IMPACT OF FARMER’S STATUS ON MILK PRODUCTION IN TRIBAL AREA OF KINWAT TAHSIL (MARATHWADA REGION)

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ABSTRACT

Total ten villages were identified and from each village 20 farmers were considered for study. As regards to milk production, it was observed that the age and education of dairy farmers found no significant relationship with milk production, whereas the size of land holding and occupation of the dairy farmers had positive and significant relation with milk production. The matured farmers (46 to 55 years) are having more inclination towards dairy farming than young and older farmer.

INTRODUCTION

The livestock population of India is 198 million cattle, 82 million buffaloes, 45 million sheep and 112 million goats, which is 50 per cent of Asian and 15 per cent of the world cattle population (Ranjhan, 1997). As per the livestock census 1987, Breedable cows were 62 million including 5 million crossbred cows and 39 million breedable buffaloes. The average productivity of cows and buffaloes was 2.4 kg and 4.4 kg per day per animal in milk or 732 kg per lactation per cow in milk and 1343 kg per lactation per buffalo in milk. The dairying has became an important secondary source of income for over 70 million of rural families and an important role in providing employment. It was further projected that the demand of milk in year 2001-2002 would be at 90-50 M.T (Bhasin, 1997).

The low productivity of animals is mainly due to lack of knowledge for dairying. So it was found essential to undertake the study in rural area to determine the conventional practices adopted and levels of knowledge possessed by the farmers about rearing of cattle.

MATERIAL AND METHODS

The survey was carried out in tribal area of Kinwat Tahsil in Nanded District of Maharashtra. Total no. of 200 dairy farmers were selected from 10 villages i.e. 20 farmers from each village. A comprehensive questionnaires was prepared to collect information by personal interview with individual dairy farmers. The questionnaire was quite elaborative and covered the five main points which classified in to following groups.

I. Age of the respondent:
   i. Below 25 years,
   ii. 26-35 years,
   iii. 36-45 years
   iv. 46-55 years
   v. Above 55 years

II. Education of the dairy farmers:
   i. Illiterate
   ii. Primary education
   iii. Middle school level
   iv. High school level
   v. Graduate level

III. Size of land holding:
   i. Marginal farmer (0-1 ha)
   ii. Small farmers (1-2 ha)
   iii. Semi-medium farmers (2-4 ha)
   iv. Medium farmers (4-8 ha)
   v. Large farmers (>8 ha)

IV. Occupation:
   i. Dairy farming alone
   ii. Dairy + Agriculture
   iii. Dairy + Agriculture + Service

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iv. Dairy + Service  
v. Dairy + Business  
vi. Dairy + Agriculture + Business  

Statistical Analysis: Co-efficient of correlation (r) value of milk production and each of the attributes were calculated by using following formula (Garret and Yates, 1967)

\[
 r = \frac{\sum xy - N \bar{x} \bar{y}}{\sqrt{(\sum x^2 - N \bar{x}^2)(\sum y^2 - N \bar{y}^2)}}
\]

Where,
- \(r\) = Co-efficient of correlation;
- \(\sum x^2\) = Sum of square of \(x\) values;
- \(x\) = Score of independent variable;
- \(\sum y^2\) = Sum of square of \(y\) values;
- \(y\) = Score of dependent variable;
- \(N\) = No. of cases;
- \(m_x\) = Mean of \(x\) values;
- \(m_y\) = Mean of \(y\) values.

RESULTS AND DISCUSSION

The result have been presented in respect of relationship between independent variable viz., age, education, size of land holding and occupation of dairy farmers with dependent variable i.e., milk production.

Impact of age of dairy farmers on milk production

It may be revealed from Table 1 that the highest (28\%) and lowest (3.5\%) of total number of dairy farmers were under the age group of 36 to 45 years and 25 years respectively. Regarding the milk production, it was observed that in all groups majority of the farmers produced milk less than 10 liters. Dairy farmers in the age group of 46 to 55 years produced milk above 50 liters followed by one individual in the age group of above 55 years. No one farmer in any other age group was observed to produce more than 50 liters of milk. There were two individual in the age group of 36 to 45 years who produced 41 to 50 lit. of milk followed by one individual each in the age group of 26 to 35 and below 25 years.

From the Table 1 it appears that mature dairy farmers (36 to 45 years) showed inclination to get settled down in the occupation of dairy farming and paid more attention to increase the milk production. It may be concluded that there was no relationship between the age of farmer and milk production. Similar results were reported by Bundle (1976); Kawitkar (1987) and Pisalkar (1975).

Impact of education of dairy farmers on milk production

It may be observed from Table 2 that majority of dairy farmers were educated up to high school levels (30\%) followed by primary school levels (27.5\%), middle school levels (19\%), college levels (13.5\%), whereas 10 per cent dairy farmers were illiterate.

As regards milk production, most of the individual of each category produced milk below 10 liters, i.e. total 167 dairy farmers followed by 15 individual produced 11 to 20 lit. milk, whereas only 18 dairy farmers was found to be at other four groups. Non significant relationship was observed between education of farmer and milk production which is in agreement with Kapse (1976). Impact of size of land holding of dairy farmers on milk production.

It may be indicated from table 3 that maximum number of dairy farmers i.e. 54 having 2.1-4.0 ha land followed by 46, 45, 30 and 25 farmers under 4.1-6 ha, below 2.0 ha, above 8 ha and 6.1-8.0 ha respectively.

Highest milk production of the dairy farmers having more than 8 ha. of land were in the range of below 10, 11-20, 21-30, 31-40, 41-50 and above 50 lit. by the number of farmers 13, 10, 2, 2, 2, and 1 respectively. Where as the lowest was found to be in the land holding group of below 2 ha. Hence, there was positive and highly significant correlation
### Table 1. Distribution of dairy farmers in different age groups and its relation with milk production (%)

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>No. of dairy farmers</th>
<th>Milk production (liter per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25</td>
<td>7</td>
<td>3 (42.85) 2 (28.57) 1 (14.29) 1 (14.29)</td>
</tr>
<tr>
<td>26-35</td>
<td>32</td>
<td>26 (81.25) 2 (6.25) 3 (9.38) 1 (3.12)</td>
</tr>
<tr>
<td>36-45</td>
<td>56</td>
<td>49 (87.50) 2 (3.57) 1 (1.79) 2 (3.57) 2 (3.57)</td>
</tr>
<tr>
<td>46-55</td>
<td>54</td>
<td>48 (88.89) 3 (5.56) 1 (1.85) 1 (1.85) - 1 (1.85)</td>
</tr>
<tr>
<td>Above 55</td>
<td>51</td>
<td>41 (80.39) 6 (11.77) 2 (3.92) 1 (1.96) - 1 (1.96)</td>
</tr>
</tbody>
</table>

(Figures in parenthesis indicate percentage); 
\( r = -0.116 \) (Non significant).

### Table 2. Distribution of dairy farmers in different education groups and its relation with milk production (%)

<table>
<thead>
<tr>
<th>Education</th>
<th>No. of dairy farmers</th>
<th>Milk production (liter per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>20</td>
<td>18 (90) 2 (10.00) - - - -</td>
</tr>
<tr>
<td>Primary-school</td>
<td>55</td>
<td>45 (81.82) 6 (10.90) 1 (1.82) 1 (1.82) 2 (3.64)</td>
</tr>
<tr>
<td>Middle-school</td>
<td>38</td>
<td>34 (89.47) 2 (5.27) 1 (2.64) - 1 (2.64)</td>
</tr>
<tr>
<td>High-school</td>
<td>60</td>
<td>46 (76.67) 5 (8.33) 4 (6.67) 3 (5.00) 2 (3.33)</td>
</tr>
<tr>
<td>College level</td>
<td>27</td>
<td>24 (88.89) - 2 (7.41) 1 (3.70) -</td>
</tr>
</tbody>
</table>

(Figures in parenthesis indicate percentage); 
\( r = 0.046 \) (Non significant).

### Table 3. Distribution of dairy farmers in different size of land holding groups and its relation with milk production (%)

<table>
<thead>
<tr>
<th>Size of land holding (ha)</th>
<th>No. of dairy farmers</th>
<th>Milk production (liter per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below -2.0</td>
<td>45</td>
<td>42 (93.34) 1 (2.22) 2 (4.44) - - - -</td>
</tr>
<tr>
<td>2.1-4.0</td>
<td>54</td>
<td>51 (94.45) 1 (1.85) 1 (1.85) 1 (1.85) - -</td>
</tr>
<tr>
<td>4.1-6.0</td>
<td>46</td>
<td>40 (86.94) 2 (4.34) 1 (2.18) 1 (2.18) 1 (2.18) 1 (2.18)</td>
</tr>
<tr>
<td>6.1-8.0</td>
<td>25</td>
<td>21 (84.00) 1 (4.00) 1 (4.00) 1 (4.00) 1 (4.00)</td>
</tr>
<tr>
<td>Above - 8.0</td>
<td>30</td>
<td>13 (43.33) 10 (53.33) 2 (6.67) 2 (6.67) 2(6.67) 1 (3.33)</td>
</tr>
</tbody>
</table>

(Figures in parenthesis indicate percentage); 
\( r = 0.422^{**} \) (Significant at 1% level).

### Table 4. Distribution of dairy farmers in different occupation groups and its relation with milk production (%)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>No. of dairy farmers</th>
<th>Milk production (liter per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>14</td>
<td>2 (14.29) 3 (21.42) 4 (28.57) 2 (14.29) 2 (14.29) 1 (7.14)</td>
</tr>
<tr>
<td>Dairy + Service</td>
<td>24</td>
<td>20 (83.33) 2 (8.33) 1 (4.17) 1 (4.17) - -</td>
</tr>
<tr>
<td>Dairy + Business</td>
<td>21</td>
<td>19 (90.48) 1 (4.76) - 1 (4.76) - -</td>
</tr>
<tr>
<td>Dairy + Agri.</td>
<td>46</td>
<td>31 (67.39) 9 (19.57) 2 (4.35) 1 (2.17) 2 (4.35) 1 (2.17)</td>
</tr>
<tr>
<td>Dairy + Agri. + Service</td>
<td>45</td>
<td>45 (100.0) - - - - - -</td>
</tr>
<tr>
<td>Dairy + Agri. + Business</td>
<td>50</td>
<td>50 (100.0) - - - - - -</td>
</tr>
</tbody>
</table>

(Figures in parenthesis indicate percentage); 
\( r = 0.483^{**} \) (Significant at 1% level).
between land holding and milk production ($r = 0.422$).

Thus it was observed that one dairy farmer with large land size holding exhibited a tendency to produce more milk as compared to dairy farmer possessing small land holding. This might be due to dairy farmers having large land produced more forages as compared to small land holding farmers. Similar findings have been reported by Bakshi (1970) and Chouhan and Sharma (1990).

**Impact of occupation of dairy farmers on milk production**

It may be observed that there was a highly significant relationship between the occupation of dairy farmers and milk production. It was observed from the result that the highest i.e., 25 and 22.5 per cent of the respondents were engaged in dairying and agriculture along with business and service. Further it was noted that 15.5 per cent farmers were engaged in dairy and agriculture occupation. Seven per cent respondents having their sole occupation as dairy which were least amongst all the groups (Table 4). Most of the dairy farmers from all categories noted a production of less than 10 liter of milk prominently having dairy and agriculture along with business or service as occupation. It was observed that two farmers each from dairy and dairy + agriculture had recorded a milk production above 50 liters. The overall results indicated that the occupation of dairy farmer is related to the milk production. The results are in agreement with Rawatkar (1983), Kavitkar (1987) and Pisalkar (1995) who reported significant relationship between the other occupation of dairy owner with production of milk.

**REFERENCES**