position to influence the village opinion, need to be taken into greater confidence about the programme. A sizeable proportion of cultivators who are not sure of the utility of the programme or the demonstrated practices and a smaller proportion who more stubbornly believe that the utility is nil stand in need of being convinced that what is demonstrated is useful. It is a challenge which the extension agency must meet through better extension efforts, if the programme is to yield results in terms of more widespread acceptance of improved practices.

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### 3. ANALYSIS OF DATA COLLECTED IN QUESTIONNAIRE 1.

3.1. Questionnaire 1 (Q. 1) was canvassed to a sample of 1051 cultivators in the selected villages with a view to gain knowledge about the extent of participation of cultivators in the demonstration plot programme and to measure their reaction to certain aspects of this programme. Provision was also made in Q. 1 to ascertain the extent of knowledge of cultivators regarding this programme, and the method of approach by the extension agency in involving the cultivators into acceptance of the programme.

3.2. Since the sample design has already been described in section I, paragraph 1.5 to 1.7., it is not necessary to repeat it here. It is important, however, to observe that the results presented here are based on a sample of 1051 cultivators selected at random, and are not statistical estimates. To this extent the results may not admit general validity. However, statistical estimates of some characteristics have been worked out and these can be seen in Appendix I. These estimates clearly indicate that by and large corresponding figures presented in the main report are somewhat higher than the estimates. Furthermore, as will be seen later on, even with these higher figures, the number of cultivators who have seen a demonstration plot, who have paid at least one visit during 1960-61 and who have paid at least one visit during 1961-62, the overall picture is one which cannot be considered quite satisfactory. Thus, the statistical estimates, if used, would only serve to lay greater emphasis on the not-so-satisfactory position of the demonstration plot programme, and the use of percentages, averages, etc. based on straight pooling of sample data is not in any way likely to distort this picture.

#### Type of the Sample :

3.3. The distribution of the 1051 cultivators in the sample according to the five strata into which the State has been divided for the purpose of classification of Blocks is as follows :

Stratum	Type of Blocks.	No. of cultivators	Percentage to total
I	Blocks having completed less than 1 year of stage I.	100	9.51
II	Blocks having completed between 1 and 3 years of stage I.	100	9.51
III	Blocks having completed 3 years or more of stage I.	418	39.77
IV	Blocks having completed less than 2 years of stage II.	359	34.16
V	Blocks having completed 2 years or more of stage II.	74	7.05
		1051	100.00

3.4. The above table shows that over 80 percent of the sample cultivators belong to such categories of blocks which have completed at least 3 years of stage I (Strata III to V) and had thus ample opportunity to see the demonstration plots since the programme is being implemented for a number of years.

According to size of their cultivated holdings, the distribution of cultivators is as follows :

Size of holding (acres)	No. of cultivators	Percentage to total
i Less than 5	284	27.02
ii 5 - 15	350	33.30
iii 15 - 25	183	17.41
iv 25 - 40	142	13.51
v 40 and above	92	8.76
Total ..	1051	100.00

3.5. While less than 9 percent have large holding of 40 acres or more, 64 percent have a holding between 5 acres and 40 acres. Over 30 percent have a holding between 15 and 40 acres. Thus, a sizeable proportion of sample cultivators have holdings which are not inordinately small and which would perhaps permit adoption of improved practices for such of the crops which the cultivators may be growing and for which they may visit the demonstration plots if proper facilities are given and an appropriate approach is made to these cultivators.

3.6. About 42 percent of these 1051 cultivators have some sort of irrigation facilities. From the information collected, it is not known if these facilities are adequate to cover their respective holdings in full; but it is unlikely to be so considering that still about 7 to 8 percent of the cultivable area is irrigated in the State and considering that sampling design has no particular bias towards higher proportion of selecting irrigated holdings. The difference in the distribution of holdings with some irrigation facility and for those having none, can be seen from the following table.

Size of holding (Acres)	Irrigated holdings		Non-Irrigated holdings.		Percentage of irrigated to total in the specified size group.
	No.	percentage to total.	No.	percentage to total.	
1. Less than 5	71	15.99	213	35.09	25.00
2. 5 - 15	137	30.86	213	35.09	39.14
3. 15 - 25	98	22.07	85	14.00	53.55
4. 25 - 40	79	17.79	63	10.38	55.63
5. 40 or more	59	13.29	33	5.44	64.13
Total ..	444	100.00	607	100.00	42.23

3.7. Thus, the extent of irrigated holdings increases with the size of holdings. For the smallest group (less than 5 acres each) 25 percent of the holdings have some irrigation facilities and the percentage increases with the size of holding, being over 64 percent for the largest group (40 acres or more). The distribution of irrigated holdings is also less uneven than in the case of unirrigated holdings.

According as the village is VLW's H. Q. or not, the percentage distribution of irrigated holdings according to the size group of holding is as follows.

Size of holdings (acres)	VLW H. Q.	Non-VLW H. Q.
Less than 5 .. ..	17.28	14.43
5—15 .. ..	35.39	25.37
15—25 .. ..	20.99	23.38
25—40 .. ..	18.11	17.41
40 or above .. ..	8.23	19.41
	<u>100.00</u>	<u>100.00</u>

3.8. It is seen that in the two smallest size groups, the percentage of holdings with irrigation facilities is distinctly higher in the VLW H. Q. Villages than in other villages. In the highest size group, irrigation facility is relatively better in the non-VLW H. Q. Villages.

3.9. Summarising, it can then be stated that the sample of cultivators is one where a large number of them belong to development blocks which have seen a span of at least 3 years of stage I; quite a large proportion have a size of holding which is not inordinately small, and in addition a sizeable proportion have some irrigation facilities. It is to this background that the analysis of results has to be related.

#### Visit to Demonstration Plots :

3.10. Of the 1051 cultivators selected, only 295 i.e. 28 percent have seen a demonstration plot at least once upto the date of enquiry. 117 or about 40 percent of these 295 cultivators who have seen a demonstration plot, have seen for the first time before 1960-61, 31 percent have seen during 1960-61 and the remaining 29 percent have seen for the first time during 1961-62. Thus, of the 934 (1051-117) who had not seen a demonstration plot at all before 1960-61, only 178 (295-117) or about 19 percent of those not seeing a demonstration plot before 1960-61, have been added to the fold of those who have seen a demonstration plot during the two year period of 1960-61 and 1961-62. To put it differently only 11



percent of cultivators had at all seen a demonstration plot before 1960-61, and only 17 percent ( $178/1051 \times 100$ ) have seen a demonstration plot for the first time during 1960-61 or 1961-62. This shows that the tendency indicated is that during recent years i.e. during 1960-61 and 1961-62, no appreciable number of cultivators have been brought to the fold of those who have seen the demonstration plot at least once.

3.11. Analysis according to various strata indicates that in blocks which have started earlier (strata III and IV), over 30 percent of the cultivators have seen a demonstration plot as compared to 16 percent in stratum II and a still smaller proportion, viz., 10 percent, in most recently started blocks. However, although Blocks of stratum V are started earliest, only 23 percent of cultivators in these blocks have seen a demonstration plot up to the date of enquiry. Of those who have seen a demonstration plot, over 82 percent in Stratum V, 42 percent in Stratum IV and 50 percent in Stratum II have for the first time seen before 1960-61, whereas the corresponding figures in stratum I and III are 10 percent and 33 percent respectively.

3.12. Analysis of the extent of impact of the demonstration plot programme in terms of visits to demonstration plots by selected cultivators, according to whether they belong to the villages which are VLW headquarters or not reveals the interesting result that villages which are VLW headquarters show distinctly high percentage of cultivators paying at least one visit to demonstration plots. Thus, 35 percent of cultivators of VLW headquarter villages have seen a demonstration plot at least once as against 22 percent of cultivators in 'other villages'. Of those who have seen a demonstration plot, a larger percentage (46 percent) have seen for the first time before 1960-61 in 'other villages' as compared to the corresponding percentage of 36 percent in VLW headquarter villages. The figures are set-out in the following table :

Item	Category	
	VLW headquarter villages	Other villages
1. No. of cultivators selected ..	519	532
2. No. of cultivators who have seen a demonstration plot ..	180	115
3. Percentage of (2) to (1) ..	35	22
4. Of those at 2 above, percentage of those who have seen for the first time		
(a) before 1960-61 .. ..	35.6	46.1
(b) during 1960-61 .. ..	37.2	22.6
(c) during 1961-62 .. ..	27.2	31.3

3.13. Distribution of villages split up into above two categories according to the number of selected cultivators also reveals that while 17 percent of VLW headquarter villages are such in which not one of the 10 selected cultivators in a village has seen a demonstration plot, there are about 52 percent of the selected villages which are not VLW headquarters in which the selected cultivators have not seen a demonstration plot at all. Also the percentage of villages in which not less than 5 selected cultivators have seen a demonstration plot is higher at about 33 percent in the category of VLW headquarter villages, whereas it is 22 percent in other villages. These figures indicate that the effort is more concentrated in the VLW headquarter villages than in other villages. The figures are set-out in the table below :

No. of selected cultivators in a village who have seen a demonstration plot.	No. of villages	
	VLW headquarters	Other villages.
0 .. .. .	9	28
1 .. .. .	9	1
2 .. .. .	8	7
3 .. .. .	3	6
4 .. .. .	6	—
5 .. .. .	4	3
6 .. .. .	3	2
7 .. .. .	3	2
8 .. .. .	3	4
9 .. .. .	2	—
10 .. .. .	2	1
Total ..	52	54

3.14. Analysis of 295 cultivators seeing a demonstration plot at least once, according to size of holdings reveals that while about 27 percent of the cultivators possessing less than 15 acres have seen a demonstration plot, corresponding percentage for the cultivators having larger holdings is 30. Thus there is not much variation around the overall average of 28 percent, when size of holdings is considered as a classification criterion.

3.15. Cultivators with some irrigation facilities, on the other hand, show a higher percentage in the matter of visits to the demonstration plots. About 40 percent of cultivators with irrigation facilities as against less than 20 percent of cultivators without irrigation facilities have visited a demonstration plot at least once. Here also, two facts emerge. There is no relation between size of holdings and proportion of cultivators of each size-group visiting demonstration plots. For each size-group, the percentage of those visiting demonstration plots to the total number of cultivators

of a given category is always higher for the category of cultivators having some irrigation facility than for the other category of cultivators not having any irrigation facility. Thus, it is irrigation which seems to be the important factor in inducing the cultivators to see the demonstration plots. The figures of percentages of cultivators of a given class seeing a demonstration plot are shown in the following table.

Size of holdings (acres)			Irrigated	Unirrigated	Total
less than 5	..	..	45	20	26
5—15	..	..	38	21	28
15—25	..	..	39	19	30
25—40	..	..	45	16	30
40 and above	..	..	37	15	28
		Overall	40	19	28

#### Informant Agency :

3.16. By and large, those who have visited demonstration plots at least once have acquired information from VLWs. For 52 percent of such cultivators, VLWs are the first informant. The agency communicating information to the cultivators, next in importance is the cultivator on whose farm the demonstration plot is laid, inasmuch as 18 percent first acquired knowledge of demonstration plots through them. About 10 percent have first acquired the knowledge of the demonstration plots themselves.

#### Place of visit :

3.17. About 89 percent of the cultivators who have seen a demonstration plot, have seen them only in their villages, another 5 percent have seen only outside their village and the remaining 6 percent have seen both in as well as outside their villages. Analysis according as the villages are the VLW headquarters or other villages show no significant deviation in the proportion of cultivators who have seen the demonstration plot within their village. In the case of the cultivators who have seen the demonstration plot outside their villages, proportion is higher for VLW headquarter villages as compared to that for the other villages. The respective percentages are 6 and 3. For the cultivators who have seen demonstration plot both within and outside the village, a slightly higher proportion of cultivators is observed in 'other villages' than in the VLW headquarter villages, the respective figures being 7 percent and 5 percent.

#### Agency Conducting Visits :

3.18. It is observed that about half the number of visits were conducted by the cultivator himself. The Agency next in importance in conduc-

ting visits is the VLW. The figures are set-out in the following table which show percentages of total visits conducted, according to agency conducting the visits, these percentages being also given separately for the two categories of villages.

Agency	1960—61			1961—62		
	VLW head-quarter villages.	Other villages.	All villages.	VLW head-quarter villages.	Other villages.	All villages.
Self ..	52	49	51	56	49	53
VLW ..	34	34	34	33	39	35
Cultivator of demonstration plot	13	14	13	9	10	9
Others ..	1	3	2	2	2	3

3.19. About 33 percent of the visits during 1960-61 and 40 percent during 1961-62 were conducted in groups. It would thus appear that a large proportion of visits were conducted by the cultivators themselves and that these visits were, in a majority of cases, not in groups. The real extension efforts through organised forms of visits which obviously can yield better result in terms of later acceptance of improved practices thus seem to be lacking in a large proportion of cases.

#### Knowledge about Demonstration Plots :

3.20. As stated earlier, about 28 percent of the cultivators have visited demonstration plot at least once. The break-up of those 72 percent who have not visited a demonstration plot is as follows. 21 percent of the cultivators had knowledge of the existence of demonstration plot and yet did not visit even once. The remaining 51 percent had no knowledge about the existence of demonstration plots. This means that 49 percent have some knowledge of the demonstration plot programme and the existence of demonstration plots. The following table gives a further break-up of all cultivators according as they belong to villages which are under VLW head-quarters or other villages. Figures are in terms of percentage of cultivator to the total in each category of villages :

Item	VLW head-quarter village	Other villages.	All villages.
1. Cultivators who had visited demonstration plot at least once.	35	22	28
2. Cultivators who had knowledge of the existence of demonstration plot but did not visit even once.	23	19	21
3. Cultivators who had no knowledge of the existence of demonstration plots.	42	59	51
Total:—	100	100	100

These figures also point out that the cultivators in VLW headquarter villages are more aware of the existence of the demonstration plots than those in 'other villages'.

3.21. Whether the extent of knowledge of demonstration plot programme differs with the size of holdings and irrigation facilities is a question which needs probing. It is seen on an analysis of relevant figures that about 63 percent of the cultivators not having any irrigation facility have no knowledge of demonstration plot programme as against only 34 percent of cultivators with some irrigation facility having no knowledge. This to some extent explains a smaller proportion of cultivators of the former category visiting the demonstration plots at least once. This is further supported by the fact that the proportion of cultivators having knowledge but not visiting demonstration plots is much lower (22 percent) among the cultivators having no irrigation facility than the corresponding proportion (43 percent) among the cultivators having some irrigation facility.

3.22. There is no strong relation between the absence of knowledge and size of holdings, except that in the smallest size of holdings (less than 5 acres), the percentage of cultivators having no knowledge is high for cultivators without any irrigation facility and among the largest size group, the percentage is low for cultivators with irrigation facility. Otherwise, there is more or less uniform level of lack of knowledge among all cultivators in different size groups. Among those who possess irrigation facilities the figure is round about 33 percent and for the other class of cultivators it varies around 60 percent.

3.23. Thus, although cultivators with some irrigation facility have a higher percentage (40 percent) of those who pay a visit to the demonstration plots, one main reason is that knowledge about the programme is spread on a wider scale among this class of cultivators than among the class of cultivators not having any irrigation facility. If the percentage of cultivators having knowledge and visiting demonstration plot to total cultivators having knowledge of the existence of demonstration plot is calculated separately for those having irrigation facility and those not having it, it is seen that as against 60 percent for the former class of cultivators, the percentage for the latter class is over 52. This means that given the knowledge, the willingness of cultivators without irrigation facility to see a demonstration plot may not be much below that for the cultivators blessed with some irrigation facility.

3.24. The following table gives percentages for different reasons for not visiting the demonstration plot even once. These reasons are given by cultivators who know about the existence of demonstration plots but have not paid a visit even once.

Reason	Percentage to total no. of reasons		
	Total	First priority reasons.	Second priority reasons.
1. Time inconvenient	28.76	31.53	21.92
2. Special or personal approach not made.	23.20	26.16	13.70
3. No proper arrangement for the visit	10.78	10.36	10.95
4. Utility doubtful	16.99	16.22	21.92
5. Growing the same crop giving higher yield.	1.96	2.25	1.37
6. Utility nil	9.80	9.91	10.95
7. Crop type combination is not suitable to own farm.	7.84	3.15	17.81
8. Others	0.65	0.45	1.37

3.25. These figures pinpoint considerable room for better, more appropriate and more concerted efforts by extension agency. The most important reason for not visiting a demonstration plot is that the time of visit is not convenient to the cultivator. Next in importance is the lack of personal approach on the part of the extension agency, and the third is that the arrangements for visits are not proper. These remediable defects or lacunae in extension programme account for above 60 percent of the total number of reasons.

#### Meetings :

3.26. Asked whether the subject of demonstration plot was discussed in village meetings, only 21 percent of the cultivators have replied in the affirmative. Of those replying in the affirmative, over 82 percent have said that they had attended such meetings. However, taking the whole sample, only 17 percent of cultivators (178 out of 1051) had attended such meetings. Of the various subjects relating to demonstration plots discussed at the meetings, 75 percent of the topics pertained to the crop-type specifications and about 14 percent of the topics pertained to the method of finding out the benefits. The timings of these meetings seem to be evenly distributed from May to December of the year.

3.27. The reasons for not attending the meeting were also recorded. 37 percent of the cultivators have reported that the time is not convenient for them to attend the meeting, 24 percent have reported that they were not informed about the time and 13 percent have reported that they are not interested in the demonstration plot programme.

3.28. Further analysis of these meetings shows that the cultivators in VLW headquarters are better informed about the meetings than the cultivators in the other villages. The respective percentages of the cultivators who have reported that the subject of demonstration plot was discussed in the village meetings are 28 and 13. The percentage of cultivators who have attended such meetings has practically remained the same in both categories.

#### Accounts :

3.29. Of those who have seen a demonstration plot during 1960-61 or 1961-62, only about 5 percent of the cultivators have reported that they have seen the accounts of expenses and receipts regarding demonstration plots.

3.30. Asked whether the cultivator can make out the benefits of demonstration plots by visual inspection, 83 percent of the cultivators seeing demonstration plots have replied in the affirmative.

#### Acceptance of practices

3.31. There are 140 visits by 121 cultivators to 25 crop-type combinations grown on the demonstration plots in 1960-61, the different crops being wheat, cotton, bajri, paddy, groundnut, maize, jowar, cauli flower and rajko. Those demonstrating the use of composite method "higher yielding improved seeds and chemical fertilizers" topped the list with 45 cases, followed by 24 cases relating to chemical fertilizers and 18 to higher yielding improved seeds. Only in the case of wheat 7 pest resistant — improved seed variety demonstrations are reported. Demonstration plots for higher yielding improved seeds and chemical fertilizers are reported in the case of bajri \*(14), wheat \*(13), cotton \*(8) and paddy \*(7). Among the crops, wheat has the highest number of plots, 47, followed by cotton 29, bajri 28, paddy 21, groundnut, maize and jowar 4 each.

3.32. Thus largely, the sample of cultivators who have seen demonstration plots during 1960-61 is overwhelmingly one seeing demonstrations of improved seeds of higher yielding varieties and/or chemical fertilizers in the case of wheat and bajri. Except for wheat, cotton, bajri and paddy, the sample size for other crops is quite insignificant. The acceptance of practices would, therefore, be governed by what the cultivators have seen mainly for wheat, cotton, bajri and paddy and for improved seeds of higher yielding varieties and/or chemical fertilizers.

3.33. Of these 25 crop-type combinations, 13 show some acceptance even before 1960-61, in varying proportions by cultivators seeing them. These proportions can be seen from the following table for specified important crop-type combinations.

\*Figures in the brackets give number of demonstration plots.

Percentage of acceptance before 1960-61 of the specified crop-type combinations seen on demonstration plot during 1960-61.

Type	Crop			
	Wheat	Cotton	Bajri	Paddy
Improved seeds (higher yield)	17	—	46	—
Chemical fertilisers	17	—	—	—
Japanese paddy	—	—	—	67
Improved seeds of higher yield and chemical fertilisers	8	8	14	57
Other methods	8	20	—	—

3.34. Thus, 67 percent of the cultivators who have seen application of Japanese paddy during 1960-61 have already adopted that method before 1960-61 and 57 percent cultivators who have seen paddy higher yielding improved seeds and chemical fertilizers have adopted that combination before 1960-61. For bajri higher yielding improved seeds, 46 percent of the cultivators who have seen that crop-type during 1960-61 have adopted that type before 1960-61.

3.35. The degree of acceptance of the different improved practices for any of the 9 crops seen on demonstration plots during 1960-61 even before 1960-61 is seen below in terms of percentages of cultivators adopting improved practices before 1960-61 to the total no. of cultivators seeing these respective practices during 1960-61 on the demonstration plot.

Type	Percentage adopting before 1960-61 to total seeing respective practices on demonstration plot during 1960-61.
1. Improved seeds (higher yielding)	39
2. Chemical fertilisers	17
3. Japanese Paddy	67
4. Improved seeds (higher yielding) and chemical fertilisers.	16
5. Other methods.	9

3.36. Thus, it is to be observed that no appreciable number of demonstration plots are seen by or shown to the cultivators who have already adopted the improved practices seen on demonstration plots. Only in the case of Japanese paddy it seems that quite a large proportion of cultivators who have already adopted that method before seeing on the demonstration plots in 1960-61 have visited these demonstration plots.



3.37. Out of 140 total number of visits to demonstration plots in 1960-61, 114 (i.e. 81 percent) visits were by cultivators who had not adopted the crop-type combinations before 1960-61. In terms of number of cultivators, out of the 121 who visited demonstration plots in 1960-61, 100 (i.e. 83%) had not adopted any practice seen by them on demonstration plots before 1960-61. These 100 cultivators were asked whether they had adopted any of the practices during 1961-62 season, and if yes, whether partially or fully. The replies indicate that 19 percent (19 out of 100) of these cultivators have adopted in 1961-62 one or more of the improved practices seen by them in 1960-61.

3.38. To study the relation between the size of holding and extent of adoption of a crop-type combination seen on a demonstration plot, percentages of those adopting at least one crop-type combination in 1961-62 after seeing the same on a demonstration plot in 1960-61, to the total seeing the demonstration plots, have been worked out for each size group. In all 121 cultivators had paid at least one visit to a demonstration plot during 1960-61 and of these, 19 had shown adoption of at least one crop-type combination during 1961-62. When the extent of adoption is analysed according to size of holding, no particular pattern is discernable. The extent of adoption is greatest in the smallest size group of less than 5 acres of holdings, the figure being over 25 percent. In the remaining size groups, the percentage varies without any pattern; primarily this may be due to the small size of the sample of cultivators seeing demonstration plots in 1960-61 and a still smaller size of those adopting a crop-type combination in 1961-62.

3.39. As for the impact of irrigation, it is readily seen that 79 percent of the 19 cultivators seeing a demonstration plot in 1960-61 and thereafter adopting at least one of the crop-type combinations during 1961-62 have some irrigation facility, the remaining 21 percent being without any irrigation facility. Also, the percentage of cultivators adopting an improved practice in 1961-62 after seeing it in 1960-61 is 21 in the case of cultivators with some irrigation facility, where as the corresponding percentage for those not having any irrigation facility is only 8. Thus, in the matter of adoption also, better acceptance is reported on the part of cultivators who have some irrigation facility.

3.40. Of the 25 crop-type combinations demonstrated, 10 crop-type combinations were adopted during 1961-62 by one or the other cultivators seeing the demonstration plots. Out of these 10 crop-type combinations, 3 were already accepted by some cultivators before seeing the demonstration plot during 1960-61. Hence 7 new crop-types were accepted by the cultivators who have adopted after seeing the demonstration plots. In all, therefore, out of the 25 crop-type combinations demonstrated during 1960-61, 20 (13+7) crop-type combinations have been accepted by one or more cultivators by 1961-62.

3.41. Crop wise percentages of cases of adoption of an improved practice in 1961-62 to the total no. of cultivators seeing demonstration plots in 1960-61 and reporting non-adoption of the same before 1960-61, are shown below:

Crop	No. seeing in 1960-61 but not adopting before 1960-61	Of those in column (2), No. adopting in 1961-62	percentages
Wheat	43	12	27.91
Cotton	25	4	16.00
Bajri	22	1	4.55
Paddy	13	1	7.69
Other crops	11	4	36.36

3.42. Thus, for almost all crops increase in adoption of improved practices during 1961-62 after visits to demonstration plots in 1960-61 has not been quite encouraging, particularly in cotton, bajri and paddy.

The reasons for non-adoption in 1961-62 of new practices seen on demonstration plots during 1960-61 were recorded, which are given in the following table.

Reasons	Percentage to total No. of reasons		
	First priority	Second priority	All reasons
1. Adoption needs too much additional cash expenditure.	25.56	22.22	23.81
2. Adoption needs too much additional irrigation facilities which are not available.	13.33	18.52	13.49
3. None of the new practices seen suitable to own farm soil.	14.43	—	10.32
4. Not convinced about higher yield.	7.78	7.41	7.14
5. Not convinced about better net returns.	5.55	3.70	4.76
6. Due to less land.	3.33	14.81	15.56
7. Demonstration plot was not successful.	3.33	7.41	4.76
8. Adverse effects	4.44	7.41	4.76
9. Materials are not available in time.	2.22	7.41	3.97
10. Old methods are good.	4.44	—	3.97
11. Other reasons	15.56	11.11	17.46

(Percentage for reasons included in "other reasons" are individually less than the least for reasons included above).

3.43. Thus, the main deterrent to adoption of new practices appears to be the need for considerable additional cash expenditure. Next comes the non-suitability of the soil to the improved practices seen and then the lack of additional irrigation facilities.

3.44. There were 160 visits by 139 cultivators to 21 crop-type combinations grown on the demonstration plots in 1961-62, the different crops being wheat, paddy, cotton, bajri, groundnut, jowar and tobacco. Those demonstrating the use of chemical fertilisers topped the list with 51 cases followed by 45 composite method, higher yielding improved seeds and chemical fertilisers, and 26 cases of higher yielding improved seeds. In the case of wheat only, 3 pest resistant improved seeds variety demonstration plots are reported. Except for tobacco, demonstration plots for chemical fertilisers are reported for all the other 6 crops — highest number being 19 in the case of wheat, followed by 16 cases of paddy, 6 cases of cotton, 5 cases of jowar, 4 cases for bajri and 1 for groundnut. Except for jowar, higher yielding improved seeds and chemical fertiliser demonstration plots are reported for other 6 crops, the highest number being 15 in the case of wheat followed by 11 cases for cotton, 7 cases for paddy, 5 cases for bajri, 4 cases for groundnut and 3 for tobacco. Among the crops, wheat and paddy occupy the highest place (45), followed by cotton (34), groundnut (14), bajri (14), jowar (5) and tobacco (3).

3.45 Thus, largely, the sample of cultivators who have seen demonstration plots during 1961-62 is overwhelmingly one seeing demonstration plots of improved seeds of higher yielding varieties and/or chemical fertilisers in respect of wheat, paddy, bajri, groundnut, jowar and cotton. For jowar and tobacco the sample size is quite insignificant and hence in what follows they are not discussed.

3.46. Out of the 139 cultivators who visited demonstration plots during 1961-62, 73 (i.e. 53 percent) have reported that they have planned to adopt for at least one crop-type seen in 1962-63.

Crop-wise percentage cases of probable acceptance of improved practices in 1962-63 to the total no. of cases of improved practices seen in 1961-62.

Crop	Nos. seeing in 1961-62.	No. planning to adopt in 1962-63	Percentage.
1	2	3	4
1. Wheat	45	19	42.22
2. Paddy	45	20	44.44
3. Cotton	34	19	55.88
4. Bajri	14	9	64.29
5. Groundnut	14	4	28.57

*Percentage of acceptance of crop-type seen in 1961-62.*

Type	Crop			
	Wheat	Paddy	Cotton	Bajri
1. Improved seeds (higher yield)	50	20	—	80
2. Japanese method	—	20	—	—
3. Chemical fertilisers	57	75	33	100
4. Improved seeds (higher yield) and chemical fertilisers	20	29	45	20

The reasons for non-acceptance of the types seen in 1961-62 were recorded and they are given below.

Reasons	Percentage to total no. of reasons		
	Total	First priority	Second priority
1. Adoption needs additional irrigation facilities which are not available.	28.24	30.38	13.89
2. None of the new practices seen suitable to own farm	17.56	29.11	—
3. Adoption needs too much additional cash expenditure	13.74	17.72	11.11
4. Not convinced about the higher yield.	6.87	5.06	13.89
5. Not convinced about better net returns	10.69	—	27.78
6. Due to less land	4.58	3.80	5.55
7. Materials are not available in time	4.58	2.53	8.33
8. Demonstration plot was not successful.	2.29	2.53	2.78
9. Old methods are good	2.29	2.53	—
10. Other reasons	9.16	6.33	16.66

(Percentages for reasons included in 'other reasons' are individually less than the least for reasons included above).

3.47. Thus, the main deterrent to the acceptance of new practices is the lack of irrigation facilities. Next comes the non-suitability of the soil to the improved practices seen and then the reason that new practices need too much additional cash expenditure.

#### 4. ANALYSIS OF DATA IN QUESTIONNAIRE 2 (Q. 2).

##### Selected Knowledgeable Persons :

4.1. With a view to ascertain the extent of knowledge and participation of progressive farmers and other knowledgeable persons of the villages, and to measure their reaction to the programme of demonstration plots, Questionnaire-2 (Q. 2) was canvassed to 517 such cultivators in the selected villages, the number in each village being 5. This selection was no doubt purposive, as knowledgeable persons had to be chosen for canvassing the Q. 2, on the advice of the village officials. The following table shows the number of such farmers according to status. It may be stated that a cultivator here could have more than one status. There are 11 such cases reported and these have been identified with one status only, since the main purpose of this table is to show only the different types of knowledgeable cultivators selected, and not use this classification later on to examine differences of impacts of the demonstration programme by types of status.

Status	No. in the sample	No. of cultivators according to stratum.				
		I	II	III	IV	V
1. Sarpanch. ..	62	5	8	24	21	4
2. Member of Village Panchayats	132	9	17	51	52	3
3. Member of the Cooperative Society's working Committee	78	13	7	34	22	2
4. Member of the Block Development Council or District Development Council.	12	2	—	1	1	8
5. Progressive Cultivators. ..	109	6	2	37	51	13
6. Others ..	124	15	16	63	30	—
Total ..	517	50	50	210	177	30
Average Size of Holding (acres)	25.40	28.30	31.02	24.25	25.34	22.07

4.2. It may be mentioned that Stratum-I and II are more recent as compared to other Strata, these having completed less than one year and between one to three years of Stage I respectively, whereas Stratum III consists of Stage-I blocks completing over 3 years, Stratum IV consists of Stage-II blocks completing less than 2 years. Stratum V consists of Stage II blocks completing 2 years or more. The above table also shows that the bulk of the sample comes from the Stratum III and IV, i.e. from blocks which have completed a fairly long period of development stage.

##### Knowledge of Demonstration Plots :

4.3. The knowledgeable cultivators are, generally speaking, more favourably placed as regards their size of holdings, irrigation facilities, opportunity of acquiring knowledge of improved practices and securing of amenities—1817—5.

ties for adoption of these practices. Against the average size of holding of 15.59 acres for all types of cultivators, the corresponding figure for knowledgeable cultivators is over 25 acres. Even with these favourable circumstances, 41 percent have not seen a demonstration plot till the date of inquiry. Of the 304 out of 517 cultivators, who have seen a demonstration plot, 186 or about 61 percent, have seen for the first time before 1960-61, 21 percent have seen these during 1960-61 and the remaining 18 percent during 1961-62. Thus, of the 331 (517-186) who had not seen a demonstration plot at all before 1960-61, only 118, or less than 36 percent of these not seeing a demonstration plot before 1960-61, have been added to the fold of those who have seen demonstration plot, during the two year period of 1960-61 and 1961-62.

4.4. Analysis according to the various strata indicates that in blocks which have started earlier (stratum III, IV and V), over 60 percent of knowledgeable cultivators have seen demonstration plots as compared to 44 percent in Stratum II and a still smaller proportion viz., 32 percent, in the most recently started blocks (Stratum I). Of those who have seen demonstration plots in Stratum IV and V, over 76 percent in Stratum IV and over 90 percent in Stratum V have seen the demonstration plots for the first time even before 1960-61, whereas in the blocks which have not completed 3 years of Stage I (Stratum I and II) only 38 percent of the knowledgeable cultivators have seen demonstration plots. In fact, in all blocks, irrespective of the date of starting, the tendency indicated is that during recent years, i.e. 1960-61 and 1961-62, not many more have been brought to the fold of those who have seen a demonstration plot at least once and this also even in the case of knowledgeable cultivators and in spite of the fact that there was ample scope for doing so. For instance, only 36 percent of these knowledgeable cultivators had at all seen a demonstration plot before 1960-61, which shows that scope exists for showing demonstration plots to the remaining 64 percent. Instead, only 23 percent more had seen demonstration plots for the first time during 1960-61 and 1961-62 (upto to the time of the inquiry).

4.5. Analysis of the extent of impact of the demonstration plot programme in terms of visits to demonstration plot by knowledgeable cultivators, according to whether they belong to the villages which are VLW headquarters or not reveals the interesting result that villages which are VLW headquarters show distinctly high proportions of knowledgeable cultivators paying at least one visit to a demonstration plot. Thus, 68 percent of such cultivators of VLW headquarter villages have paid visit to a demonstration plot at least once as against 48 percent of such cultivators in other villages. Of those who have seen a demonstration plot, a larger percentage (64 percent) has seen for the first time before 1960-61 in VLW headquarter villages as compared to corresponding percentage of 57 in other than VLW headquarter villages. The figures are set out in the following table :

Item.	Category of villages.	
	VLW Headquarter villages.	Other villages.
1. No. of knowledgeable cultivators (Sample)	260	257
2. No. of such cultivators who have seen a demonstration plot.	177	127
3. Percentage of 2 to 1.	68	49
4. Of those at 2 above, percentage of those who have seen for the first time.		
(a) Before 1960-61	63.84	57.48
(b) During 1960-61	22.60	18.90
(c) During 1961-62	13.56	23.62

4.6. Distribution of villages split up into above two categories — according to numbers of selected knowledgeable cultivators also reveals that while less than 6 percent of VLW headquarter villages were such in which not one of the selected knowledgeable cultivator had seen a demonstration plot, there were about 31 percent i.e. nearly one-third of the selected villages which were not VLW headquarters in which the selected cultivators had not seen a demonstration plot at all. Also, the percentage of villages in which all the 5 selected knowledgeable cultivators had seen a demonstration plot was higher at 40 percent in the category of VLW headquarter villages, whereas it was less than 30 percent in the other villages. These figures indicate that the effort is more concentrated in the VLW headquarter villages. The figures are set out in the following table.

No. of selected knowledgeable cultivators who have seen a demonstration plot in a village.	No. of villages.	
	VLW Headquarter	Other than VLW Headquarter
0	3	16
1	5	6
2	8	4
3	9	6
4	6	5
5	21	15
Total	52	52

(In two villages, Q. 2 has not been canvassed.)

4.7. By and large, those who have visited the demonstration plot at least once have acquired information from VLWs. For 69 percent of such cultivators, VLWs are the first informant. The agency, communicating information to the knowledgeable cultivators next in importance is the cultivator on whose farm demonstration plot is laid, inasmuch as 10 percent first acquired knowledge of the demonstration plots through them. About 9 percent have first acquired the knowledge of demonstration plots themselves, perhaps seeing such a plot on the road-side, or hearing about the demonstration plots from their neighbours, etc.

4.8. Over three-fourths (76 percent) of the knowledgeable cultivators who have seen a demonstration plot have seen them only in their villages; another 16 percent have seen only outside their villages, and 8 percent have seen both in the village and outside the villages.

4.9. VLW is the principal agency conducting visits to the demonstration plots. About half the number of such visits were conducted by the VLWs in 1960-61 and 1961-62. Next in importance is the knowledgeable cultivator himself. In 1960-61, 30 percent of the visits were self-conducted, whereas in 1961-62, this percentage was higher at 39. Also, about half of these visits were conducted in groups and about 43 percent to 45 percent, alone, during these two years. It would thus appear that a large proportion of visits were conducted by the cultivators themselves and a large percentage of visits were not in groups. The real extension effort through organised forms of visits which obviously can yield better results in terms of later acceptance of improved practices is thus lacking in a large proportion of cases.

4.10. A further probe into the knowledge of those knowledgeable cultivators who have not visited a demonstration plot even once, about the existence of the demonstration plots and reasons for non-visit even though they may have known about the demonstration plots reveals results of interest.

4.11. As stated earlier, about 59 percent of the cultivators had visited demonstration plot atleast once. The break-up for those who had not so visited a demonstration plot is as follows: 26 percent or slightly more than one-fourth of the cultivators had knowledge of the existence of demonstration plot and yet did not visit these even once. The remaining 15 percent had no knowledge about the existence of demonstration plots. The following table gives the percentage of cultivators giving specific reasons — these cultivators being those who knew about the existence of demonstration plots but did not pay a visit even once.

Percentage to total number of reasons.

Reasons	Total	First Priority	Second Priority.
1. Special or personal approach not made ..	32.52	29.45	45.46
2. No proper arrangement for the visit. ..	20.86	20.93	18.18
3. Time inconvenient ..	20.25	24.81	3.03
4. Utility doubtful ..	6.13	5.43	9.09
5. Utility nil ..	3.07	3.88	—
6. Already growing same crop-type combination	2.45	1.55	6.06
7. Crop-type combination is not suitable to own farm	2.45	3.10	—
8. Other reasons ..	12.27	10.85	18.18



(Percentages for reasons included in 'other reasons' are, individually less than the least for reasons included above. Of the 26 percent of the cultivators who knew about the existence of demonstration plots but did not pay a visit even once, 5.34 percent cultivators have not assigned any reasons for not paying a visit even once.)

4.12. These figures pin point the considerable room for better, more appropriate and more concerted efforts by extension agency. The most important reason for not visiting a demonstration plot is the lack of personal approach on the part of extension agency to men of status in the villages, status which perhaps still entitles them to expect special approach to ensure their cooperation in the programme. The reasons that either the arrangement for visits were not proper or the time of visit was inconvenient carry almost equal overall importance between them but as first priority reason the letter appears somewhat more important. These remediable defects or lacunae in extension programme account for over three-fourths of the total number of reasons.

#### **Consultations and Approach :**

4.13. Only 19 percent i.e. less than one-fifth of the knowledgeable cultivators have stated that they were approached by Block Officials during 1960-61 or 1961-62. 72 percent of these approaches were made by the VLWs and some 12 percent by agricultural extension officers. About 40 percent of the advice or opinions sought related to location of the demonstration plot, and slightly over 32 percent of the advices or opinions pertained to selection of crop-type. In a smaller measure advice regarding use of chemical fertilisers was also sought.

4.14. It would thus appear that effort towards personal approach to knowledgeable cultivators for seeking their advice or opinions has been weak. In regard to organised group-effort also, less than 43 percent have stated that the subject of demonstration plot was discussed at the village meetings, and almost all those saying so, had attended these meetings (96 percent). Since only about 4 percent of the cultivators who could attend the meetings but did not attend them, reasons for not attending the meetings need not be discussed. However, taking the whole sample, only about 41 percent of knowledgeable cultivators (212 out of 517) had attended a meeting.

4.15. Of the various subjects relating to demonstration plot discussed at the meetings, about two-thirds of the topics pertained to crop-type specification, and slightly less than one-thirds, methods of finding out the benefits.

4.16. The timings of the meeting seem to be evenly distributed from May to December of the year.

### Acceptance of Demonstration Plot Programme :

4.17 Asked if they accepted the usefulness of the demonstration plot programme, over 94 percent replied in affirmative. Of those replying in affirmative, 84 percent said that higher yield could be demonstrated. According to priority ordering also, this was the most important general benefit which was pointed out by these cultivators. Among the other general benefits mentioned were demonstration of better returns and of the possibility of more intensive cultivation. Since only a small percentage said (6 percent) that they did not accept the demonstration plot programme, their reasons for such a view have not been analysed. It would appear, however, that this question regarding general benefits has not been properly understood by the investigators and hence by the respondents also, since, in most of the cases specific benefits due to the adoption of crop-type combinations they have seen were mentioned. Much stress should not therefore be laid on the types of general benefits stated by the respondents.

4.18. About 73 percent of the respondents who accept demonstration plot programme stated that they try to persuade villagers to see a demonstration plot and 85 percent of these respondents prefer individual approach, the group approach (by addressing villagers in groups) being indicated as a method of persuading villagers to see a demonstration plot by 45 percent of the respondents. This includes those who have indicated both methods of approach. Active participation in arranging visits has been indicated by 26 percent.

4.19. In 87 cases disapproval of certain specific crop-type combinations was recorded, and their reasons analysed. These disapprovals were conveyed by knowledgeable cultivators who accepted the utility of demonstration programme but disapproved certain specific crop-type combinations. The main reasons are (1) crop-type combination is not suitable to land, (2) Additional irrigation facilities are not available, (3) Higher yield (though expected) does not seem possible, and (4) fertility of land goes down. Largest numbers of disapproval have been registered in the case of wheat (23 cases), cotton (20 cases), and groundnut (18 cases).

4.20. To the question whether in the opinion of the respondent, methods of laying demonstration plot were defective and if so, what were the defects and what alternative methods were preferred, very few respondents have replied that the methods were defective. It is, therefore, difficult to analyse with any measure of precision in what way these methods were defective and what alternatives were suggested. However, it may be mentioned that some replies indicate that visits are not systematically arranged; that propaganda regarding visits is inadequate and that benefits of adoption of practices shown or seen on the demonstration plot are required to be properly explained.

4.21. It may be that to some extent, these reasons must be attributed to non-personal approach as regards this programme and the unsystematic manner in which visits are encouraged or arranged.

**Acceptance of practices :**

4.22 There were 160 visits (in fact there were 177 visits, but information regarding 17 visits by 12 cultivators is not recorded completely and hence they are omitted from the discussion) in 1960-61 by 127 knowledgeable cultivators (25 percent of the total selected) in respect of 30 crop-type combinations for 8 crops viz., wheat, paddy, cotton, bajri, groundnut, jowar, maize and tobacco. Those demonstrating the use of higher yielding improved seeds and chemical fertiliser topped the list with 43 cases followed by 37 cases of chemical fertilisers and 32 cases of higher yielding improved seeds. In the case of wheat only, 5 cases of pest resistant — improved seed variety were reported. The cases of demonstrations for chemical fertilisers were reported for all crops except tobacco, highest number being 14 in case of bajri, followed by 10 cases of cotton and 6 for groundnut. Demonstration plots of higher yielding improved seeds have been seen in the case of wheat (18 cases), bajri (13 cases), paddy (5 cases), cotton (3 cases), groundnut and maize 2 cases each. Demonstration plots for higher yielding improved seeds have been seen for wheat (9 cases), bajri (8 cases), jowar (5 cases), paddy and cotton, each 4 cases, and 2 cases for tobacco. Among the crops, wheat has the highest number 43, followed by bajri 39, paddy 30, and cotton 24.

4.23. Thus largely the sample of knowledgeable cultivators who have seen demonstration plots during 1960-61 is overwhelmingly one seeing demonstrations of improved seeds of higher yielding variety and/or chemical fertilisers in respect of wheat and bajri and to a smaller extent, cotton and paddy. For jowar, groundnut, maize and tobacco the sample is quite insignificant. The acceptance of practices would, therefore, be governed by what the cultivators have seen mainly for wheat and bajri and for higher yielding improved seed varieties and/or chemical fertilisers.

4.24. Of these 30 crop-type combinations, 19 show acceptance even before 1960-61, in varying proportions, by knowledgeable cultivators seeing them. These proportions can be seen from the following table.

Percentage of acceptance before 1960-61 of crop-type combinations seen on demonstration plots during 1960-61.

Type	Crop			
	Wheat	Paddy	Cotton	Bajri
1. Improve seeds				
i. higher yielding	11	75	50	25
ii. Pest resistant	20	—	—	—
2. Chemical fertilisers	—	—	—	21
3. Japanese Paddy	—	60	—	—
4. Improved seeds of higher yielding variety plus chemical fertilisers.	33	100	—	54

4.25. The above percentages are calculated for 10 crop-type combinations. For Japanese paddy, demonstration plots have been seen by 60 percent knowledgeable cultivators who had already adopted that method; 33 percent of the knowledgeable cultivators who saw in 1960-61 wheat higher yielding improved seeds and chemical fertilisers, had already adopted that combination before 1960-61; 100 percent of those knowledgeable cultivators who saw paddy higher yielding improved seeds and chemical fertilisers had already adopted that method before 1960-61, and 75 percent of those cultivators who saw paddy higher yielding improved seeds had adopted that method before 1960-61. In the case of cotton higher yielding improved seeds, 50 percent had adopted that method before seeing it. For bajri higher yielding improved seeds and chemical fertilisers, 54 percent of the knowledgeable cultivators had adopted that method before 1960-61.

4.26. The degree of acceptance of improved practices (for any of the 8 crops) seen on demonstration plots during 1960-61, even before 1960-61 is seen below in terms of percentages of knowledgeable cultivators adopting improved practices before 1960-61 to the total number of knowledgeable cultivators seeing these respective practices during 1960-61 on demonstration plots.

Type	Percentage adopting before 1960-61 to total seeing on demonstration plot during 1960-61.
1. Improved seeds.	
i. higher yielding	38
ii. pest resistant	20
2. Chemical fertilisers	19
3. Japanese Paddy	60
4. Improved seed-higher yielding plus chemical fertilisers.	44

4.27. It may be seen that not large proportion of demonstration plots are seen by or shown to the knowledgeable cultivators who have already adopted the improved practices see on demonstration plots. Only in the case of Japanese method of paddy cultivation it seems, bulk of the effort is in the direction of bringing those who have already adopted that method before 1960-61 to the demonstration plots.

4.28. Of the 160 total number of visits to demonstration plot in 1960-61, 103 (or 64 percent) visits were by knowledgeable cultivators who had not adopted any of the improved crop-type combinations before 1960-61. In terms of number of cultivators, out of 127 who visited demonstration plots,

80 (or 63 percent) had not adopted any practice seen by them on demonstration plot before 1960-61. These knowledgeable cultivators were asked whether they had adopted any of these practices during 1961-62, and if yes, whether partially or fully. The replies indicate that 49 percent of these cultivators had adopted in 1961-62 one or more of the improved practices seen by them in 1960-61.

Crop-wise percentage of cases of adoption of improved practice in 1961-62 to the total number of cases of non-adoption of the same before 1960-61 are shown below :

Crop	Number seeing in 1960-61 but not adopting before 1960-61	Of these number adopting in 1961-62	Percentage
Wheat	31	15	48
Paddy	13	1	8
Cotton	19	8	42
Bajri	25	10	40
Groundnut	8	2	25

4.29. Thus, for important crops, paddy has failed to add significantly to the adoptions of improved practices during 1961-62. In other crops, except for groundnut for which sample size is quite small, the adoption of improved practices has varied from 40 to 48 percent of those who have seen demonstrations plot but not adopted these practices before 1960-61.

Of the number of visitors who have adopted during 1961-62, the following table gives the percentage of cultivators who have adopted fully or partially.

Crop	Percentage	
	Full adoption	Partial adoption
Wheat	33	67
Paddy	—	100
Cotton	75	25
Bajri	40	60
Groundnut	—	100

4.30. The reasons for non-adoptions in 1961-62 of new practices seen on demonstration plots during 1960-61 were recorded. Among the main reasons, the following can be classified : (i) New practices not suitable for own farm soil and (ii) adoption of new practices needs additional irrigation facility which is not available. The first reason accounts for 20 percent of H—1817-6

the total number of reasons given, and second reason accounts for 29 percent of the reasons. Another 29 percent is made up of miscellaneous reasons not specifically recorded. Considering the priority, the largest percentage of total number of first priority reasons is against the lack of additional irrigation facilities.

4.31. Thus, the main deterrents to adoption of new practices are the lack of sufficient irrigation facility and unsuitability of soil. Among other important reasons mention may also be made of 'not convinced about higher yield' (10 percent) and 'need for additional cash expenditure' (5 percent).

4.32. There were 188 visits by 154 cultivators to 28 crop-type combinations grown on the demonstration plots in 1961-62. The different crops being paddy, cotton, wheat, bajri, groundnut, jowar, tobacco, lang and maize. Those demonstrating the use of composite method -- higher yielding improved seeds and chemical fertilisers topped the list with 65 cases followed by 53 cases of chemical fertilisers and 27 cases of higher yielding improved seeds. In the case of wheat only, 6 pest resistant improved seed variety demonstrations were reported, and in the case of jowar 4 cases of short maturity improved seeds were reported. Except for lang and maize, the cases of higher yielding improved seed demonstrations were reported for all the above crops -- highest number being 16 for wheat, followed by 14 cases of paddy and bajri each, 13 cases of cotton, 3 cases of jowar and tobacco each and 2 cases of groundnut. For 6 crops, demonstration plots for chemical fertilisers were reported -- highest number being 22 for cotton, followed by 14 for paddy, 12 for wheat, 2 for groundnut and jowar each and 1 for lang. Of the 27 cases of higher yielding improved seeds, 12 cases are for paddy, 7 for bajri and groundnut each and 1 for cotton. Among the crops, paddy occupies the highest place 58 cases followed by cotton (42 cases), wheat (35 cases), bajri (28 cases), groundnut (11 cases), jowar (9 cases), tobacco (3 cases), lang (1 case) and maize (1 case).

4.33. Thus, largely the sample of cultivators who have seen demonstration plots during 1961-62 is overwhelmingly one seeing demonstration plots for higher yielding improved seeds and/or chemical fertilisers in respect of paddy, cotton, wheat and to a smaller extent bajri and groundnut. For jowar, tobacco, lang and maize the sample size is quite insignificant and in what follows they are not discussed.

4.34. Out of 154 cultivators who visited demonstration plot during 1961-1962, 67 (i.e. about 44%) have reported that they have planned to adopt for at least one crop-type seen in 1962-63. In terms of the number of visits, out of 188 visits to demonstration plots, 104 (i.e. 55%) visits were by knowledgeable cultivators who have reported that they have planned to adopt the crop-type seen in 1962-63.

Crop-wise percentage cases of probable acceptance of an improved practice in 1962-63 to the total number of cases of improved practices seen in 1961-62.

Crop	No. seen in 1961-62	No. planning to adopt in 1962-63	Percentage
1	2	3	4
(i) paddy	58	21	36
(ii) cotton	42	27	64
(iii) wheat	35	22	63
(iv) bajri	28	20	71
(v) groundnut	11	5	45

4.35. Of the 28 crop-type combinations demonstrated for all the 9 crops, 24 crop-type combinations were accepted by the cultivators.

The reasons for non-acceptance of the crop-type seen were recorded and they are given below:

Reasons	Percentage to total no. of reasons.		
	Total	First priority	Second priority
1. Adoption needs additional irrigation facility which is not available.	29.58	31.91	33.33
2. None of the new practices seen suitable for own farm soil	28.17	17.02	53.34
3. Not convinced about better net returns	15.49	14.89	—
4. Not convinced about higher yield	5.63	8.51	—
5. Adoption needs too much additional cash expenditure.	9.86	10.64	13.33
6. Other reasons	11.27	17.03	—

(Percentages for reasons included in 'other reasons' are, individually less than the least for reasons included above.)

4.36. The main deterrents to adoption of new practices are the lack of sufficient irrigation facility and the unsuitability of farm soil. Considering the priority also, these two reasons are the most important. Among other reasons 'not convinced about higher yield' and 'adoption needs additional cash expenditure' occupy places next in importance.

## 5. ANALYSIS OF DATA IN QUESTIONNAIRE 3 (Q.3).

### Sample Characteristics :

5.1. Questionnaire 3 (Q.3) was canvassed to the cultivators in whose fields the demonstration plots in the selected villages were laid. The study covered 106 villages — 52 of which were the headquarters of VLWs and 54 were other villages under the jurisdiction of these VLWs. One of the VLW Headquarters being in town data regarding demonstration plots was not compiled. Instead information was compiled for another village in the circle. Out of 106 villages, demonstration plots were reported to have been laid only in 59 villages comprising 39 VLW Headquarter villages and 20 other villages. In these 59 villages, for the 2 years covered by the survey, a total of 180 plots were laid on the fields of 134 cultivators of these 180 plots, 80 demonstration plots were laid in 1960-61 and 109 in 1961-62. It is also seen that the increase in 1961-62 was mainly because of larger number of plots laid in the VLW Headquarters, the number of demonstration plots in the years under survey in other villages being only 22 and 23 respectively.

Table showing number of demonstration plots laid according as the village was VLW Headquarter or not.

Item	1960-61		1961-62	
	VLW Head quarter	Other villages	VLW Head quarter	Other villages
1. No. of villages in which demonstration plots were located.	27	12	32	16
2. No. of demonstration plots laid.				
Total	58	22	77	23
Result	45	17	57*	22
Trial	13	5	19*	1

5.2. Of the 134 cultivators, 41 cultivators had demonstration plots in 1960-61, 62 cultivators had demonstration plots in 1961-62 and 31 cultivators had demonstration plots in both the years. It is interesting to note that the number of cultivators having demonstration plots in both the years in the VLW headquarters is more than three times the number of cultivators having plots in both the years in the other villages.

5.3. Of the 180 demonstration plots, 141 plots were result demonstration plots and 38 plots were trial demonstration plots, whereas the type of one was not known. Of these, the number of result demonstration plots in 1960-61 was 62, while the comparable number for 1961-62 was 79. The number

(\*Type of one demonstration plot during 1961-62 is not know.)



of trial demonstration plots in these two years i.e. 1960-61 and 1961-62 were 18 and 20 respectively. Of the result demonstration plots, the largest number of plots was for wheat, followed by Bajri, cotton, paddy, and groundnut in that order. In the trial demonstration plots, the largest number of the plots were for cotton, followed by oajri, wheat and groundnut. The increase in demonstration plots in 1961-62 as compared to 1960-61 was mainly in paddy, groundnut and bajri, while the number of plots for wheat remained almost the same.

Crop	1960-61		1961-62	
	Result	Trial	Result	Trial
Wheat	23	4	23	3
Bajri	12	4	14	4
Cotton	11	4	12	5
Paddy	7	—	17	2
Groundnut	4	3	7	3
Jowar	2	2	3	—
Maize	2	—	1	—
Rajko	—	—	1	—
Til	—	—	1	—
Sugercane	—	—	—	1
Lang	—	—	—	1
Cauliflower	1	—	—	—
Cotton & Groundnut	—	1	—	—
Bajri and Groundnut	—	—	—	1
Total ..	62	18	79*	20

5.4. The distribution of cultivators having demonstration plots according to their holdings is shown in the table given below.

Size of holding acres	No. of cultivators.			Total
	Having Demonstration plot in 1960-61	Having Demonstration plot in 1961-62	Having Demonstration plot in 1960-61 & 1961-62	
Less than 10	8	12	4	24
10 - 20	11	17	5	33
20 - 40	12	21	10	43
40 and above	10	12	12	34
Total : ..	41	62	31	134

(\*Type of one demonstration plot (Groundnut, 1961-62) is not known.)

5.5. The table shows that the number of cultivators with less than 10 acres is proportionately less. Considering the fact that a large percentage of holdings is below 10 and between 10 and 20 acres, the percentage of holdings with demonstration plots in a size group to the total number of holdings in the size group, when compared for different size groups, would indicate that the small holdings are given relatively less representation in the selection of holdings for laying demonstration plots. This may be largely due to non-availability of irrigation and other facilities for laying the demonstration plot. However, even small holdings have been selected for laying demonstration plots and the selection of cultivators is not altogether guided by the larger size of holding of the cultivator.

5.6. Classifying the cultivators of the demonstration plots according to their status in the village it is seen that their official position has not influenced the selection. Out of 134 cultivators, as many as 68 cultivators were in the category of progressive farmers, while only 26 cultivators who were selected for demonstration plots were members either of the Block Development Council or the District Development Council and 15 were Sarpanchs of the Village Panchayats. It would thus appear that the selection of the cultivators having demonstration plots has not been a consequence either of the size of the holdings or their status in the village. From the fact that of the 134 cultivators, as many as 115 had irrigation facilities, it can be inferred that factors leading to increased agricultural production or to improvements have been the guiding factors in the selection of plots. It is also interesting to note that 93 of the 134 cultivators were members of the primary cooperative societies indicating that the term progressive cultivators was clearly defined and understood.

Table showing cultivators of demonstration plots according to status.

Status	No. of cultivators
1. Sarpanch	15
2. V. P. Member	6
3. Member of Block Development Council or District Development Council.	26
4. Progressive Cultivator	68
5. Not specified	19
Total :	134

5.7. The implementation of the programme of demonstration plots in relation to the age of the Community Development Block presents an interesting picture. In the blocks which had less than one year of existence, only 2 villages out of 10 selected for the survey had demonstration plots

and both these villages were VLW Headquarters. In the blocks with a period of existence between one and three years, all the VLW Headquarters selected for the survey had demonstration plots. This should be viewed in the context of the general instructions pertaining to the demonstration plots that every year a plot has to be laid in the VLW Headquarters and in any one of the other 10 or so villages under his jurisdiction. In the blocks between 3 and 5 years of existence, 17 out of 21 VLW Headquarters had demonstration plots. In Stage-II blocks, the performance was nearly the same as in the blocks having 3 to 5 years of existence and out of 21 VLW Headquarters selected in these blocks, 15 had the demonstration plots, while the number of plots in the 23 villages which were not the Headquarters of the VLWs was only 8. It is significant to note that 13 VLW Headquarters out of the total sample of 52, did not have a single demonstration plot in any of the 2 years covered by the survey. Thus, if the sample is taken as representative, the practice of laying demonstration plots has not been followed for about 25 percent of the VLW Headquarters in the State and a further probe into the reasons leading to such a situation may prove useful. No general observation is possible in regard to villages other than VLW Headquarters because the plots are to be laid more or less in rotation and the number of villages covered under the sample appears to be reasonable.

5.8. According to crop-type classification of the demonstration plots, of the 80 demonstration plots laid in 1960-61, 39 plots were single method demonstration plots of chemical fertilisers, 26 were composite method demonstration plots of improved seeds and fertilisers, 14 were single method high-yielding improved seeds, 7 were for other single methods. The composite method demonstration plots predominated for wheat, where as many as 14 demonstrations were laid. The single method chemical fertilisers demonstrations were spread over almost all crops but once again wheat predominated in the single method high yielding improved seed demonstrations, where as many as 7 out of the total number of 14 demonstrations were laid for this crop. Actually, out of 80 demonstrations, 27 demonstrations were for wheat, followed by 16 demonstrations for bajri, 15 demonstrations for cotton, 7 for paddy and groundnut each and smaller numbers for the rest of the crops.

5.9. During 1961-62, out of 100 plots laid 44 were single method demonstration plots of chemical fertilisers, 18 were of composite method, chemical fertilisers and improved seeds. There were 28 demonstration plots of high yielding improved seed single method, 1 of pest resistant improved seed and 3 of short maturity improved seed. There were four plots of Japanese method of paddy cultivation. Single method chemical fertiliser plots predominated for wheat where 15 plots were laid, whereas next in importance were paddy and cotton with 9 and 8 plots respectively. Among higher yield-

ing improved seeds plots, there were 8 plots for bajri, 6 for groundnut and 5 each for paddy and wheat. The only pest resistant improved seed plot was for cotton. For one plot the crop-type was not shown.

#### **Consultation and Approach:**

5.10. The principal agency approaching the cultivators to permit it to lay demonstration plots in their holdings has been the Village Level Worker and as many as 117 cultivators out of a total of 134, i.e. nearly 87 percent of the total number of cultivators who had demonstration plots, were first approached by the Village Level Workers with the proposal for laying the demonstration plots. The next official who accounts for only 7.46 percent of the cultivators is the Extension Officer (Agriculture). It is interesting to note in this context that the percentage composition of the officials who approached the cultivators remains almost the same both for the VLW Headquarters as well as for villages other than VLW Headquarters. But the Extension Officer (Agriculture) seems to have shown comparatively greater interest in locating the demonstration plots in the VLW Headquarters rather than in other villages. The factor that has weighed with most of the cultivators in agreeing to have the demonstration plots is the higher yield or better net returns which will accrue if the demonstrated practice proves successful. 56 percent of the cultivators selected have shown this reason as their guiding factor. The next factor appears to be the keenness of the cultivators in trying to be useful to the community by participating in the programme of propagating improved practices which will benefit all the cultivators in the villages. Another guiding factor has been the interest of the selected cultivators in improved agricultural practices and the know-how for improvement.

5.11. Of the benefits stressed by the block officials weightage has been given also to the factors of higher yield or better net returns and for as many as 87.31 percent of the cultivators, these factors have been stressed by the Block agencies.

5.12. The principal factor which according to the cultivators seems to have led to these being selected for laying the demonstration plot is their interest in improved practices and their recognition as progressive and prominent cultivators. The next important reason is the situation of the fields which because of nearness to the main road or the village, have prompted the block official in the selection. The factor of irrigation facilities does not seem to have weighed even though as stated earlier most of the demonstration plot holders do have some type of irrigation facilities.

5.13. In regard to the selection of the demonstration plots, it has been ascertained that 81 cultivators (60 percent) had permitted Block Officials to

select the plot while 17 demonstration plots (13 percent) were selected by the cultivators in consultation with Block officials. The remaining 36 cultivators (27 percent) did not permit the Block Officials to select the plot, but only 8 of them i.e. six percent of the total demonstration plot holders have given their reasons for objecting the selection by Block Officials. The reasons advanced for the objection have little material importance in view of the rather limited response in assigning reasons. For the sake of completeness, however, it may be stated that the main objection was the lack of knowledge by the Block agency pertaining to the type of soil, while the second objection for refusal was that failure of the demonstration plot would entail economic loss to the cultivator.

#### **Assistance to Cultivators :**

5.14. Material assistance in the shape of fertilisers, pesticides, improved seeds, implements etc. was received by 86 percent of the cultivators who had demonstration plots in 1960-61, while in 1961-62, 82 percent of the cultivators who had demonstration plots received such assistance. In both the years all the cultivators agreed that they received almost the full quantity of their requirements in respect of the materials. The nature, however, of the assistance being dependent on the crop-type experiments planned which as stated earlier were in favour of experiment pertaining to chemical fertilisers and demonstrations relating to the improved seeds-cum-chemical fertilisers, assistance in the shape of fertilisers was received by a large number of cultivators in both these years. It is also seen that in respect of fertilisers most of the assistance had been in the nature of free allocation while in respect of improved seeds the assistance had mostly been in the nature of priority allocation. In the matter of assistance, however, the cultivators in the VLW Headquarters seem to have obtained preference over the cultivators in other villages and as against 92 percent of the cultivators in the VLW Headquarters who received assistance during 1960-61, the percentage for other villages was only 70. In 1961-62, the comparable percentages were 85 and 70. It is significant to note that in no instance has any assistance other than that required for the purposes of the demonstration plots was given as an inducement for laying a demonstration plot.

#### **Technical Guidance :**

5.15. In the matter of technical guidance, it is seen that 94 percent of the cultivators who had demonstration plots received guidance in 1960-61, while only 81 percent received such guidance in 1961-62. As in the case of material assistance, so in the case of technical assistance, the cultivators in the VLW Headquarters received more attention. The fact that the quantum of technical guidance has gone down in the second year would merit investigation. It has also been seen that in the main technical guidance appears to be confined to the laying of demonstration plot, sowing and

manuring and little or no guidance appears to have been given in respect of harvesting, improved seeds and fertilisers and other relevant factors.

#### **Maintenance of Accounts :**

5.16 An important aspect of demonstration plot programme is its utility in convincing the cultivators about the improvement in agricultural practices or in increasing yields and net returns. For this purpose the need for maintaining proper accounts of inputs as well as yields of the crop practices demonstrated has special significance. In this context, it is interesting to note that only 13 cultivators out of 72 who had demonstration plots in 1960-61 maintained accounts. For 1961-62, the number of cultivators who maintained accounts was 17 out of a total of 93 cultivators. Thus, in both the years, the percentage of cultivators who maintained accounts was as low as 18. Asked whether the cultivators knew if crop accounts were maintained by the Village Level Workers, only 13 percent of the demonstration plots holders in 1960-61 replied in affirmative, the percentage for 1961-62 being still lower, viz. 13. Of the cultivators who knew that the Village Level Workers maintained detailed crop accounts, only 7 cultivators in each year cared to examine these accounts. It would appear that only 6 Village Level Workers were seen to have explained the accounts to the visitors. Only 1 cultivator in 1960-61 had objected to Village Level Workers' explaining the accounts in detail to other cultivators, indicating that if accounts were properly maintained, there would have been no objection by and large from the demonstration plots holders to account being explained and benefits brought out when other cultivators visited the farms.

5.17. As a consequence of accounts being not kept, the data in regard to the yield per acre in check plots as compared to yield per acre in demonstration plots and the increase in yield and incomes has not been available uniformly for the demonstration plots in either of the years. Only 23 observations are available from out of 80 demonstration plots during 1960-61 and even a cursory examination of this data indicates such wide variations in the yield of check plots as well as in respect of increased yields that significant conclusions cannot be drawn therefrom. The position in 1961-62 is even worse and only 19 observations are available from 100 demonstrations laid, the range of variation remaining identical. Apart from the utility of data in extension effort, the loss of information due to lack of proper maintenance of accounts prevents scientific data being collected in respect of contribution of one or more factors introduced as improved practices, to increased yields. Steps are, therefore, necessary to ensure that proper accounts are maintained by the Village Level Workers, that these accounts are explained to the cultivators of demonstration plots as well as the visitors, so that the purpose of the demonstration plot is better served and the visual effects that may have been created are supported by figures.

**Acceptance of Practices by cultivators of demonstration plots :**

5.18. While the total evaluation of demonstration plots should take into account acceptance of the practices demonstrated by the cultivators who visited the demonstration plots as well as by the natural spread of the practices demonstrated over a period of time, some indications of the effectiveness of the methods propagated can also be had by the response of the cultivators in whose fields the demonstration plots were laid, to the acceptance of the practices demonstrated. The survey reveals that of the 72 cultivators, who had demonstration plots in 1960-61, 47 cultivators i. e. 65 percent had either fully or partially accepted the practices demonstrated. Of these 47 cultivators, 26 cultivators accepted the practices in full, i. e. the improved practices demonstrated were applied to the total area under the crop in the next season. 21 persons or 45 percent of the people who had accepted the practices, accepted them only partially; the principal reason for partial acceptance being the considerable higher expenditure involved in accepting the practice. It is also interesting to note that 48 percent of the cultivators who accepted the practice partially could assign only vague reasons indicating that they had not devoted any particular thought to this subject.

5.19 Analysing the response of 35 percent of cultivators from the total number of demonstration plot holders, who had not accepted the improved practices demonstrated on their fields, the principal reason for non-acceptance again is the same as for partial acceptance, viz. higher expenditure involved in accepting the practices demonstrated. The next cause appears to be the apprehension of the cultivators in regard to the availability of the materials needed for acceptance of the improved practices. It is also significant to note that only 8 percent of the cultivators who did not accept the improved practices did so because they did not obtain increased yield in the demonstration plots. As in the case of partial acceptance, over a third of the cultivators were not able to assign specific reasons for non-acceptance.

5.20 Asked about their reactions to the utility of the demonstration plots and their participation in explaining the benefits of the demonstration plots, 80 of the 134 demonstration plot holders stated that they were asked to remain present when visitors were brought to their fields. 23 other cultivators indicated that they had remained present for some visits even though they were not asked to be present at each of the visits, while 22 percent of the cultivators stated that visits were arranged without their knowledge. 115 cultivators, i. e. 86 percent of the total number of cultivators of demonstration plots covered by the survey indicated that they would have remained present at all visits if they were in the know of the time when the visitors would come to their fields. Still larger percentage of the demonstration plot holders i. e. 91 percent felt that people were likely to be benefited if they visited demonstration plots, but only 74 percent of the culti-

vators having demonstration plots felt that villagers were taking sufficient interest in the visits. According to the demonstration plot holders, the principal benefits that would accrue to the visitors to the plots would be to obtain visual demonstrations of the better cultivation resulting from adoption of improved practices as against current practices and the possibility of more intensive cultivation and/or the possibility of getting higher yields and better net returns.



## 6. ANALYSIS OF DATA IN QUESTIONNAIRE 4 (Q-4)

6.1 Questionnaire 4 (Q-4) seeks to collect information regarding VLWs. In particular, background factors like education, age, rural or urban origin, experience, etc., are recorded, and the opinions of VLWs regarding demonstration plots programme have been obtained. These are sought to be analysed according to some of the background factors where deemed necessary.

6.2 Questionnaire 4 was canvassed to 53 VLWs, who were in charge of the selected villages. Analysis shows that all were trained; 34, or about 64 percent were S. S. C. passed; 35, or about two-thirds of them, were below 30 years of age—mainly belonging to the age-group 25 to 29 years; over 62 percent had experience of 28 months or more, and as many as 43, or 81 percent, had rural background. Thus, the sample of VLWs is one where the majority is young, used to rural life, trained, and with some experience of work in the rural development field. By June 1961, 42 VLWs, or 80 percent, had some experience of laying demonstration plots, 8 of them acquiring this experience only during 1961.

6.3 During 1960-61 and 1961-62, a total of 332 demonstration plots were laid - 154 in 1960-61 and 178 in 1961-62 by these VLWs. Analysis by age and rural - urban classification shows the following features of performance in terms of number of demonstration plots laid per VLW during 1960-61 and 1961-62.

No. of Demonstration Plots laid per VLW.

Age-group of VLW	1960-61		1961-62	
	Rural	Urban	Rural	Urban
1. Below 30 years	4.8	7.0	4.9	4.5
2. 30 years and above.	3.0	4.3	3.0	3.5

6.4 Thus, it would appear that there seems to be some evidence that the performance of the younger VLWs (i. e. below 30 years of age) is better than the VLWs who are 30 years or more in age. Such evidence is not in sight here as regards performance of VLWs with rural origin as against that of VLWs with urban origin. In any case the number of VLWs with urban origin is very small in the sample and the averages in their case are likely to be subject to greater margin of errors.

6.5 In 1960-61, 23 out of 53, and in 1961-62 an increased number, viz., 37 out of 53 did not attend any meeting at Block Headquarters for determining the programme for demonstration plots. This means that in majority of cases VLWs do not have scope for participation in the programme at the Block level planning stage. This particular aspect is more striking in 1961-62. The following table shows the distribution of VLWs who attended meetings held in the two years.

No. of meetings held.	No. of VLWs attending specified no. of meetings	
	during 1960—61	during 1961—62
1. 1—3	26	13
2. 4—7	1	—
3. 8—11	—	—
4. Over 11	3	3

6.6 Thus, in majority of cases, number of meetings attended falls between 1 and 3 per year. The evidence from further questioning is that almost 90 percent of those VLWs who attended a meeting in either of these two years were of the opinion that no non-officials were present at the meetings held to discuss the demonstration plots programme. A large percentage of VLWs had no knowledge whether or not the Block Development Council discussed the question of demonstration plots programme.

#### Instructions

6.7 81 percent of the VLWs said that written instructions were being given by higher officers in regard to demonstration plots programme. A large number of the VLWs (50 percent) stated that the Block Development Officer issued the instructions. About 35 percent of the VLWs mentioned that the Extension Officer (Agriculture) issued instructions and the remaining 15 percent VLWs replied that the District Agricultural Officer had issued written instructions. All those VLWs who reported having received written instructions also stated that they had complied with written instructions.

#### Selection of Plot on Cultivator's Field :—

6.8 In 85 percent of the cases, it is the VLW who selects the plot on a cultivator's field. In 9 percent of the cases, the cultivators on whose farm demonstration plot had to be laid have the final word in this matter, whereas in 4 percent cases the selection of the plot is jointly done by the VLW and the cultivator. For remaining 2 percent of plots the Extension Officer (Agriculture) had taken direct interest.

6.9 A major point kept in view in selecting a plot for laying a demonstration plot on private farm is that the farmer should be progressive and interested in improved practices. As the criterion which should have first priority, 49 percent of the VLWs reported need for selecting a progressive farmer interested in improved practices, whereas 31 percent expressed vicinity to main road and village as the first priority criterion. Among the second priority criterion 37 percent VLWs considered irrigation facility as the important one, only 15 percent of the VLWs considering this as the first priority criterion.

6.10 About 36 percent of the VLWs reported that they were experiencing difficulties in the selection of the plots of the right type, that is, meeting the above criteria which according to them were essential in laying a demonstration plot. Among the difficulties of meeting the first criterion of selecting progressive cultivators, reported by 11 percent of total VLWs, half the number of difficulties pertained to non-availability of such cultivators, and another 16 percent pertained to making them agree to comply with instructions, which again means non-availability of the right type of cultivators. Of the difficulties in meeting the second criterion of vicinity to the main road, 66 percent were about the refusal by the owner of such a plot to permit laying a demonstration plot on such a plot. In the third important criterion of availability of irrigation facility, 71 percent of the difficulties pertained to finding no such facility when the plot was otherwise suitable.

6.11 Asked whether any forward production plan for the village was being prepared in writing, in the light of which demonstration plots programme was to be drawn up, only 45 percent VLWs reported in the affirmative. This percentage was, however, higher for older blocks - 52 percent for blocks completing 3 years of Stage-I, and 61 percent for blocks completing Stage-II for 3 years-than for the more recent ones. Thus, in quite a large number of cases, there was no forward production planning against the background of which the demonstration plots programme could be built up.

#### Supervision:—

6.12 39 out of 53, i. e. 74 percent of the VLWs, replied that the demonstration plots were supervised by higher officers. All the 39 VLWs stated that Extension Officer (Agriculture) supervised the demonstration plots, whereas 62 percent of these 39 VLWs stated that Block Development Officers also supervised the demonstration plots. But only 23 percent of these 39 VLWs thought that demonstration plots were supervised by District Agricultural Officers. Although almost three-fourths of the VLWs stated that the demonstration plots were supervised by higher officers, 83 percent of the VLWs, including most of these 74 percent VLWs, felt the need for intensifying supervision. Two-thirds of the replies suggest that Extension Officer (Agriculture) should intensify the supervision; about 18 percent of the replies indicate that Block Development Officers should intensify the supervision; and 13 percent of the replies suggest that District Agricultural Officers should do more supervision.

6.13 Thus, in the matter of supervision, it would appear that though there was some supervision, the VLWs who are expected to know about the needs of the programme, felt that it needed intensification, particularly by the Extension Officer (Agriculture), who could give proper technical guidance.

#### Records:—

6.14 77 percent of the VLWs stated that they kept some sort of records about the demonstration plots. However, only 15 percent maintained any

detailed accounts of receipts, yields, inputs like labour - bullock and human - irrigation, etc. and only 13 percent replied that there were written instructions from higher quarters for keeping detailed records. All these 13 percent VLWs said that they complied with these written instructions.

6.15 The pattern of replies according to different uses of records shows that 32 percent pertained to "the usefulness for showing the benefits of improved practices to the cultivators", 19 percent pertained to "usefulness for deciding whether the demonstration programme was useful or not" and 15 percent pertained to the "usefulness for comparison with other plots of the same crop". Among the first priority reasons, the most important (45 percent of such reasons) related to demonstration of the benefits of specific improved practices. Among the second priority reasons, the most important (30 percent of such reasons) pertained to their usefulness for determining whether the demonstration programme was useful or not.

#### **Technical Guidance and Material Assistance.**

6.16 There was an overwhelming proportion of VLWs replying that fertilizers, improved seeds, pesticides and certain improved implements for use were given free of charge as an inducement to the cultivators to permit the VLWs to lay demonstration plots on their fields. 89 percent of the VLWs who laid demonstration plots in 1960-61 or 1961-62 stated so in the case of fertilisers, 13 percent in the case of improved seeds, and 11 percent for pesticides and 9 percent for other assistance. These high percentages may be partly also due to trial plots on cultivators' fields being taken for demonstration plots for the purpose of this survey, in case such plots were also used as result demonstrations i. e. for demonstrating the use of improved practices to the cultivators. As for making allocations of these materials on priority basis and not free altogether, 7, percent of these VLWs replied in the affirmative in the case of fertilisers, 20 percent for improved seeds, 7 percent for pesticides, and 7 percent for other assistance. Almost all VLWs (96 percent) appeared to think that free supply of materials like fertilisers, improved seeds, pesticides, use of improved implements, etc., should be given to owner - cultivators of demonstration plots. According to 37 percent of the VLWs, these types of assistance did act as sufficient inducements to the cultivators on whose field the VLWs wanted to lay demonstration plots.

6.17 As regards other material assistance, such as allocation of controlled articles like cement, and granting and distributing tagais, subsidies, etc., on higher priority or on out-of-turn basis, very few of the VLWs (13 percent) replied in the affirmative.

6.18 The question of technical guidance and material assistance given is discussed only with reference to the demonstration plots laid in selected villages during 1960-61 and 1961-62.

### Visits to demonstration Plots by VLWs :—

6.19 There were 135 demonstration plots in the selected villages in 1960-61 and 140 in 1961-62. A comparison with the number of demonstration plots stated by the cultivators of demonstration plots in Q. 3, however, revealed that in 4 blocks, the figures differed very materially. Presumably, there has been some omission or over-reporting. As such, these four Blocks have been excluded for the purposes of analysis in regard to visits in this paragraph. The analysis, therefore, pertains to 61 demonstration pots in 1960-61 and 78 demonstration plots in 1961-62. The analysis of visits and purpose of visits is as follows :—

	1960—61	1961—62
No. of demonstration plots	61	78
No. of total visits.	235	344
Average no. of visits per demonstration plot.	3.85	4.41
<i>Purpose</i>		% to total visits
Laying demonstration plots	25	26
Harvesting	23	11
With visitors.	28	27
Others.	24	36

6.20 These figures show that the average number of visits per demonstration plot was higher during 1961-62, even though the agricultural season had not ended by the time the survey was completed but, relatively speaking, the visits arranged in connection with the visit of the villagers to the demonstration plot accounts for only about 27 to 28 percent of the total visits.

### Interest of Cultivators of Demonstration Plots.

6.21 Asked if the cultivators of demonstration plots took, by and large, keen interest in their plots, 87 percent of the VLWs thought that they did take keen interest in the matter. But only 62 percent thought that these cultivators sought technical guidance on their own. 46 out of 53 VLWs in the sample, felt from their experience that the cultivators of the demonstration plots carried out instructions regarding treatment of crops on demonstration plots. Once the cultivators agreed to the laying of demonstration plots on their fields, 92 percent of the VLWs were in a position to select themselves the plots on the fields, without objection from the cultivators. Only 32 percent of the VLWs felt that whenever a cultivator himself selected a plot on his field for laying a demonstration plot, the requirements of demonstration plot were fully met. About 23 percent thought that in such cases, the requirements were, in fact, not met, whereas others replied that they could not definitely say one way or the other. The deficiencies found in plots, whenever the cultivator selected the plot in his field, mainly per-

tained to their locations being away from the main road, or that these plots lacked irrigation facilities. These two were the most important deficiencies. Among the second priority ratings, the most important deficiencies were the lack of adequate fertility of soil and location of the demonstration plots far away from the village.

#### Visits to the Demonstration Plots :—

6.22 The distribution of the VLWs according to the number of visits arranged for cultivators, to demonstration plots in 1960-61 and 1961-62 is given below :

No. of visits.	No. of VLWs arranging stated no. of visits in 1960-61	in 1961-62
0	21	14
1-3	12	9
4-6	10	11
7-9	3	5
10 and above	3	10

6.23 The arrangements of visits were mainly made by that VLWs themselves. 36 out of 50, i. e. 72 percent said that VLWs arranged the visits to the demonstration plots. The role of other institutions like the cooperatives, the village panchayats, the youth clubs or the farm clubs in arranging visits to the demonstration plots was very minor. 6 percent of the VLWs said that there were no systematic arrangements. Only 17 VLWs, or 32 percent of the total VLWs stated that apart from themselves, other officers accompanied the group of visitors. Mostly it was the Extension Officer (Agriculture), 70 percent of these 17 VLWs mentioning his name in this respect. Block Development Officer also figured in 35 percent of the replies of these 17 VLWs. About 60 percent of the VLWs reported that usually villagers of some status in the village remained present at the time of the visits to demonstration plots. These were the Sarpanch, members of the village panchayat or a member of a cooperative society. Although, as stated above, the panchayat, the cooperative society, etc., did not take active part, some of their representatives were present as members of the visiting groups. This was largely borne out by replies to a further question regarding different aspects kept in view in selecting persons to accompany as members of the visiting groups. Progressive and knowledgeable persons got the largest consideration (41 percent) as indicated by the replies from the VLWs. This was followed by other persons interested in improved practices (32 percent).

6.24 Asked if visitors took keen interest in the demonstration plots, an overwhelming proportion of the VLWs (81 percent) replied in the affirmative. In the light of this, it is of considerable interest to ascertain what further steps were usually taken by VLWs to gain maximum advantage and turn

this interest into actual adoption on the visitors' own fields. From this point of view, question regarding "Follow up" assumes importance.

**Follow up :—**

6.25 The analysis of replies shows that although a considerable proportion of VLWs arranging visits calculated the yield differences between the check-plot and the improved practices-plot, a very small percentage of these (13 percent) intimated these results to persons who had visited the demonstration plots before harvest. The results were discussed in an organised manner with villagers, the village panchayats or among VLWs themselves by only a small proportion of the VLWs (23 percent). Only 17 percent of the VLWs stated that they encouraged other cultivators to use improved practices shown on the demonstration plots.

6.26 Only 52 percent of the VLWs seemed to know whether cultivators had adopted in 1961-62 any of the new improved practices seen by them on the demonstration plots in 1960-61. Only 19 percent or less than one-fifths of the VLWs reported that they kept any record of visitors, to be able to follow up the visits to demonstration plots at appropriate time in order to achieve a wider acceptance of the improved practices. The VLWs were asked if they could remember who had seen the demonstration plots in 1960-61 and how many of them had adopted the improved practices in 1961-62. The replies to this question were, however, largely from memory since very few of them have kept any record. The replies reveal that about 290 cultivators saw the demonstration plots in 1960-61 and of these 139, or 48 percent, had adopted the practices seen by them in 1961-62.

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## APPENDIX-I

## I Estimation Formula:—

In view of the sampling method adopted, the following estimation method was used.

Estimation procedure was the same for each stratum and the State totals were arrived at by adding the totals of five strata. Estimation procedure was different for V.L.W. headquarter villages and for other villages.

Let

- " the total number of blocks in a stratum = N
- " the number of blocks selected in a stratum = n
- " the total number of V.L.W. circles in the  $i$ th selected block =  $M_i$
- " the number of V.L.W. circles selected in the  $i$ th selected block =  $m_i$
- " the total number of villages (other than V.L.W. Headquarter) in the  $i$ - $j$  th V.L.W. Circle =  $Q_{ij}$
- " the number of villages (other than V. L. W. Headquarter) selected in the  $i$ - $j$ th V.L.W. Circle (=1 in all cases) =  $q_{ij}$
- " the total number of cultivators in the  $i$ - $j$ - $k$ th village selected =  $P_{ijk}$   
(Excluding selected knowledgeable cultivators and owners of demonstration plots)
- " the number of cultivators selected in the  $i$ - $j$ - $k$ th village selected =  $p_{ijk}$   
(Excluding selected knowledgeable cultivators and owners of demonstration plots)
- " value of the Characteristic for the  $i$ - $j$ - $k$ - $l$ th cultivator (from Questionnaire-1) =  $X_{ijkl}$
- " value of the characteristic of the  $i$ - $j$ - $k$ - $l$ th knowledgeable cultivator (from Questionnaire - 2) =  $Y_{ijkl}$
- " value of the characteristic of the  $i$ - $j$ - $k$ - $l$ th owner of demonstration plot. (from Questionnaire-3) =  $Z_{ijkl}$

The component of the V.L.W. headquarter villages is given by

$$X_1 = \frac{N}{n} \sum_{i=1}^n \frac{M_i}{m_i} \sum_{j=1}^{m_i} \left[ \left( \frac{P_{ij}}{p_{ij}} \sum_{l=1}^5 X_{ijl} \right) + \sum_{l=1}^5 Y_{ijl} + \sum_{l=1}^{r_{ij}} Z_{ijl} \right]$$

The component given by villages other than V.L.W. Headquarter is

$$X_2 = \frac{N}{n} \sum_{i=1}^n \frac{M_i}{m_i} \sum_{j=1}^{m_i} \frac{Q_{ij}}{q_{ij}} \sum_{k=1}^{q_{ij}} \left[ \left( \frac{P_{ijk}}{p_{ijk}} \sum_{l=1}^5 X_{ijkl} \right) + \sum_{l=1}^5 Y_{ijkl} + \sum_{l=1}^{r_{ijk}} Z_{ijkl} \right]$$

and  $X = X_1 + X_2$ , value of the X Characteristic for the stratum.



As there is only one V.L.W. headquarter in a V.L.W. ( $Q_{ij}=1$ ) circle, summation over the village within a circle does not arise. In the second summation the bracket is for the five knowledgeable persons who were selected on a purposive basis and formed a within-village sub-groups from the selected village and were excluded from the frame prepared for other cultivators and  $R_{ijk}$  is the number of demonstration plot holders in the  $i$ - $j$ - $k$ th selected village.

## II Characteristics estimated

The following 3 characteristics were estimated :—

- i The number of cultivators who have seen a demonstration plot at any time.
- ii The number of cultivators who have paid at-least one visit to demonstration plot during 1960-61.
- iii The number of cultivators who have paid at-least one visit to demonstration plot during 1961-62.

## III Results

It can be seen from the Statement I that the percentages arrived at on the basis of the pooled sample values are more or less of the same order as those based on the estimated values, except in Col. 8, figures of which are not used in the report.

### STATEMENT I

Table showing percentages of different characteristics calculated on the basis of pooled sample values and unbiased estimates.

Characteristics	From Questionnaire-I		From Questionnaire-II		From Questionnaire-III		Combined	
	Sample percentage	Estimated percentage	Sample percentage	Estimated percentage	Sample percentage	Estimated percentage	Sample percentage *	Estimated percentage.
	1	2	3	4	5	6	7	8
<b>I Category A</b>								
<b>(VLW Head quarter villages)</b>								
(a) Who have seen a demonstration plot	34.68	35.58	68.07	67.37	100.00	100.00	52.04	36.59
(b) Who have paid atleast	16.57	17.19	34.23	33.16	51.48	52.52	25.79	17.71
one visit during								
	15.80	18.07	33.84	33.83	72.28	72.65	27.61	18.72
<b>II Category B</b>								
<b>(Other villages)</b>								
(a) Who have seen a demonstration plot	21.62	22.66	49.42	55.96	100.00	100.00	33.45	25.49
(b) Who have paid at least	6.58	10.34	19.46	20.76	60.61	59.54	12.77	11.47
one visit during.								
	10.71	11.25	25.68	24.83	60.61	57.31	17.40	12.55
<b>III Category A+B</b>								
(a) Who have seen ademonstration plot	28.07	26.70	58.79	57.21	100.00	100.00	43.07	28.84
(b) Who have paid at least	11.51	12.48	26.88	22.11	53.73	57.91	19.51	13.36
one visit during								
	13.22	13.38	29.78	25.81	69.40	60.88	22.68	14.41

\*These combined figures are not used in the Report.

**APPENDIX II**  
**BUREAU OF ECONOMICS AND STATISTICS**  
**GOVERNMENT OF GUJARAT, AHMEDABAD**  
**EVALUATION SURVEY OF DEMONSTRATION PLOTS**  
**IN COMMUNITY DEVELOPMENT AREAS**  
**Q. 1 : Questionnaire for Selected Cultivators**

<b>(1) IDENTIFICATION</b>		
	Item	Code
1.1 Village ..		
1.2 Block ..		
1.3 District ..		
1.4 Name of the head of the household ..		
1.5 Census House No. ..		
1.6 Size of Cultivated holdings (Acres & Cents)		
	Yes or No	Code
1.7 Whether Irrigated? ..		
	Item	Code
1.8 Source of Irrigation ..		

## II CROP-PATTERN

Principal Crops	Code	Current Season (1961-62)			1960-61 Season		
		Whether grown Code	Whether improved seeds used Code	Whether fertilisers used Code	Whether grown Code	Whether improved seeds used Code	Whether fertilisers used Code
Rice							
Wheat							
Jowar (non-fodder).							
Bajri							
Groundnut							
Cotton							
Tobacco							

## III KNOWLEDGE OF DEMONSTRATION PLOTS

	Item	Code
3.1 Have you ever visited a demonstration plot ? ..		
3.2 If not, do you know that demonstration plots exist ? ..	Item	Code
3.3 If you know, why have you not visited even once ? ..	Reasons	Priority No. Code

	Item	Code
<b>3.4</b> If you have visited, please answer the following.		
(i) When first visited ?		
(ii) Any visit during 1960-61 season?		
(iii) Any visit during 1961-62 season?		
(iv) Who told you first about the demonstration plots? ..		
(v) Whether visits were within village, outside or both?		
(vi) Who conducted the visit to the demonstration plot ?		
(a) 1960-61 ..		
(b) 1961-62 ..		
(vii) Did you visit alone or in a group? ..		
(a) 1960-61 ..		
(b) 1961-62 ..		

**IV ACCEPTANCE OF PRACTICES**

	Crop		Type		Place		Time	
	Name	Code	Name	Code	Name	Code	Period	Code
	<p><b>4.1</b> For which crops and types have you seen the demonstration plots during 1960-61?</p> <p>1 2 3</p>							
	Crop		Type		Place		Time	
	Name	Code	Name	Code	Name	Code	Period	Code
	<p><b>4.2</b> For which of the crops and types have you already adopted the improved practices(<i>i.e. before seeing demonstration plots in 1960-61 season</i>)</p>							

<p>4.3 Have you adopted any of the improved practices seen on the demonstration plots and not so far adopted by you during the current year (<i>i. e.</i> 1961-62 season) after seeing the demonstration plots in 1960-61?</p>	Item							Code
<p>4.4 If yes, is it for the whole area under the crops or partial (state crop-type combination)?</p>	Type	CROP						
		Rice Code	Wheat Code	Jowar non fodder Code	Bajri Code	Groundnut Code	Cotton Code	Tobacco Code
	1							
	2							
	3							
<p>4.5 If partial, give reasons.</p>	Reasons						Priority No.	Code



<p>4.6 If you have not adopted any of the crop type combination <i>new to you</i> in the current season after seeing the demonstration plots in 1960-61, give reasons. ..</p>	Reasons						Priority No.	Code.					
<p>4.7 If you have seen demonstration plots during 1961-62 season, give the following information ..</p>	Crop.	Code.	Type of demonstration plot.	Code	Place	Code	When seen	Code	Stage of demonstration plot.	Code			
<p>4.8 If you have seen demonstration plots during the current year, do you plan to adopt crop-type combination <i>new to you</i> during the next season ? ..</p>	Type	CROP											
Rice	Wheat	Jowar (non-fodder)	Bajri	Groundnut	Cotton	Tobacco	Code	Code	Code	Code	Code	Code	Code

	Crop	Code	Type	Code	
	4.9 If yes, which ones. ..				
	Reasons			Priority No.	Code
	4.10 If not, give reasons. ..				

**V—CONSULTATIONS & APPROACH (This relates to demonstration plots in 1960-61 and 1961-62 seasons)**

	Item	Code
<p>5.1 According to your knowledge, was the subject of demonstration plot discussed in a village meeting? ..</p>		
	Item	Code
<p>5.2 If yes, did you attend any of the meetings? ..</p>		

	Matter	Code	Meeting held in (Month & Year)	Code
5.3 What specific matters were discussed at these meetings? ..				
	Reasons		Priority No.	Code
5.4 If you know about a village meeting, and were eligible to attend it, why did you not attend? ..				

**VI VISIT TO THE DEMONSTRATION PLOT**  
 (Relates to demonstration plots seen during 1960-61 and 1961-62).

6.1 At the time of seeing the demonstration plot, could you make out the benefits by visual inspection? ..	Item					Code
	Crop.	Code.	Improved practice	Code	Benefits	Code
6.2 If yes, what benefits do you think were obviously evident from visual inspection? ..	1		1		1	
			2		2	
			3		3	
	2		1		1	
			2		2	
			1		1	
			2		2	
			1		1	
2				2		

<p>6.3 Did you see any accounts of expenses and receipts? ..</p>	<p>Item</p>	<p>Code</p>
<p>6.4 If yes, who explained to you these accounts? ..</p>	<p>Item</p>	<p>Code</p>
<p>6.5 If you saw the demonstration plot at later stages, were you shown photographs, charts etc. indicating the comparative growth of crop with improved practice with check plot? ..</p>	<p>Item</p>	<p>Code</p>

	Crop	Code	Improved practice	Code	Benefits	Code	Highest Agency Informant	Code
<p>6.6 What benefits were you told of by the officials about the practices demonstrated on demonstration-plot ?</p>								

**BUREAU OF ECONOMICS AND STATISTICS**  
**GOVERNMENT OF GUJARAT, AHMEDABAD**  
 EVALUATION SURVEY OF DEMONSTRATION PLOTS  
 IN COMMUNITY DEVELOPMENT AREAS

**Q. 2. Questionnaire for selected knowledgeable persons in the Village**

**I. IDENTIFICATION**

	Item	Code.
1.1 Village ..		
1.2 Block ..		
1.3 District ..		
1.4 Name of the Villager ..		
1.5 Status ..		
1.6 Size of holding (Cultivating) (Acres and cents) ..		



## II KNOWLEDGE OF DEMONSTRATION PLOTS.

2.1 Have you ever seen a demonstration plot ? ..	Item	Code
2.2 If not, are you aware that Block agency has a programme of demonstration plots ? ..		
2.3 If you know about the programme why have you not visited any so far ? ..	Reason	Priority No. Code
2.4 If you have visited, please answer the following :—	Item	Code
(i) When first visited ? ..		
(ii) Any visit during 1960-61 ? ..		
(iii) Any visit during 1961-62 ? ..		
(iv) Who first told you about the demonstration plots ? ..		
(v) Whether visits were within village, outside or both ? ..		
(vi) Who conducted the visit to the demonstration plot ? ..		
(a) In 1960-61 ..		
(b) In 1961-62 ..		
(vii) Did you visit alone or in a group ? ..		
(a) In 1960-61 ..		
(b) In 1961-62 ..		

**III CONSULTATIONS AND APPROACH (Relates to 1960-61 and 1961-62 seasons)**

3.1 Were you approached any time during 1960-61 or 1961-62 seasons for your advice or opinion ? If yes, state the official or social status of the person. ..	Item		Code
3.2 What advice or opinions were sought for ? ..	Advice/Opinions		Code
	1		
	2		
	3		
3.3 According to your knowledge was the subject of demonstration plot discussed in a village meeting or a group meeting or in village Panchayat meeting ? ..	Item		Code
3.4 If yes, did you attend any of these meetings ? ..			
3.5 If you attended such meeting, what specific matters were discussed ? ..	Matter	Meeting held on (Month and year)	Code
	1		
	2		
	3		
	4		
3.6 If you know about such meeting/ meetings and were eligible to attend the same, why did you not attend? ..	Reason	Priority No.	Code

3.7 Do you accept demonstration plot programme as useful ? ..	Item				Code	
3.8 If yes, what general benefits do you think can be derived from such a programme ? ..	Benefits			Priority No.	Code	
3.9 If not, please give reasons ..	Reason			Priority No.	Code	
	1					
	2					
	3					
3.10 If you accept the demonstration plot programme as such, but do not approve of certain crop-type demonstrations in your village, state which are these and reasons for disapproval (fill up only for disapproved demonstrations). ..	Crop	Code	Improved Practice	Code	Reasons for disapproval	Code

	Method		Tick Mark			Preference No. to method.	
<b>3.11</b> If you accept the demonstration plot programme, do you try to persuade villagers to see the demonstration plot ? If yes, what methods do you employ to persuade them ?	1. Addressing group meeting. 2. Addressing individual cultivators. 3. Both 1. and 2. 4. Active interest in arranging visits. 5.						
	Subject	Method generally employed	Code	Defects noticed	Code	Alternative method suggested	Code
<b>3.12</b> If the methods adopted in laying a demonstration plot in the village are defective in your opinion, what alternative methods would you suggest to improve the effectiveness of demonstration plots and to make them more purposeful ?	1. Consultation with people 2. Locational aspect. 3. Visits to the demonstration plot.			1 2 3  1 2 3  1 2 3			

## IV ACCEPTANCE OF PRACTICES

	Crop-type	Code	Place		Code	
4.1 For which crops and types have you seen the demonstration plots during 1960-61 ? ..						
	Crop-type	Code	Place	Code	When	Code
4.2 For which of the crops and types have you already adopted the improved practices (i. e. before seeing demonstration plots in 1960-61 season) ? ..						
	Item					Code
4.3 Have you adopted any of the improved practices seen on demonstration plots and not so far adopted by you during the current year (i. e. 1961-62 season) after seeing the demonstration plot in 1960-61 ? ..						

<p>4.4 If yes, is it for the whole area <i>under the crop</i> or partial (state crop-type combination) ? ..</p>	Crop-type		Code
<p>4.5 If partial, give reasons ..</p>	Reasons	Priority No.	Code
<p>4.6 If you have not adopted any of the crop-type combinations <i>new</i> to you in the current season after seeing the demonstration plots in 1960-61, give reasons. ..</p>	<p>1 2 3</p>		

	Crop	Code	Type of demonstration plot	Code	Place	Code	When seen	Code	Stage of demonstration plot	Code
<p>4.7 If you have seen demonstration plots during 1961-62 season, give the following ..</p>										
<p>4.8 If you have seen demonstration plots during the current year, do you plan to adopt any crop-type combination <i>new to you</i> during the next season ? ..</p>	Item									Code

	Crop	Code	Type	Code
4.9 If yes, which ones				

	Reasons	Priority No.	Code
4.10 If not, give reasons ..			



**BUREAU OF ECONOMICS AND STATISTICS  
GOVERNMENT OF GUJARAT, AHMEDABAD**

**EVALUATION SURVEY OF DEMONSTRATION PLOTS IN COMMUNITY DEVELOPMENT AREAS**

**Q. 3 Questionnaire for the Cultivators of the Demonstration Plots**

**(I) INDENTIFICATION**

	Item	Code
1.1 Census House Number. ..		
1.2 Village. ..		
1.3 Taluka ..		
1.4 District ..		
1.5 Name of the cultivator ..		
1.6 Size of the cultivated holding (Acres & cents) ..		

1.7 Source of Irrigation ..			
1.8 Whether fully irrigated or not ? If not, percentage irrigable ..			
1.9 Size of the Demonstration Plots (including check plot) during 1960-61 & 1961-62. ..	1960-61	1961-62	
	1		
	2		
1.10 Whether member of a primary agricultural Co-operative Society...	Item		Code
1.11 Status ..			

(II) CROP-PATTERN

Principal Crops	Current Season (1961-62)			1960-61 Season		
	Whether Grown	Whether improved seeds used	Whether fertilisers used	Whether Grown	Whether improved seeds used	Whether fertilisers used
	Code	Code	Code	Code	Code	Code
Rice						
Wheat						
Jowar (non fodder)						
Bajri						
Groundnut						
Cotton						
Tobacco						

**(III) DETAILS OF DEMONSTRATION PLOTS (including check plot)**

Year	Plot	Size (sq. ft.)	Crop	Code	Improved practice	Code	Common treatments applied (Irrigation, fertilisers, line sowing, etc.)	Code	Whether single method or Composite	Code	Whether Result Demonstration plot or trial Demonstration plot	Code
1960-61	1											
	2											
	3											
	4											
	5 Check plot											
1961-62	1											
	2											
	3											
	4											
	5 Check plot											

(IV) CONSULTATION & APPROACH (Relates to 1960—61 & 1961—62)

H-1817..12

	Item		Code.
4.1 Who first approached you with the proposal to lay a Demonstration plot in your holding ? ...			
4.2 What specific reasons prompted you to agree to the proposal ? ..	<b>Reasons</b>	<b>Priority No.</b>	<b>Code</b>
4.3 Were you told about any specific benefits, if you agreed to the proposal ? If yes, state them. ..	<b>Benefits</b>	<b>Priority No.</b>	<b>Code</b>
4.4 Can you think of reasons why your field was selected for Demonstration plot ?	<b>Reasons</b>	<b>Priority No.</b>	<b>Code</b>

	Item		Code
4.5 Do you permit Block official to select a plot/plots in your field or do you select it/them for him? ..			
4.6 Would you have any objection to the Block official selecting the plot in your field ? ..			
	Reasons	Priority No.	Code
4.7 If yes, state the reasons. ..			

**(V) TECHNICAL GUIDANCE & MATERIAL ASSISTANCE**

5.1 Have you received any <i>Technical</i> guidance as regards the demonstration plot ?  If yes, state the operations for which guidance was received.	Year	Yes or No		Code		
		1960-61				
		1961-62				
	Operation	1960-61	Code	1961-62	Code	
..	1 Lay of Demonstration Plot.					
..	2 Sowing.					
	3 Manuring.					
	4					
	5					
5.2 Have you received any materials free or as priority allocation from block agency ?  If yes, state whether quantities were received for full or partial requirements of the plot.	Year	Yes or No		Code		
		1960-61				
		1961-62				
		1960-61		1961-62		
	..	Materials received	Whether free or as priority-allocation. Code	Whether full or partial requirements. Code	Whether free or as priority allocation. Code	Whether full or partial requirements. Code
	..	1. Improved Seeds.				
		2. Fertilisers.				
	3. Pesticides.					
	4. Improved Implements.					
	5					

	Material	1960-61		1961-62	
		Type of Assistance	Code	Type of Assistance	Code
5.3 Have you received any other assistance in procuring materials not required for the Demonstration Plot ?	1				
	2				
	3				
	4				
	Officer	1960-61		1961-62	
		With the group of visitors Code	Without visitors Code	With the group of visitors Code	Without visitors Code
5.4 How many times have the following officers visited your Demonstration Plot ?	1 V. L. W.				
	2 E. O. (Agri).				
	3 B. D. O.				
	4 D. A. O.				



5.5 Are you satisfied that sufficient technical guidance is available for your Demonstration Plot ? ..	1960-61	Code	1961-62	Code
5.6 If not, in what respects is it deficient ? ..	1960-61		1961-62	
	Deficiency	Code	Deficiency	Code
	2			
	3			
	4			

5.7 Are you satisfied that sufficient material assistance is available for your Demonstration Plot? ..	Year		Yes or No	Code
	(a) 1960-61.			
	(b) 1961-62			

  

5.8 If not, in what respects do you find it deficient? ..	Deficiency			
	1960-61	Code	1961-62	Code
	1			
2				
3				
4				

(VI) ACCOUNTS

	Year	Yes or No	Code
6.1 Do you keep accounts of the expenses and yields for the Demonstration Plots ? ..	(a) 1960-61		
	(b) 1961-62		
6.2 Do you know if the V. L. W. maintains detailed accounts for your Demonstration Plot ? ..	(a) 1960-61		
	(b) 1961-62		
6.3 If yes for 6.2, have you examined the accounts or has the V. L. W. explained you these accounts ? ..	(a) 1960-61		
	(b) 1961-62		
6.4 If at any time you were present at the time of the visits of other villagers, have you heard V. L. W. explaining the accounts ? ..	(a) 1960-61		
	(b) 1961-62		
6.5 If yes, did he explain in great detail, in your opinion ? ..	(a) 1960-61		
	(b) 1961-62		
6.6 If V. L. W. did not explain, is it because you object to such details of your farm being revealed ? ..	(a) 1960-61		
	(b) 1961-62		
6.7 If you keep the accounts or if you know that V. L. W. does, have you ascertained the benefits ? ...	(a) 1960-61		
	(b) 1961-62		

6.8 If yes, please state the extent of 1 the benefit in the following. ..

Plot	Crop	Code	1960—61		1961—62	
			Yield per acre. (B. mds.)	Net additional income per acre. (Rs.)	Yield per acre. (B. mds.)	Net additional income per acre. (Rs.)
Check plot						
2 Improved Practice Plot			1.			
			2.			
1 Check plot						
2 Improved Practice Plot			1.			
			2.			

(VII) VISITORS

	Item	
7.1 Do you think villagers take sufficient interest in visits ? ..		
7.2 Are you asked to be present at each visit ? ..		
7.3 If not, have you ever been present on your field at the time of visit ? ..		
7.4 Are visits to your field arranged without your knowledge ? ..		

7.5 Of your own accord, would you be present *at all* the visits if you know about these visits ? ..

7.6 Do you think people are likely to benefit by visits to demonstration plots ? If yes, state the benefits. ..

Benefits	Priority No.	Code
1.		
2.		
3.		

(VIII) ACCEPTANCE

	Item	Code
<p>8.1 If you had a demonstration plot in your field in 1960-61, have you adopted any improved practice <i>new to you</i> after the demonstration, on your own field during 1961-62 ? ..</p>		
	Item	Code
<p>8.2 If yes, is it to the full extent or partial (i. e. not for the total area under the same crop.) ? ..</p>		

	Reasons	Priority No.	Code
8.3 If partial, state reasons. ..	1		
	2		
	3		
	Reasons	Priority No.	Code
8.4 If you have not adopted any of the improved practices demonstrated on your own field, state reasons. ..	1		
	2		
	3		



**BUREAU OF ECONOMICS AND STATISTICS**  
**GOVERNMENT OF GUJARAT, AHMEDABAD**  
**EVALUATION SURVEY OF DEMONSTRATION PLOTS IN COMMUNITY DEVELOPMENT AREAS**  
**Q. 4. Questionnaire for the Village Level Workers.**

**I IDENTIFICATION**

	Item	Code
1.1 District		
1.2 Block		
1.3 V. L. W. Headquarter		
1.4 Name of the V. L. W.		
1.5 Educational qualification		

	Item	Code
1.6 Whether trained or not.		
1.7 Posted at the present place since. (month & year)		
1.8 Age (completed year)		
1.9 Total Service as V. L. W. (months).		
1.10 Native Place-Rural or Urban.		

II

EXPERIENCE

	Yes or No		Code
<p>2.1 Have you laid any demonstration plots before                      (A) June 1960 ?                      (B) June 1961 ?</p>			
<p>2.2 In your present charge how many demonstration plots have been laid ?                      What types are these ?                      (Reference period 1960-61 and 1961-62)</p>		1960-61	1961-62
	No. of trial demonstration plots		
	No. of result demonstration plots		

**III METHOD OF SELECTION OF DEMONSTRATION PLOTS**

(Relate the questions to 1960-61 and 1961-62 seasons)

	Meetings held	Period (months & year)	Code
<p>3.1 Have you attended any meeting at Block Headquarter for determining the programme for demonstration plots ? If yes, state the periods (months &amp; year) during 1960-61 &amp; 1961-62. ..</p>	<p>1  2  3</p>		
	Item		Code
<p>3.2 Were any non-officials present at any of these meetings ? ..</p>			
<p>3.3 Do you know if Block Development Council had discussed this question ? ..</p>			
<p>3.4 Are you given any written instructions in regard to this programme? If so, by whom ? .. (B. D. O., E. O., etc.) ..</p>			

3.5 Have you complied with these instructions ? ..	Yes or No			Code
3.6 If you have not fully complied with these instructions, state which ones you did not comply and reasons for non-compliance ..	Instructions	Code	Reasons for non-compliance	Code
3.7 Who generally selects the field in which the demonstration plots are laid ? ..	Item			Code
3.8 What are the different criteria you keep in view in laying a demonstration plot ?	Criteria		Priority No.	Code

3.9 In which of these criteria you meet with considerable difficulty ? State the difficulty.

Criteria	Code	Priority No.	Difficulty in achievement	Code
1			1	
			2	
			1	
			2	
			1	
			2	
2			1	
			2	
3			1	
			2	

3.10 Do you prepare a written forward production plan for each village ?..

Item	Code

## IV

## TECHNICAL GUIDANCE &amp; MATERIAL ASSISTANCE

4.1 If there are demonstration plots in the selected villages, state their No. and number of visits paid. . .	Year	No. of demonstration plots	No. of Visits				
			Total	Laying demonstration plots	Harvesting	With other visitors	Others
	1960-61						
	1961-62						
4.2 What materials are given free or with high priority to the cultivators of demonstration plots ? . .	Materials	Code	Free	With priority allocation			
	1						
	2						
	3						
	4						

	Yes or No	Code
<p>(2) Do these act as sufficient inducements to the cultivators on whose field you want to lay the demonstration plots? ..</p>		
<p>4.4 Do you give any other materials or assistance (cement, tagavi, etc.) on higher priority basis to cultivators of demonstration plots? If yes, state the details ..</p>	<p>Other materials or assistance</p> <p>1</p> <p>2</p> <p>3</p>	Code



	Item	Code
<p>4.5 In your opinion, do the cultivators of demonstration plot take, by and large, keen interest in the matter ? ..</p>		
<p>4.6 Do you think you can give sufficient time for all the effort involved in Demonstration Programmes ?</p>	<p>Item</p>	<p>Code</p>
<p>4.7 Do you prepare any <i>written</i> plan for the demonstration plot ? ..</p>		
<p>4.8 Do you think demonstration plots serve the purpose at this stage of the Community Development Programme ? ..</p>		

4.9 What types of demonstration plots are, in your opinion most required to-day in your circle ?	Crop		Code	Type	Code	Priority
	1					
	2					
	3					
4.10 Among the different types in vogue in your circle, for which types is the demonstration plot programme almost redundant ?	Type	Code	Reasons for redundancy		Code	Priority
	1		1			
			2			
			3			
	2		1			
			2			
			3			
	3		1			
			2			
3						

4.11 Do the cultivators of the demonstration plots seek technical guidance on their own ? ..	Item			Code
4.12 Do you think they carry out the instructions for common treatment etc. given by you, E. O. (Agri.) etc. ? ..				
4.13 Do you or any other Block official select the plot once the cultivators agree to have a demonstration plot on his field ? ..				
4.14 If the cultivator himself selects the plot, does the selected plot meet your requirements ? ..				
4.15 If not, in which respects do you find them deficient ? ..	Deficiency	Code	Order of importance	Code
	1			
	2			
	3			
4.16 Are the demonstration plots supervised ? If yes, by whom ? ..	Supervision by			
	E. O. (Agri)	B. D. O.	D. A. O.	

<p>4.17 Do you think such supervision needs to be intensified? ..</p>	<p>Item</p>	<p>Code</p>
<p>4.18 If yes, state which officer(s) should do more intensive supervision. ..</p>	<p>Officer (designation)</p>	<p>Code</p>

V RECORD

<p>5.1 Do you keep regular record of the demonstration plots, every agricultural season ? ..</p>	<p>Item</p>		<p>Code</p>
<p>5.2 How are these records useful in your work ? ..</p>	<p>Usefulness</p>	<p>Priority No.</p>	<p>Code</p>

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	Item	Code
5.3 Do you maintain detailed accounts of receipts, yield, inputs like labour, bullock and human, irrigation, etc ? ..		
5.4 Are there any written instructions in this regard from higher authorities ? ..		
5.5 Have you complied with these instructions ? ..		
	Item	Code
5.6 If you have not complied with these instructions, state which ones you did not comply and reasons for non-compliance. ..		

## VI

## VISITS TO THE DEMONSTRATION PLOTS

6.1 How are visits to demonstration plots arranged generally ? (self, through Village Panchayat, Co-operative Society, Farm Club, Youth Club, Village meeting, no systematic arrangement, through E. O. (Agri), B. D. O.)	Mode		Priority No.	Code			
				6.2 Apart from you, do any other officials, or villagers of status generally remain present ? If yes, name them.	Item	Code	
		6.3 What particular aspects of the demonstration plot do you emphasise at the time of visit ?	Type of demonstration plot (Crop-type combination).		Code	Aspect	Priority No.
1			1 2 3				
2			1 2 3				
3			1 2 3				

6.4 In your opinion, do you think the visitors take interest in the demonstration plot ? ..	Item		Code
6.5 What different aspects weigh with you in selecting persons for the visit of the demonstration plot? ..	Aspects		Code
6.6 What is the usual size of the group of visitors ? ..	Item		Code
6.7 How many visits were arranged during 1960-61 and 1961-62 ? ..	No. of visits arranged		
	Kharif	Rabi	Total
	1960-61		
	1961-62		

VII FOLLOW - UP

7.1 What further action do you take after the harvest of the crop on the demonstration plot ? ..	Further Action		Code
	1		
	2		
	3		
7.2 Do you know of the farmer having a demonstration plot on his field in 1960-61 has adopted this improved practice in 1961-62 ? ..	Item		Code
7.3 If yes, state the following details for your selected villages. ..	Demonstration plot in 1960-61. (cultivator's name.)	Whether adopted the improved practice in 1961-62 or not ? (yes or no)	Code.
	1		
	2		
3			



7.4 If you are keeping a record of visitors to the demonstration plots for 1960-61 have you ascertained if they have adopted the improved practice in 1961-62 ? ..	Yes or No		Code
7.5 If yes, state whether majority, only a few or about 50% of these cultivators-visitors adopted these demonstrated improved practices in 1961-62 ? If possible give no. visiting in 1960-61 and of them no. adopting in 1961-62 ..	No. of cultivator-visitors who visited demonstration plot in 1960-61	Of the no. visiting in 1960-61, No. of cultivator visitors adopting in 1961-62	
7.6 If only a small number of visitors adopted demonstrated improved practices, in 1961-62, in your opinion, what are the reasons for non-adoption by a large number of visitors ? ..	Reasons		Priority No.
			Code