Milk production trends in Kolar and Chikkaballapur districts of Karnataka, India

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ABSTRACT
India is the highest milk producing country in the world. The milk production in Kolar and Chikkaballapur districts had also increased in the last few years. In a view to assess the increase in milk production, a study on milk production trends was undertaken at Kolar and Chikkaballapur districts. A total of 120 dairy farmers were randomly selected and data were collected using an interview schedule. The secondary data were obtained from Kolar Milk Union Limited. The compound growth of volume of milk procurement during 1998-99 to 2011-12 is 4 per cent and seasonality in milk procurement was highest in the months of October and November and lowest in April and March. Suitable extension strategies should be developed in order to curb the fluctuation in milk production, this fluctuation may be due to unavailability of feed and green fodder, so suitable strategies should be taken to encourage conservation of fodder and to make it available throughout the year.

Key words: Milch animals, Milk production, Trends.

INTRODUCTION
Indian livestock industry makes up for a significant amount of world’s livestock resources. National economy and socio-economic growth of the country is backed by the livestock sector. It also plays important role in the rural economy as it improves the family income and generates a gainful employment in the rural sector, particularly among the landless labourers and small and marginal farmers. Animal husbandry sector provides large self-employment opportunities and is proved to be a boon for sustaining livelihood of the landless and marginal farmers (Anonymous, 2010).

India is bestowed with huge and diverse livestock resources. More than two-third of the farmers in India belong to the marginal and small categories and are severely constrained in raising income through crop cultivation. The ubiquitous aspect of any village in India is the presence of 1-2 milch animals or a few small livestock like sheep or goat in every household, which mainly serves as a source of income. The ownership of livestock in India is more evenly distributed with landless agricultural labourers, small and marginal farmers. Therefore, progress in this sector would result in a more balanced development of the rural economy by way of increased opportunities for employment and income generation (Bardhan et al., 2006). In India, dairying has been a source of livelihood to innumerable people in and it provides gainful employment and ameliorates the socio-economic condition of millions of small, marginal and landless cattle owners scattered over large areas. Milk production in India is dominated by small, marginal farmers and landless labourers who, in aggregate, own about 70 per cent of the national milch animal herd and are dispersed throughout the rural areas. In recent decades the dairy sector has emerged as an important source of rural employment and income in the country.

Dairy sector in India has acquired substantial growth momentum from 9th Plan onwards as a result of which we now rank first among the world’s milk producing nations. This represents sustained growth in the availability of milk and milk products for our growing population. Dairying has become an important primary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities particularly for marginal and women farmers. The per capita availability of the milk has reached above world average of 284 grams per day (Basic Animal Husbandry Statistics, 2012). In Karnataka state Kolar and Chikkaballapur districts have highest number of crossbred population and dairying is the main activity in these districts due to inadequate rain and water problem in the area. The crossbred population has been

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increasing day by day and the milk production also. Keeping these points in view an exploratory research study was conducted to assess the milk production trends in these districts, in turn helps us to know the status of milk production in these districts.

**MATERIALS AND METHODS**

The exploratory research design was adopted to formulate a problem for more precise investigation and to develop working hypothesis from an operational point of view. The Kolar and Chikkaballapur districts were selected purposively for the study since these have got a good network of Kolar milk union limited and majority of the farmers depends on dairying due to lack of water facility for agricultural activities. Two taluks viz; Kolar and Malur from Kolar district and two taluks viz; Chintamani and Gudibande from Chikkaballapur district were purposively selected for the study. These taluks were selected as they were the highest and lowest milk producing taluks in these districts, respectively. Interview schedule was developed to collect primary information. Interview schedule was prepared in local language and English and dairy farmers were personally interviewed to collect the data. The status of milk production in the study area was analysed based on the data for 1998-99 to 2001-12 obtained from Kolar Milk Union Limited (KOMUL), Kolar district. The data was divided into three phases, i.e. from 1998-99 to 2002-03, 2003-04 to 2007-08 and from 2008-09 to 2011-12 and growth rate for each phase was calculated, and also overall growth of 1998-99 to 2011-12 was calculated. The data that was obtained was subjected to following statistical tools like Exponential Growth Function for determination of growth rate of milk procurement in Kolar and Chikkaballapur districts. Least Square Method for estimating long term trend of volume of milk procurement was employed.

**RESULTS AND DISCUSSION**

The compound growth of volume of milk procurement in Kolar and Chikkaballapur districts during entire study period from 1998-99 to 2011-12 is depicted in Table 1. During this period milk procurement showed 4 per cent growth. The compound growth of volume of milk procurement in Kolar and Chikkaballapur districts during 1998-99 to 2002-03 is 9.00 per cent growth, for 2003-04 to 2007-08 is 2.00 per cent growth and for the year 2008-09 to 2011-12 is 4.00 per cent growth. The compound growth of volume of milk procurement for the period 1998-99 to 2002-03 was tremendous, this may be attributed to presence of excess lush of greens and also the presence of crop residues as a source of fodder along with green fodder, whereas during 2003-04 to 2008-09 period milk procurement showed diminished growth. This may be due to after effect of severe drought condition in 2002-03, which led to lack of feed, fodder and drinking water for animals which in turn lead to decreased production and sale of livestock from farmers. During 2008-09 to 2011-12 milk production has got momentum because of the fact that the farmers again stepped in to dairy activity where there was advent of timely provision of feed on cost basis by milk union and some of the private milk societies stepped in these districts which resulted in increased production of milk. In Kolar and Chikkaballapur districts the compound growth of volume of milk procurement during last fifteen years was improved. This may be attributed to increase in number of crossbred dairy animals and also the price of milk resulted in ownership of dairy animals by almost all the farmers in these districts.

Seasonality in milk procurement in Kolar and Chikkaballapur districts are furnished in Fig 1. The indices showed that milk procurement in Kolar and Chikkaballapur districts were highest in the months of October (104.87), followed by November (104.38), June (103.88), September (102.47), July (102.46), December (101.27), August (100.63), January (100.45), May (96.92), February (95.87), March (94.72) and was lowest in the month of April (92.08). This may be attributed to the fact that rainfall in the monsoon which

**TABLE 1:** Volume of milk procurement in Kolar and Chikkaballapur districts during 1998-99 to 2011-12

<table>
<thead>
<tr>
<th>Year</th>
<th>Equation</th>
<th>CGR</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99 to 2003-04</td>
<td>$Y=386466+3404.2t$</td>
<td>9.00</td>
<td>15.868*</td>
</tr>
<tr>
<td>2003-04 to 2008-09</td>
<td>$Y=592507+1184.9t$</td>
<td>2.00</td>
<td>3.286*</td>
</tr>
<tr>
<td>2008-09 to 2011-12</td>
<td>$Y=607424+2498.6t$</td>
<td>4.00</td>
<td>5.086*</td>
</tr>
<tr>
<td>Volume of milk procurement for whole fifteen years</td>
<td>$Y=447581+1693.3t$</td>
<td>4.00</td>
<td>18.98*</td>
</tr>
</tbody>
</table>

Note: * indicates significant
results in lush of green production to livestock which helps in more milk production, lowest in the case of summer months due to lack of feed, fodder and scarcity of water for growing of green fodder and also for livestock. These findings are not in accordance with Azad et al., (2007) who revealed that highest and lowest milk production took place accordingly in the month of December and August.

The fluctuation in milk production trend due to natural hazards like drought which resulted in decreased growth during 2003-04 to 2008-09 and also seasonality also play a role in milk production. The dairy farmers had problems in dairy activity like unavailability of green fodder throughout the year hence measures should be taken to provide green fodder throughout the year or conservation methods like silage making should be encouraged. And milk price should be fixed based on the cost of milk production, so as to provide remunerative price for milk and encourage the intensive dairy activities in the rural areas.

REFERENCES