Field Adoption of Improved Animal Husbandry Practices

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Based on experiences gained in National Demonstration programme, the working group which formulated the Fifth Five Year Plan proposals of the ICAR suggested that Operational Research Projects should be started for integrated development of rural areas. One such operational research project was, accordingly, started by the NDRI, Karnal in 1975 in a cluster of eight villages to begin with and later on extended to 21 villages in three clusters.

It is gratifying that India has become self sufficient in the requirement of food grains. Its internal annual production estimated to be of the order of 126 million tons in year 1977-78. But there continues to be a chronic shortage of milk in the country. The present annual milk production of 27 million tons provides only 130 g. of milk and milk products per capita per day. After self sufficiency in food, time is now ripe for paying concerted attention to increase the availability of milk for the consumers. Increase in milk production needs the application of the known scientific dairy innovations by the farmers. Assuming rightly that a good deal of scientific information of practical utility, based on research conducted in the Agricultural Universities and other Research Institutions in the country is available, systematic and vigorous efforts are being made in the country, as a whole, to bring about significant increase in milk production with the application of scientific recommendations. An effort of highly intensive nature is being made in this respect in the villages of the Operational Research Project of the National Dairy Research Institute.

It is a matter of common experience of an extension worker that when he approaches the farmers with a new practice, he does not meet with uniform response from them; some respond promptly, some need a lot of persuasion before they accept new practice and still some others resist to accept change for a long period. Extension workers’ main job is to convince farmers in a way that they adopt the new practice. With the launching of the special programme of Dairy Development in the Operational Research Project villages, farmers must have adopted the recommended practices. After the passage of two years of the working of this programme, it is worthwhile to assess scientifically the extent to which the farmers have adopted new practices. This study is therefore, an attempt to know the adoption of dairy innovations by the farmers of the area. The specific objectives of the study are:

(i) To know the level of adoption of recommended Dairy Farming practices by the different categories of Cattle Owners.
(ii) To see the relationship between adoption and personal traits of the cattle owners.

Research methodology

The investigation was conducted in the purposively selected area of the Operational Research Project of the National Dairy Research Institute, Karnal. Five villages were selected randomly out of 21 comprising the project. 20 farmers from each village were selected.
from different categories i.e. landless, marginal small and medium. They were interviewed through a structured schedule to determine their level of adoption pertaining to Breeding, Feeding, Management and Health Cover practices. Suitable questions were framed and included in the schedule. On the basis of these questions, adoption score of the respondents were worked out. Standard deviation and mean have been calculated. The adopters were classified into three categories as under:

(i) Mean + S.D. and above = High Adopters.
(ii) Mean - S.D. and below = Low Adopters.
(iii) From Mean - S.D. to Mean + S.D. = Medium Adopters.

Frequencies of the respondents falling in the low, medium and high level of adoption have been worked out. To examine the relationship of the varying adoption levels of the respondents with different traits i.e. Education, Family size, land holding, herd-size, social participation, extension contacts and mass media exposure, the correlation coefficient have been worked out.

Findings and discussion

The maximum and minimum score obtained by the respondents were 22 and 7 respectively out of total possible maximum adoption score of 28. It is observed from a perusal of the data that there are 20%, 58% and 22% respondents, in the high, medium and low level of adoption respectively. The distribution of their respondents is presented in Table 1.

The distribution of illiterate respondents as will be seen from Table 1 is 55.3%, in medium, 27.6% in low and 17.10% in high level of adoption. Respondents having education upto primary have equally been found in high and medium categories of adop-

| Table 1. Relationship of various traits with the level of adoption of the respondents. |
|-----------------|-----------------|----------|
| Traits          | Level of Adoption |
| Education:      |                 |          |
| Illiterate (N=76)| 13(17.10)       | 42(55.3) | 21(27.6) |
| Upto Primary (N=9)| 4(44.5)       | 4(44.5)  | 1(11.0)  |
| Upto middle (N=7)| 1(14.0)        | 6(86.0)  | -        |
| Upto High School (N=8)| 3(37.5)  | 5(62.5)  | -        |
| Family size:    |                 |          |
| Small (N=10)    | -               | 5(50.0)  | 5(50.0)  |
| Medium (N=36)   | 9(25.0)         | 18(50.0) | 9(25.0)  |
| Large (N=54)    | 11(20.4)        | 33(64.8) | 8(14.8)  |
| Size of land holding: |           |          |
| Landless (N=25) | 4(16.0)         | 9(36.0)  | 12(48.0) |
| Marginal (N=25) | 2(8.0)          | 16(64.0) | 7(28.0)  |
| Small (N=25)    | 10(40.0)        | 13(52.0) | 2(8.0)   |
| Medium (N=25)   | 4(16.0)         | 20(80.0) | 1(4.0)   |
| Herd size:      |                 |          |
| One milch animal (N=26)| 2(12.5)  | 8(50.0)  | 6(37.5)  |
| 2-4 milch animals (N=79)| 18(22.8) | 46(58.2) | 15(19.0) |
| 5-7 milch animals (N=4)  | 0          | 3(75.0)  | 1(25.0)  |
| Above 7 milch animals (N=1) | -          | 1(100.0) | -        |
| Social participation: |           |          |
| High (N=100)    | -              | -        | -        |
| Low (N=100)     | 20             | 58       | 22       |
| Extension contacts: |             |          |
| High (N=56)     | 19(34.0)       | 30(53.5) | 7(12.5)  |
| Low (N=44)      | 1(2.2)         | 28(63.6) | 15(24.2) |
| Mass media:     |                 |          |
| High (N=13)     | 9(69.2)        | 4(30.8)  | -        |
| Low (N=87)      | 16(18.4)       | 49(56.4) | 22(25.2) |

N.B.—Figures in the parentheses are percentages.
tion (44.5%) and only 11% in low category of adoption level. Farmers having education upto middle and high school are mostly in medium category (86 and 71.5%) followed by high (14.00 and 28.5%) respectively.

Regarding size of family, mostly farmers have medium level of adoption i.e. 50%, 50% and 64.8% in small, medium and large family size groups respectively. Only 25% and 20.4% farmers fall in the high level of adoption category among medium and large family size groups respectively.

Land holding size has more effect on the adoption behaviour of dairy farmers. Data reveal that majority of respondents fall in medium level of adoption group. In this level the percentage of landless, marginal, small and medium farmers are 36.00, 64.00, 52.00 and 82.00 respectively. In high level of adoption the percentages are 16.00, 18.00, 40.00 and 16.00 respectively. It is noteworthy that mostly small and medium farmers fall in high and medium level of adoption categories.

As regards herd size, the farmers having one milch animal are in medium level of adoption group (50%) followed by high and low (12.5 and 37.5% respectively). From the whole of sample population, 79% farmers have 2-4 milch animals, with 22.8% high level of adoption, 58% medium and 19% low level of adoption. In other categories majority of farmers fall in medium level of adoption group.

The distribution of respondents regarding extension contacts and level of adoption indicates that farmers having high extension contacts fall in majority (53.5%) in medium level of adoption, only 34% farmers come in high level of adoption category. Farmers having low extension contacts come in medium level of adoption (63.6%).

Regarding mass media exposure, it is seen that majority of farmers (69.2%) having high mass media exposure fall in the high level of adoption categories.

To pursue further the relationship between adoption of dairy innovations and different traits of the respondents, coefficient of correlations were worked out and are presented in Table 2. The following conclusions emerge from a careful study of figures in this Table.

Table 2. Correlation between adoption and various traits.

<table>
<thead>
<tr>
<th>Traits</th>
<th>r value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>.2944**</td>
</tr>
<tr>
<td>Family size</td>
<td>.0997</td>
</tr>
<tr>
<td>Land holding size</td>
<td>.2654**</td>
</tr>
<tr>
<td>Herd size</td>
<td>.2397*</td>
</tr>
<tr>
<td>Social participation</td>
<td>.1508</td>
</tr>
<tr>
<td>Extension contacts</td>
<td>.0929</td>
</tr>
<tr>
<td>Mass media exposure</td>
<td>.4040**</td>
</tr>
</tbody>
</table>

**Significant at one per cent level.
*Significant at five percent level.

1. Education, land holding and mass media exposure are significantly correlated with adoption as their r values are significant even at one per cent level. It indicates that there is positive relationship between education, land holding size and mass media exposure with adoption of dairy innovations. The findings tend to establish the need for increasing the quality and intensity of mass media.

2. Herd size is also significantly correlated with the level of adoption of the respondents because the r value is significant at 5 per cent level.

3. There is no significant correlation between family size, extension contacts, social participation and adoption of innovations.
Conclusions

The adoption of improved dairy farming practices is important in stepping up country's milk production and also to raise the standard of living of rural people. This investigation was carried out in five villages of the Operational Research Project area of NDRI, Karnal, in order to find out the level of adoption of improved dairy farming practices and the role of personal traits as they affect adoption.

The extension workers and subject matter specialists will have to go further to appreciate fully the constraints on adoption behaviour and take suitable steps to overcome the bottlenecks. There is a need for intensifying extension education efforts to step up the adoption and diffusion of the recommended practices.

References
