



ANALYSIS OF THE DAIRY PROFILE OF THE BIDAR DISTRICT WITH REFERENCE TO DAIRY CO - OPERATIVE SOCIETIES OF KARNATAKA MILK FEDERATION(KMF).

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1. Abstract: The current paper focused on a taluka-by-taluka comparison of dairy industry infrastructure and dairy cooperative societies (DCS) in the Bidar district. The study examines and analyses dairy industry indicators such as agricultural land, irrigation level, cattle population, veterinary hospitals, dairy cooperative societies, active milk pourer, and milk collection. According to the findings, Bhalki has the most cropped area of the five talukas in the Bidar district. Bidar and Humanabad talukas have the most crossbred population and veterinary institutions in the district, and they collectively contribute 56.7 percent of the district's milk.

Keywords: KMF, DCS, GUMUL.

2. Introduction.

The need for dairy industry promotion in India arises from a number of factors, including low per capita income, milk availability, and the prevalence of widespread unemployment. Various dairy development programmes were launched in order to ensure an adequate supply of milk at a reasonable price to urban consumers and to provide viable secondary occupations to unemployed rural poor in order to increase their earning capacity.

In 1955, the first dairy in Karnataka was established in Kudige, Kodagu District. The country's Dairy Development Program, supported by the World Bank, was established in Karnataka to restructure and reconcile the dairy industry on the basis of collaboration. The Karnataka Dairy Development Corporation (KDCC) was established in 1975 to carry out the project, which initially covered eight districts in southern Karnataka.

The top body for dairy cooperatives in Karnataka is the Karnataka cooperative Milk Producers Federation Ltd (KMF). It is the country's second largest dairy cooperative among dairy cooperatives. KMF is made up of 14 milk unions that make goods under the NANDINI brand. The Kalaburagi-Bidar-Yadgiri Milk Union (GUMUL) is one of the 13 cooperative milk unions founded under the KMF. With a larger number of DCS, GUMUL plays an important role in the KMF. The agriculture and animal populations in the Bidar district contribute to increased milk output. In 2019-20, the district has 452540 acres of cropped land, 234519 cattle, and 130781 buffaloes.

3. Objectives of the study.

The following are the specific objectives set for the study

- I. To investigate the many aspects of the dairy sector in Bidar district.
- II. To carry out the taluka wise comparative study of dairy profile.
- III. To know the Bidar district DCS role in GULMUL.

4. Research methodology.

The researcher conducted a live study to fulfil the study's pre-specified objectives of analysing the dairy profile of Bidar district with reference to DCS of KMF. The current study is entirely based on secondary data gathered from GUMUL, KMF (Karnataka Milk Federation), and IDA (Indian Dairy Association) annual reports, as well as animal husbandry, district at a glance year book, Karnataka state at a glance year book, and dairy departments of the federal and state governments. Other data, such as Ph.D theses, Articles, Research papers, Internet websites, newspapers, and magazines, was also efficiently sourced from previous research investigations in this stream. It is also used the sophisticated statistical tools to analyze the data. Based on the nature of the data appropriate tests made to draw accurate conclusions.

5. Data Analysis.

5.1 Bidar district Cropped and Irrigated area.

Since 1998, India has been the world's leading producer and consumer of dairy products, with a steady increase in the availability of milk and milk products. Due to the large amount of cultivable land, milk production may suffer as a result. Dairy activities are an important agricultural allied activity. Total cropped or cultivable land has a direct impact on milk production. Crop waste is used as fodder for bovine animals, and if the land is irrigated, it is grown separately. And cattle and buffalo waste are used as fertiliser in agriculture. Agriculture and bovine of cattle and buffaloes are thus complementary. In general, cropped and irrigation have a positive correlation with milk production. The table below shows the total cropped and irrigated area of Bidar district by taluka.

Table No. 1
Taluka wise Cropped and Irrigated area of Bidar district

Sl.No	Taluka	Cropped area		Irrigated area	
		Hectors	%	Hectors	%
01	Aurad	113116	24.99	4555	15.57
02	Basavakalyan	91241	20.16	6548	22.38
03	Bhalki	116122	25.66	5568	19.02
04	Bidar	64470	14.24	6019	20.56
05	Humnabad	67591	14.93	6572	22.46
	Total	452540	100	29262	100

Source: District at a glance-statistical report –FY 2018-19

According to the above table, Bhalki and Aurad have the highest cropped area, with 116612 and 113116 hectares, respectively, accounting for more than half of the district's total cropped area. Whereas Humnabad and Basvakalyan have more irrigated land, at 6572 and 6548 hectares, respectively, they account for nearly half of the district's net irrigated land.

5.2 Taluka wise Livestock population of Bidar district

Since 1998, India has ranked first among the world's milk producing nations, and it has the world's largest bovine population. Milk production in India increased by 6.65 percent from 1950-51 to 2017-18, from 17 million tonnes to 176.4 million tonnes, compared to 165.4 million tonnes in 2016-17. In this regard, India is endowed with a vast biodiversity of 43 indigenous cattle breeds and 13 Buffalo breeds that have survived for hundreds of years due to their suitability for specific purposes in the concerned local environment. Bovine animals, specifically cattle and buffaloes, are only considered in this study because they are the largest contributors to total milk production. The table below shows the population of cattle and buffaloes by taluka.

Table No.2
Taluka wise Livestock population of Bidar district

Sl. No	District	Cattle								Buffaloes	
		Indigenous		Exotic breed		Cross breeds		Total		29089	%
		Numbers	%	Numbers	%	Numbers	%	Numbers	%		
01	Aurad	56771	25.80	0	0	1066	7.32	57837	24.67	29089	22.2
02	Basavakalyan	54351	24.70	0	0	3395	23.32	57746	24.62	24170	18.5
03	Bhalki	47623	21.65	0	0	2393	16.44	50016	21.33	23988	18.3
04	Bidar	23589	10.72	0	0	3870	26.59	27459	11.7	30040	23.0
05	Humnabad	37630	17.10	0	0	3831	26.32	41461	17.68	23494	18.5
	Total	219964	100	0	0	14555	100	234519	100	130781	100

Source: District at a glance-statistical report –FY 2018-19

According to the above table, the district has 234519 cattle, with Aurad (24.7) and Basavakalyan (24.6) talukas accounting for nearly half (49.3 percent) of the cattle population. Aurad Basvakayan and Bhalki have the largest share of the total 219964 indigenous cattle, with 25.8, 24.7, and 21.6, respectively. In contrast, Humnabad and Bidar have the largest crossbred populations, accounting for 26.3 and 26.5 percent of the total crossbred population, respectively (14555). In the district, a total of 130781 buffaloes are reared, with Bidar and Aurad having the lion's share of 23 and 22.2 percent, respectively, and the rest of the talukas having an approximately equal number of buffaloes.

5.3 Number of Veterinary Institution and Artificial Insemination (AI) did in Bidar district.

Animal husbandry has a significant impact on the economic status of farmers, and thus plays an important role in the rural economy. Agriculture and related activities are the primary occupations of the district's rural population.

Animal husbandry activities are now more than just a byproduct of agriculture. However, they have grown tremendously and can now be referred to as an industry. The Department of Animal Husbandry and Veterinary Institutions play an important role in this regard. Vaccination programmes are being implemented to control diseases, which protects the human population from Zoonotic diseases. Veterinary institutions play an important role in the production of clean, hygienic milk (diseases transmitted from animals to humans). Implementing Artificial Insemination Programs to improve milk yield and progeny. Several socioeconomic programmes are being implemented through various extension activities. The table below shows the total number of veterinary institutions and artificial insemination procedures performed in the Bidar district.

Table No.3
Taluka wise number of Veterinary Institution and Artificial Insemination (AI) did in Bidar district.

Sl.No	Taluka	Veterinary institution		Artificial insemination	
		Numbers	Percentage	Numbers	Percentage
01	Aurad	21	17.79	9144	19.29
02	Basavakalyan	20	16.95	10415	21.98
03	Bhalki	25	21.19	8911	18.80
04	Bidar	26	22.03	9328	19.68
05	Humnabad	26	22.03	9584	20.23
	Total	118	100	47382	100

Source: District at a glance-statistical report –FY 2018-19

According to the above table, there are 118 veterinary institutions in the district, with Bidar and Humanabad having 26 each, and Bhalki, Basavakalyan, and Aurad having 25, 20, and 21 respectively. Artificial insemination (AI) plays a significant role in milk animal pregnancy, with 47382 AI performed in the district in 2018-19. Approximately all talukas have an equal share of total AI, ranging from 19% to 21%.

5.4 Registered and Functional Dairy Cooperative Societies (DCS) in Bidar district taluka wise

The apex body for dairy cooperatives is the Karnataka cooperative Milk producers Federation Ltd (KMF). Among the dairy cooperatives in the country, it is the second largest. KMF has 14 milk unions and manufactures products under the brand name "NANDINI." The Kalaburagi-Bidar-Yadgiri Milk Union (GUMUL) is one of the 13 cooperative milk unions established under the KMF. With a larger number of DCS, GUMUL is playing a significant role in the KMF. The table below shows the number of registered and operational DCS in the Bidar district, broken down by taluka.

Table No.4
Taluka wise Registered and Functional Dairy Cooperative Societies (DCS) in Bidar district.

Sl. No	District	Registered DCS		Functional DCS	
		Number	Percentage	Number	Percentage
01	Aurad	91	19.91	54	20.22
02	Basavakalyan	93	20.35	54	20.22
03	Bhalki	91	19.91	52	19.47
04	Bidar	101	22.10	54	20.22
05	Humnabad	81	17.72	53	19.85
	Total	457	100	267	100

Source: Annual report of GUMUL, Kalaburagi 2018-19

According to the above table, there are 457 DCS registered in the Bidar district. Bidar has the most DCS, while Humanabad has the fewest, with 101 and 81, respectively. When compared to the GUMUL functioning rate, 267 (58 percent) of the total registered DCS are operational. Aurad Basavakalyan and Bidar each have 54 functional DCS, while Bhalki and Humnabad have 52 and 53 functional DCS.

5.5 Average milk procurement per day for the last five years by GUMUL and share of Bidar district.

The Kalaburagi-Bidar-Yadgiri milk union is the 13th union of the Karnataka milk federation and is made up of three districts: Kalaburagi, Bidar, and Yadgiri. Among these, the Bidar district contributes significantly to GUMUL's total milk contribution. The table below shows the five-year milk procurement trend and the Bidar district's share of total procurement.

Table No.5**Average milk procurement per day for the last five years by GUMUL and share of Bidar district.**

(LPD=litter par day)

Year	Total milk procurement by GUMUL(LPD)	Bidar district milk procurement	
		In LPD	Percentage
2014-15	54966	28032	51
2015-16	51032	27046	53
2016-17	51121	27605	54
2017-18	63612	33078	52
2018-19	55839	33176	59
Average	55314	29787	53.8

Source: Annual reports of GUMUL, Kalaburagi-2014-15 to 2018-19

The table above shows GUMUL's total milk procurement over the last five years. In 2017-18, the highest milk procurement was 63612 litters per day (LPD), and the rest of the four-year trend shows that milk procurement has remained stable at around 50000 to 55000 LPD. The above table also shows that the Bidar district plays a significant role in the GUMUL by contributing more than half of the milk. For the fiscal year 2018-19, it contributed the most milk, accounting for 59 percent of GUMUL's total milk. Except for the fiscal year 2017-18, the trend shows that the contribution of the Bidar district has been steadily increasing.

5.6. Total milk pourer members and union milk procurement, district wise under GUMUL for the year 2018-19.

The Kalaburagi-Bidar-Yadgiri cooperatives Milk Union is one of the 13 KMF-established cooperatives. The milk union was founded on August 19, 1985, with a capital of 39.34. And this union is situated on a 20-acre plot of land on Humanabad Road in Kalaburagi. This union includes the districts of Kalaburagi, Bidar, and Yadgiri. It operates chilling plants in Bidar (30 TLPD), Kalabragi (60 TLPD), and Yadgiri (10TLP). The union has 15 bulk milk coolers, 113 automatic coolers, 113 automatic milk collection points, and 15 community milking parlours. The following table shows the total active milk pourer members of Dairy Cooperative Societies (DCS) and the district-wise milk procurement of GUMUL.

Table NO. 6**Total milk pourer members and union milk procurement, district wise under GUMUL for the year 2018-19**

(LPD=litter par day)

Sl.No	District	Total pourer members		Union milk procurement	
		In LPD	%	In LPD	%
01	Kalaburagi	3923	27.85	21850	39.13
02	Yadgiri	122	0.86	812	1.45
03	Bidar	10043	71.28	33176	59.41
	Total	14088	100	55838	100

Source:

Annual report of GUMUL 2018-19.

The table above shows the amount of milk poured to DCS by district and the amount of milk procured by LPD. In comparison to Kalabuaragi (3923) and Yadgiri district, Bidar district (10043) has the highest milk pourer (122). Bidar alone has 71.28 percent of all members, whereas Yadgiri district has only 0.86 percent of milk pourers. Bidar district accounts for 59.41 percent of total GUMUL milk procurement, with Yadgiri district accounting for only 1.45 percent. The milk contribution in the Kalaburagi district is moderate, at 39.13 percent.

5.7 Total milk pourer members and union milk procurement, Taluka wise of Bidar district for the year 2018-19

The following table shows the total active milk pourer members of Dairy Cooperative Societies (DCS) and the taluka-wise milk procurement of the Bidar district..

Table No.7

Total milk pourer members and union milk procurement, Taluka wise of Bidar district for the year 2018-19

(LPD=litter par day)

Sl.No	Taluka	Total pourer members		Union milk procurement	
		Numbers	%	In LPD	%
01	Aurad	966	16.1	5452	16.4
02	Basavakalyan	1090	18.1	5785	17.4
03	Bhalki	1125	18.8	3125	9.4
04	Bidar	1362	22.7	9850	29.7
05	Humnabad	1455	24.3	8964	27.0
	Total	5998	100	33176	100

Source: Annual report of GUMUL 2018-19

According to the above table, there are 5998 milk pourers in the district to DCS. The highest number of milk pourers are from Humnabad, while the lowest number of milk pourers are from Aurad, with 1455 and 966, respectively. For the fiscal year 2018-19, Bidar district contributed 33176 LPD milk to GUMUL. Bidar (29.7) and Humnabad (27.0) talukas are the major contributors, accounting for 56.7 percent of total milk production in the Bidar district. Whereas Bhalki taluka contributes the least to total milk procurement in Bidar district, accounting for only 3125 cases (9.4 percent).

6. Result of the study

1. According to the study, Bhalki and Aurad had the most cropped area, with 116612 and 113116 hectares, respectively.
2. Humnabad and Bidar have the largest crossbred populations, accounting for 26.3 and 26.5 percent of the total crossbred population, respectively (14555).
3. According to the study, there are 118 veterinary institutions in the district, with Bidar and Humnabad having 26 each, and Bhalki, Basavakalyan, and Aurad having 25, 20, and 21 respectively.
4. According to the study, there are 457 DCS registered in the district. Aurad and Bhalki each have 91 DCS, while Bidar has the most, 101.
5. The Bidar district plays a significant role in the GUMUL by contributing more than half of the milk.
6. The highest number of milk pourers is from Humnabad, while the lowest number of milk pourers is from Aurad, with 1455 and 966, respectively.

7. Conclusion

According to the findings of the study, Bidar and Humanabad talukas play a significant role in the Bidar district, with a greater number of cattle, veterinary institutions, and milk contributions. The study also concluded that more than half of the DCS (Dairy cooperative societies) in the region have ceased operations, negatively impacting milk production; therefore, immediate action is required to revive DCS and expand DCS to new villages.

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