

Dairy Production Systems in Nanded District of Maharashtra

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ABSTRACT

Though a lot of studies have been done to characterize the farming systems in different agro-climatic zones in India, not much have been done to characterize and represent the dairy production systems. Hence, the present study was undertaken with objectives to identify various dairy production systems in the study area. A sample of 100 households were selected randomly and data was collected for three seasons from four villages of two zones (Central Maharashtra Plateau Zone and Central Vidarbha Zone) in Nanded district of Maharashtra. Milk producing households were categorized according to the production systems. Four types of dairy production systems were identified in CMP zone: Local cattle (LC) based, Buffalo (BF) based, Crossbred (CB) based and LC+BF based systems. In CV zone the identified dairy production systems were Local cow based, Buffalo based and LC+BF based systems.

Key words: Agro-climatic zones, Dairy production systems, Milk producing households

INTRODUCTION

Livestock is an integral part of the agricultural production system in India and plays a vital role in improving the socio-economic conditions of the rural masses and generating gainful employment in the rural sector, particularly among the landless, marginal and small farmers and women, besides providing cheap nutritional food to millions of people. It is pursued as a subsistence occupation to agriculture mainly to provide food for human consumption, draught power and obtain dung manure for crop production. India ranks first in world milk production, its production having increased from 17 million tons in 1950-51 to 155.5 million tons by 2015-16. The per capita

availability of milk has increased from 112 grams per day in 1968-69 to 337 grams per day in 2015-16. Livestock sector is unique in terms of employment opportunities as two-third of female workforce in rural India is engaged in livestock rearing. Livestock is an integral part of mixed farming systems that characterize Indian agriculture. Livestock wealth is more equitably distributed than that of land and the importance of livestock for the poorer households is even more. Besides, contributing food and inputs for crop production, livestock are important as savings or investments for the poor household and provide security or insurance through various ways in different production systems¹.

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Maharashtra state is seventh largest milk producing state and contributes 6.52% to the total milk production in India. Maharashtra produced 9,542 ('000 MT) of milk in 2014-15 out of which 3,998 ('000 MT), 1,270 ('000 MT) and 4,027 ('000 MT) was contributed by crossbred cows, indigenous cows and buffaloes respectively. Total livestock population in Maharashtra is about 32.5 million and total poultry population is 77.8 million. During 2015, the per capita daily availability of milk in the State was 239, which was less than 337 at the national level (Dairying in MAHARASHTRA A Statistical Profile 2015). Nanded, is one of the eight districts in the Marathawada region of Maharashtra State. The district ranks second in Marathwada region as far as total milk production is concerned. The total milk production of the district is estimated to be 284.7 ('000 MT). It also has the highest number of in milk bovine population in the Marathwada region. The district has 120 ('000) Indigenous Cattle, 7 ('000) Crossbred Cattle and 94 ('000) Buffaloes (Dairying in MAHARASHTRA A Statistical Profile 2015). The total geographical area of the Nanded district is 10.97 lakh ha. District is divided into two agroclimatic zones, viz., Central Maharashtra Plateau Zone (Assured rainfall zone) and Central Vidharbha Zone (Medium rainfall zone).

The present study has been undertaken to study "Dairy Production Systems in Nanded District of Maharashtra". To achieve the objectives of the study, the data collected from 100 dairy households were scrutinized, tabulated and analyzed by employing various analytical tools. The data were subjected to tabular analysis for working out the different dairy production systems.

Data collected by complete enumeration were analyzed for identification of different dairy production systems in the study area. The major dairy production systems identified separately in two zones, i.e., Central Maharashtra Plateau zone (CMP zone) and Central Vidarbha zone (CV zone) along with number of households and milch animals in sample households under each category are given in Table 1.

The results revealed four major dairy production systems in CMP zone and three major systems in CV zone out of which three systems were common in both the zones. The four distinct dairy production systems identified in CMP zone were (i) only local cow based (LC), (ii) only buffalo based (BF), (iii) only crossbred based (CB) and (iv) local cow plus buffalo(LC+BF) based. Whereas in CV zone, three different identified dairy production systems were (i) only local cow based (LC), (ii) only buffalo based (BF) and (iii) local cow plus buffalo (LC+BF) based. Except CB based system, remaining systems are common in both zones. In addition to these systems, LC+CB, BF+CB and LC+BF+CB were also found in both zones. The number of households in these systems were very small and hence they were not included in the study.

After identifying the major dairy production systems in both the zones, a sample of 100 households (55 households from CMP zone and 44 households from CV zone) was drawn from different dairy production systems proportionately to number of households in each system. It was further revealed that the percentage of milk producing households was highest in CB based system followed by LC+BF system, BF based and LC based system.

Table 1: Dairy production systems identified, number of households and milch animals

ZONE		Production Systems Identified	No. of HH.		No. of Milch animals and %age in Milk		
			Population	Sample	Local Cow	Buffalo	Crossbred cow
CMP Zone	Major System	LC	320	22	119(53.78)		
		B	169	12		43(69.77)	
		CB	125	8			15(66.67)
		LC+BF	178	13	43(69.44)	55(70.91)	
	Minor Systems	LC+CB	75	5			
		BF+CB	73	5			
		LC+B+CB	18	2			
	Total	792	55	162(61.61)	98(70.34)	15(66.67)	
CV Zone	Major System	LC	273	19	54(66.67)		
		B	215	15		40(72.5)	
		LC+BF	154	11	36(69.44)	38(81.58)	
	Minor Systems	CB	18	2			
		LC+CB	10	0			
		BF+CB	6	0			
		LC+B+CB	3	0			
	Total	642	45	90(68.06)	78(77.04)		
Overall	Major System	LC	593	41	173(57.26)		
		B	384	27		83(71.08)	
		CB	125	8			15(76.19)
		LC+BF	332	24	79(69.44)	93(75.27)	
	Minor Systems	LC+CB	85				
		BF+CB	79				
		LC+B+CB	21				
	Total	1434	100	252(61.07)	176(73.29)	15(76.19)	

Figures in parentheses indicate percentages

About 61.6 percent, 70.34 percent and 66.67 percent of milch local cow, buffalo and crossbred cows were found in milk respectively in CMP zone. While in CV zone, 68.06 percent local cows and 77.04 percent buffaloes were found in milk.

It is quite imperative to have first hand information about the demographic as well as socio-economic profile of the sample households under each of the identified dairy production system. The data were analyzed to study various aspects of demographic and socio-economic features of milk producing households under various dairy production

systems in CMP zone and CV zone of the study area.

The sample households in the study area maintain the animals for both, milk production and drought purpose. The overall average herd size was found to be 4.53 in CMP zone and 3.68 in CV zone. The average standard animal unit is highest for LC+BF based system (6.12 S.A.U.) and lowest for CB based system (2.62 S.A.U.) in CMP zone and in case of CV zone LC+BF based system (4.63 S.A.U.) possess highest SAU and lowest for BF based system (3.06 S.A.U.).

Table 2: Average Herd Size of Sample households

SYSTEMS	Herd size					
	Milk		Dry		Milch	
	CMP	CV	CMP	CV	CMP	CV
LC	2.91	2.25	2.50	1.10	5.41	3.35
BF	2.50	2.23	1.08	0.83	3.58	3.06
CB	2.00		0.62		2.62	
LC+BF	4.31	3.50	1.81	1.13	6.12	4.63
Overall	2.93	2.66	1.60	1.02	4.53	3.68

Figures in parentheses indicate percentages

Four types of dairy production systems identified in CMP zone were Local cattle (LC) based, Buffalo (BF) based, Crossbred (CB) based and LC+BF based systems. In CV zone the identified dairy production systems were Local cow based, Buffalo based and LC+BF based systems.

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