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# Impact of 'Auto consultant CD package' for communication of Agricultural technology to the farmers

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***Abstract :*** World is changing fast and along with, technology is also getting developed faster. Agriculture sector is also not behind. Every day new varieties and technologies are coming from the efforts of the scientists in aim to furnish the various needs of the growing population such as food, cloth and others. But unfortunately till date the communication of this technology is not proper due to some or more reasons. The farmer could not get advice in his own village in time. The survey of about 400 villages from eight taluka in Satara district was done to check the source of information of the farmers for their routine problems in farming. It was observed that there is no any agency to give correct and intime advice to the farmer in his own village. Also results showed that the percentage of the farmers taking advice from Agril university or Department of agriculture is less than 0.5 per cent. That means no any technical advice is given to the farmers for his daily questions in his own land. Hence, an experiment was done to establish a agricultural consultancy centre at village level so as to give the farmers immediate and correct advice regarding ground nut crop, from preparatory tillage to harvesting. For this purpose, Autoconsultant interactive CD package was developed which was containing all the detailed information about every aspect of ground nut cultivation in local language. With the help of computer, this interactive CD was used to give correct and immediate advice to the farmer. Thus it was just like " all experts in various disciplines (Agronomy, Soil science, Entomology Pathology etc. ) of agriculture, available in a single village." The CD worked as an expert and the advice was made available immediately to farmers in his own village. Three such centres where established in 3 villages Supne, Umbraj Tal. Karad and Prabhuchiwadi at post Kharshi, Tal. Jawali dist. Satara. From all ground nut growers in that village, randomly selected farmers were the target group. The area under ground nut crop from their fields was divided into two parts as a part grown with the use of the advice and second without use of the advice. The advice included was about preparatory tillage, variety to be sown, fertilizer application after soil testing, weedicide, weed managemen , other cultural practices, pest control , water management and harvesting etc. As the farmer need not to go anywhere for the correct advice, it was possible for him to get immediate answer on his routine questions as pest and disease control or fertilizer application and information about new techniques developed in ground nut cultivation. This helped him to use the advice in time in his field. Due to proper and timely advice, yield level was significantly increased than the control plot.

***Key words :*** Communication in agriculture, Interactive CD, Ground nut, Agricultural extension.

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The world is changing very fast and technology in agriculture is also getting developed at fastest rate. But still then , difference between production of the average farmer and the production of progressive farmer or the experimental plots is much bigger. This is because, the technology developed is not reaching the masses. It is just restricted to some, who can afford to go to taluka places, can spare their time in getting information from different exhibitions or by meeting some professors of the university or agricultural officers. But lay man or a small farmer can not do all these things and automatically remains behind in getting information about technology or adoption of the technology.

Another important thing about giving the knowledge, to the farmer is , " it must be given immediately when required and in his village itself and in his local language, in directly usable format" where he can ask his question while returning from his field.

It is not possible to have ten experts at a time in a single

village who can answer the questions of the farmers from different disciplines like soil science, entomology, pathology, agronomy horticulture, dairy etc. but the CD containing all this information can play the role of the 10 experts at a time if given in interactive mode in a suitable format.

An attempt was made to give the information about the ground nut crop in detail , in a interactive format at village level through a agricultural graduate or diploma holder with the help of interactive CD prepared in MARATHI *i.e*. local language.

Hence the purpose of the study was to develop a Agril. Consultancy CD Package which would give any kind of information in agriculture, to the farmers at village level. Which would result in "Agril. Consultancy in each village".

For current experiment ground nut crop was selected to see the difference in the yield if the timely and accurate advice is given to the farmers while growing Ground nut crop.

## METHODOLOGY

At first, survey was conducted to know the information sources of the farmers for his day to day doubts in field and consultancy for the same. Survey was conducted in 260 villages in 9 talukas in Satara district in Maharashtra in which about 1200 farmers were asked about their information sources though a questionnaire and the data was tabulated to know the situation.

**Different types of sources available to the farmers to get the information:**

*Sources of general information:*

(like innovative farmers, success stories, govt. schemes)

- TV/ radio
- News paper
- Rallies

*Sources of information for day to day doubts in field and also general information:*

( like fertilizer dose to a crop or name and per cent of insecticide on a pest attack)

- Agril. Universities
- Agricultural department
- Progressive farmer
- Agro service centre
- Friends / neighbour
- Magazine / Books
- Self opinion

Consultancy centers were established in three villages *viz.*, Supne Tal. Karad, Umbraj Tal. Karad and Prabhuchiwadi at post. Kharshi Tal. Jawali of Satara District. with the help of agricultural graduates.

These centers were supplied a interactive CD prepared in Marathi giving detailed information about ground nut.

The farmers were convinced to participate in this consultancy service experiment. Ground nut growers of the village were selected randomly , who were ready to participate in the experiment.

They were asked to divide there effective area under crop into two parts as per their convenience.

First part of the field was to be cultivated adopting his own cultivation practice, *i.e.* the practices he is following years together and in second part he was asked to adopt the package of practice, as suggested at the consultancy centre.

The yields of both the plots(control and experimental) were harvested separately and recorded.

The yields of ground nut growers for control and experimental plots were tabulated

Crop grower group was assessed for yield increase using Z test.

**Locale of the study:**

Different plots belonging to different farmers at different locations irrespective of the variety and other package of practices they are using, were selected for study to avoid environmental and experimental error.

Three villages named Supne, Umbraj Tal. Karad and Prabhuchiwadi at post. Kharshi Tal. Jawali from Satara district were selected.

The information and guidance to the farmers was given with the help of auto consultant CD package

**Control plot:**

The plot in which regular package of practices was followed was considered as control plot.

**Treatment plot:**

The plot with package of practices advised from consultancy center was considered as treatment / experimental plot.

**No. of plots selected:**

Total 70 plots were selected.

**Record of observations:**

For survey to assess the source of information, questionnaire was filled in by the farmers after personal interview.

For assessment of effect of Autoconsultant CD package, the observations were recorded for yield of control plot and treatment plot.

**Statistical analysis:**

Z test was applied to test the data of the yield levels for its significance.

## RESULTS AND DISCUSSION

The results of the present study as well as relevant discussion have been summarized under following heads:

**Today's scenario of availability of information to the farmers:**

The results showed TV, radio and news paper are playing a good role for fast communication of general information. But rallies are not much effective as that of TV radio and news paper (Table 1).

**Table 1 : Sources of general information and percentage of farmers**

| Sr. No. | Sources of general information (like innovative farmers, success stories, govt. schemes) | % of farmers getting information |
|---|---|---|
| 1. | TV/ radio | 61.17 |
| 2. | News paper | 37.40 |
| 3. | Experts speech / rallies | 01.90 |

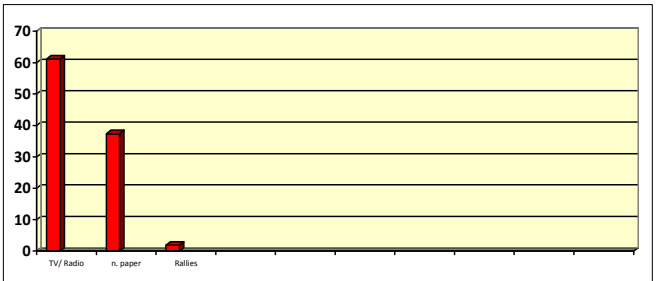


**Fig. 1 : Showing the levels of different sources used by the farmers to get general information**

In case of getting information for day to day doubts and information in package of practices, results (Table 2) showed that 00 per cent farmers can get information from Agril. universities and 17.74 per cent from Deparatment of Agriculture for clarifying their doubts in day to day operations. In majority cases ie 82.25 per cent farmers are using their self opinion and about 71.47 per cent ask their doubts to the neighbor or a friend (Table 2).

That means no regular and timely advice is available to them which is the most important thing for increase in Agril. production. The most common reason behind was non availability of any authentic source at village level or at accessible distance and at accessible time. Hence, automatically he starts easy access of seeking information *i.e.* asking just a neighbor of friend or if not available using his own ideas.

As the whole experiment was carried out at farmers field, the plot sizes were different for each farmer. Also, many farmers had preferred to allot less area to the experimentation. For making the data homogeneous, yield of the control plot and experimental plot was converted to yield per hector (Table 3).

**Table 2 : Sources specific information for day to day doubts in field and percentage of farmers**

| Sr. No. | Sources of specific information for day to day doubts in field ( like fertilizer dose to a crop or name and % of insecticide on a pest attack ) | % of farmers getting information |
|---|---|---|
| 1. | Agril. universities | 00.00 |
| 2. | Agricultural department | 17.74 |
| 3. | Progressive farmer | 30.90 |
| 4. | Agro service centre | 4.43 |
| 5. | Friends / neighbor | 71.47 |
| 6. | Magazine / Books | 28.52 |
| 7. | Self opinion | 82.25 |

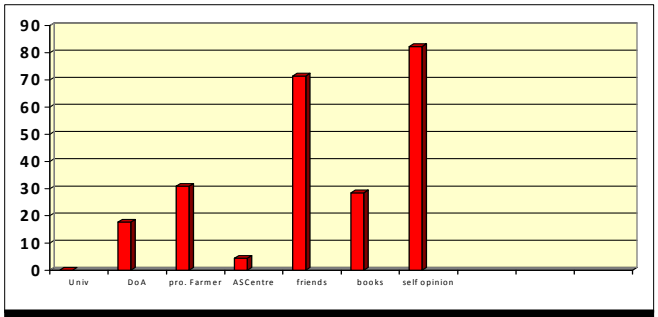


**Fig. 2 : showing the levels of different sources used by the farmers to get specific information**

Dry weight yield of the pods was recorded for control plots and experimental plots of the farmers.

The data for yield in control and treatment plot were analyzed using z test (Table 4).

The test was found significant as Z calculated value (58.965553115 ) was more than Z table value (1.96 at 0.05 alpha value).

The mean of yield for control plot was 19.84 while of treatment plot was 31.83 The increase in the yield of the plots cultivated with advanced technology was only because of timely and correct advice which was also disseminating new technology to the ground level.

Sharma (2004) conducted study in 2003-2004 to study the utilization and credibility pattern of information sources and channels by the rapeseed-mustard farmers in Rajasthan. 350 rapeseed-mustard growers from five districts of Rajasthan were interviewed. The study reported that personal localite sources like neighbours, friends, progressive farmers and opinion leaders were playing important role in transfer of rapeseed-mustard technologies to the fellow farmers. These sources with high credibility were widely used by majority of the respondents. The most revealing finding of the study is that VLWs or Agriculture supervisors had lost their credibility among the farmers while the input dealers and agents of commercial seed, fertilizers, plant protection, etc., played a

**Table 3 : Observations recorded for yield of ground nut**

| Sr. No. | Yield of groundnut crop with and without consultancy | | | | | |
|---|---|---|---|---|---|---|
| | Control | | | Treatment | | |
| | Area (R) | Yield (q) | Yield/ ha | Area (R) | Yield (q) | Yield/ ha |
| 1. | 20 | 3.3 | 16.5 | 20 | 5.2 | 25 |
| 2. | 40 | 7.2 | 18 | 20 | 6.1 | 30 |
| 3. | 30 | 4.7 | 15.66 | 20 | 4.8 | 24 |
| 4. | 40 | 7.9 | 19.75 | 40 | 12.5 | 31.25 |
| 5. | 40 | 8.2 | 20.5 | 20 | 7.7 | 38.5 |
| 6. | 20 | 4.3 | 21.5 | 40 | 7.6 | 38 |
| 7. | 10 | 2 | 20 | 10 | 7.2 | 36 |
| 8. | 20 | 3.5 | 17.5 | 20 | 5.25 | 26.25 |
| 9. | 20 | 3.8 | 19 | 20 | 5.25 | 26.25 |
| 10. | 40 | 7.7 | 19.25 | 40 | 13.7 | 34.25 |
| 11. | 20 | 3.4 | 17 | 20 | 6.2 | 31 |
| 12. | 40 | 7.5 | 18.75 | 40 | 13.2 | 33 |
| 13. | 20 | 4 | 20 | 40 | 11.9 | 29.75 |
| 14. | 40 | 6.6 | 16.5 | 20 | 6 | 30 |
| 15. | 40 | 6.9 | 17.25 | 20 | 5.6 | 28 |
| 16. | 40 | 6.5 | 16.25 | 40 | 12.7 | 31.75 |
| 17. | 40 | 8 | 20 | 40 | 12.5 | 31.25 |
| 18. | 20 | 4 | 20 | 20 | 6.6 | 33 |
| 19. | 40 | 7.5 | 18.75 | 40 | 12.8 | 32 |
| 20. | 10 | 2.1 | 21 | 30 | 9.4 | 31.33 |
| 21. | 20 | 3.9 | 19.5 | 20 | 6.5 | 32.5 |
| 22. | 20 | 4.2 | 21 | 10 | 3.75 | 37.5 |
| 23. | 30 | 5.2 | 17.33 | 10 | 3.1 | 30 |
| 24. | 20 | 3.5 | 17.5 | 20 | 5.6 | 28 |
| 25. | 20 | 3.7 | 18.5 | 20 | 7.2 | 36 |
| 26. | 20 | 3.9 | 19.5 | 20 | 6.4 | 32 |
| 27. | 40 | 8.1 | 20.25 | 20 | 6.7 | 33.5 |
| 28. | 40 | 6.9 | 17.25 | 40 | 11 | 27.5 |
| 29. | 40 | 6.5 | 16.25 | 40 | 9.8 | 24.5 |
| 30. | 20 | 4.1 | 20.5 | 20 | 6.1 | 30.5 |
| 31. | 30 | 5 | 16.66 | 30 | 8.25 | 27.5 |
| 32. | 40 | 7.4 | 18.5 | 20 | 5.7 | 28 |
| 33. | 20 | 3.9 | 19.5 | 20 | 5.6 | 28 |
| 34. | 20 | 4.2 | 21 | 40 | 14.8 | 37 |
| 35. | 20 | 4 | 20 | 20 | 6.8 | 34 |
| 36. | 40 | 7.1 | 17.75 | 20 | 5.1 | 25.5 |
| 37. | 20 | 3.8 | 19 | 20 | 5.7 | 28.5 |
| 38. | 40 | 7.3 | 18.25 | 40 | 13.7 | 34.25 |
| 39. | 40 | 6.5 | 16.25 | 40 | 9.9 | 24.75 |
| 40. | 20 | 3.4 | 17 | 20 | 5.1 | 25.5 |
| 41. | 30 | 5.7 | 19 | 20 | 5.1 | 25.5 |
| 42. | 20 | 3.7 | 18.5 | 10 | 3.1 | 31 |
| 43. | 40 | 8.2 | 20.5 | 20 | 7.8 | 39 |
| 44. | 40 | 8.3 | 20.75 | 40 | 14.4 | 36 |
| 45. | 40 | 6.9 | 17.25 | 40 | 12.2 | 30 |
| 46. | 20 | 3.7 | 18.5 | 40 | 13 | 32.5 |
| 47. | 30 | 5.6 | 18.66 | 10 | 2.8 | 28 |
| 48. | 40 | 8 | 20 | 20 | 5.7 | 28.5 |
| 49. | 20 | 4 | 20 | 20 | 6.2 | 31 |
| 50. | 20 | 4.3 | 21.5 | 20 | 7.1 | 35.5 |
| 51. | 40 | 7.3 | 18.25 | 40 | 12 | 30 |
| 52. | 40 | 8.3 | 20.75 | 40 | 12.9 | 32.25 |
| 53. | 20 | 3.8 | 19 | 20 | 6.5 | 32.5 |
| 54. | 20 | 3.4 | 17 | 40 | 11.8 | 29.5 |
| 55. | 10 | 2.1 | 21 | 10 | 3.8 | 38 |
| 56. | 40 | 6.6 | 16.5 | 40 | 11.5 | 28.75 |
| 57. | 20 | 3.8 | 19 | 40 | 12.5 | 31.25 |
| 58. | 40 | 7.3 | 18.25 | 20 | 6.6 | 33 |
| 59. | 40 | 6.5 | 16.25 | 40 | 12.8 | 32 |
| 60. | 20 | 3.4 | 17 | 30 | 9.5 | 31.66 |
| 61. | 20 | 3.7 | 18.5 | 20 | 7.5 | 37.5 |
| 62. | 20 | 3.9 | 19.5 | 20 | 7.8 | 39 |
| 63. | 40 | 8.1 | 20.25 | 40 | 14.4 | 36 |
| 64. | 40 | 6.9 | 17.25 | 40 | 12.2 | 30 |
| 65. | 40 | 6.5 | 16.25 | 40 | 13 | 32.5 |
| 66. | 20 | 4.1 | 20.5 | 10 | 2.8 | 28 |
| 67. | 20 | 4.3 | 21.5 | 20 | 5.7 | 28.5 |
| 68 | 10 | 2 | 20 | 40 | 12.7 | 31.75 |
| 69. | 20 | 3.5 | 17.5 | 40 | 12.5 | 31.25 |
| 70. | 20 | 3.8 | 19 | 20 | 6.6 | 33 |
| | | | 1312.56 | | | 2188.99 |
| Mean | | | 18.75085714 | | | 31.27128571 |
| Standard Deviation | | | 1.59256947 | | | 3.807444623 |

*Contd.….. Table 3*

*Table 3 contd….*

**Table 4 : Statistical analysis of the data z-Test**

z-Test: Two sample for means

| | Variable 1 | Variable 2 |
|---|---|---|
| Mean | 18.75085714 | 31.2712857 |
| Known variance | 1.59 | 3.8 |
| Observations | 70 | 70 |
| Hypothesized Mean Difference | 0 | |
| z value = | 45.1204926 | |
| z Critical one-tail | 1.644853627 | |
| z Critical two-tail | 1.959963985 | |

(To be significant at an alpha of .05 , the z-score must exceed 1.96.)

critical role in information network of rapeseed mustard farmers, however, their credibility is low. It was important to note that scientists and agriculture officers were perceived a much credible source of information by rapeseed-mustard

farmers, however, these sources were less accessible to the farmers. Thus accessibility for the technical guidance was the main problem. This problem can be solved if we can establish a village level consultancy centre.

**Interpretation :**

The test was found significant. ie there was significant increase in yield levels of ground nut.

This clearly indicates that because of use of regular and timely advice at village level, farmer was able to adopt the technology immediately when required which ultimately increased the yield level.

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