



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(1): 633-638
www.allresearchjournal.com
Received: 10-11-2015
Accepted: 13-12-2015

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International *Journal of Applied Research*

Livelihoods of dairy farmers at stake in Puducherry

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Abstract

Livestock sector in general and dairy in particular plays an important role in socio-economic development of rural households in India. It is well established that dairy cattle rearing, in addition to several of its advantages offers livelihood and nutritional security to resource poor families in rural areas, particularly among the landless agricultural labourers, small and marginal farmers. Puducherry region with majority of its population living in urban and peri urban areas (highest density of population in the country) provides a very good market environment for almost all the livestock products. The data indicates that the demand for livestock products especially the milk and milk products, is increasing at a faster rate owing to rapid urbanization, increased per capita incomes and shift in the taste and preferences of the people. But, the implementation of several animal husbandry schemes with a plethora of subsidies is not able to escalate the production of milk leading to a yawning gap between the demand and supply of milk and milk products. Rather the production is falling and the dependency on neighbouring states for supply of milk and milk products to meet the urban consumers' demand is increasing. The farmers are losing their interest in dairy farming as they are not able to make a living out of dairy farming, which is reflecting on the decrease in milk procurement. The reasons for this pathetic situation of the dairy farmers in Puducherry are discussed in this paper.

Keywords: dairy farmers, Puducherry, Milk Production

1. Introduction

Livestock sector plays a critical role in the welfare of India's rural population. This sector is emerging as an important growth engine of the Indian economy. The contribution of livestock and fisheries sector to the total GDP was 3.6 per cent during 2010-11(NAS, 2012)^[12]. In recent years, livestock output has grown at a rate of about 5 per cent a year, higher than the growth in agricultural sector. In India 14.9 million people are engaged in farming of animals in both rural and urban areas combined (DAHD, 2012)^[5]. Livestock rearing has positive impact on equity in terms of income, employment and poverty reduction in rural areas (Thornton *et al*, 2002 and Birthal and Ali 2005)^[22, 4].

The dairy animals provide daily income through sale of milk and these animals are rightly considered as moving banks as the poor people store their wealth in these animals to be disposed of during financial crisis. Unlike land, the distribution of animals is less skewed (Ali, 2007)^[1].

Puducherry is one of the most populous towns in India with majority of the population (more than 68 %) live in urban area. The demand for livestock products especially milk and milk products is increasing at a faster rate in Puducherry owing to its urban nature and increasing incomes. Added to this there is a perceptible shift in the tastes and preferences of the people to less grain and more protein rich diets. This paper reviews the situation of the milk production in the region and yawning gap between the demand and supply for the milk and milk products. Reasons for decreasing production and increasing demands with research evidence are discussed in this paper.

Milk Production in Puducherry

The milk production in Puducherry in comparison to other southern states is presented in Table 1. These figures indicate an increase of 27 % in the milk production of Puducherry from 2002 to 2011 which was well below 47 % at the national level. Although, the milk production in Puducherry is increasing, the rate of increase was less than that of the population. Hence, the per capita availability of milk in Puducherry was as low as 94 gms which is well below the national average (Table 2).

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Although the reports indicate increase of milk production in several states including Puducherry, it is debatable as the gradual increase in milk production is possible with gradual increase in feed and fodder resources, which are reported to be decreasing over the years.

In addition, with increase in the demand for milk and milk products in several parts of the country, the entry of synthetic milk in to dairy industry is playing havoc with the health of the consumers. Although, it is not known the approximate percentage contribution of synthetic milk in the total milk production of the country, the reports revealed substantial amounts of synthetic milk is getting mixed up with the milk. The sample survey conducted by the Food Safety Standards Authority of India (FSSAI), across the country covering 33 states and UTs clearly indicated that 68.4% of the milk samples were found adulterated with detergent, fat and even urea, besides the age-old dilution with water (TOI, 2012) [23]. The report also revealed that only in Goa and Puducherry 100% of the samples tested conform to required standards. Whereas in West Bengal, Bihar, Chhattisgarh, Jharkhand, Orissa and Mizoram, not a single sample tested met the norms.

Table 1: Milk production in Southern States and All India

States	2002-03 (Million tonnes)	2010-11 (million tonnes)	Increase In percentage
Andhra Pradesh	6.58	11.20	70.21
Karnataka	4.54	5.11	12.50
Kerala	2.41	2.64	9.54
Tamilnadu	4.62	6.83	47.80
Puducherry	0.037	0.047	27.02
All India	86.15	121.8	41.38

Source: NDBB, 2012

Table 2: Availability against recommended Quantity of Livestock Products

Products	Per capita availability Puducherry	Per capita availability All India	ICMR recommended
Milk	94 g/day	281g/day	250g/day

Source: NAS & NDBB & ICMR, 2012

Milk Union losing its monopoly in milk marketing

Puducherry is one of the few states where the per capita availability of the milk was lower than the recommended

level of 250 gm per day. To satisfy the ICMR recommended level, the total requirement of the milk in Puducherry was estimated to be 3.00 lakh kg per day (urban population is 12 lakhs as per the latest census, 2011). This requirement of milk is partially met through three types of marketing system viz. Pondicherry Milk Producers' Union Ltd (PONLAIT), Private dairies and milk vendors. The PONLAIT is the dominant milk collection agency in rural areas, whereas, in urban and peri- urban areas the important milk market system is milker cum vendor, who milks the cow, collects the milk at the doorsteps of the cattle owners and supplies it to urban consumers (Ramkumar and Rao, 2001; Holt and Ramkumar, 2003; Anonymous, 2012) [18, 7, 2].

The PONLAIT has a milk plant with an installed capacity to process about 50,000 lts. Of milk per day. It collects milks through a network of 98 functional Primary Milk Producers' cooperative societies in the villages of Puducherry region.

The PONLAIT had monopoly in milk market till 2003. Studies revealed that other than PONLAIT, there are about 11 private dairies, which are marketing fluid milk in Puducherry (Holt and Ramkumar, 2003, Anonymous, 2012) [7, 2]. Recently WINNER dairy a private agency installed a plant at Madagadipet, 22 km from Puducherry town to process 15,000 litres of fluid milk per day. However, the WINNER dairy collects the milk from Tamil Nadu and supplies it mainly to Puducherry and few districts of Tamil Nadu adjoining to Puducherry region. The significant brand names involved in the marketing of milk in Puducherry are RUSI, HERITAGE, AROKIA, CAVINS, and SUBHIKSHA.

The total sale of fluid milk by these private agencies put together is about 70,000 litres per day, and out of which RUSI alone sells 40,000 liters milk per day. Almost all the private dairies procure and process milk in the neighbouring states (Tamil Nadu and Andhra Pradesh) excluding WINNER dairy (RUSI) which has a plant near Puducherry. The share of milk marketed by these private dairies is estimated to be 45 per cent which was 24 percent in 2005 (Natchimuthu *et al.*, 2005) [13]. Rough estimates indicate that PONLAIT's market share has decreased from 48 to 39 per cent and it is likely to come down further. On the contrary the share of private dairies is slowly increasing that is at the cost of PONLAIT.

There is a huge short fall in the milk procurement of PONLAIT, which procures the major portion of the milk produced in the rural areas of Puducherry region (Table 3).

Table 3: Average Milk procurement through Dairy Cooperative Societies and outsourcing year wise by PONLAIT

Year	DCS/ day ('000 litres)	Outsourcing/ day ('000 litres)	No. functional DCS	No. DCS Members
2000-01	48164	210	NA	
2001-02	50912	0	91	28736
2002-03	50045	0	93	28949
2003-04	52124	3423	96	32000
2004-05	50237	10064	100	32807
2005-06	55164	71184	104	34933
2006-07	56493	81328	101	36078
2007-08	53087	90460	101	36619
2008-09	60175	85601	101	39370
2009-10	45104	89157	101	36213
2010-11	33983	54764	102	37595
2011-12	29448	73225	NA	

Source: PONLAIT

In the last decade the milk procurement showed an increasing trend from 48,164 litres in 2000 to 60,175 litres in 2008 which drastically decreased to just 29,448 litres in 2011. This decrease in quantum of milk procured by PONLAIT could be because of decrease in milk production or increase in milk consumption by the milk producers or operation of other procurement agencies in the villages. But the fact remains, there was no competitor for PONLAIT in procurement of milk nor there increase in the milk consumption. The milk consumption almost remained stagnant among the milk producers in Puducherry. Hence, the drastic fall in milk procurement by PONLAIT was attributed to decrease in milk production which was in turn due to unattractive milk procurement prices.

As the procurement through DCSs is declining, PONLAIT is meeting the demand through bulk purchase (outsourcing) of milk from the neighbouring states viz. Tamil Nadu, Karnataka and Andhra Pradesh. The figures in Table 3 clearly indicate the gradual decrease in milk procurement

through DCSs and gradual increase in outsourcing of milk. On an average 77, 959 litres of milk is being outsourced daily from the neighbouring states in the last 7 years and that too at a much higher price than what it pays to its own member producers of DCSs adding to the woes of the dairy farmers in the region. To fill the gap in the demand and supply a number of private dairies such as Rusi, Heritage, Hutsan, Subhiksha, Cavins, Gowardhan, Aavin in addition to AMUL are operating in Puducherry. However, all these organizations collect milk from Tamil Nadu, Andhra Pradesh and Karnataka but not from Puducherry region.

The figures in Table 4 clearly indicate the increase in the sale of various milk products in Puducherry by PONLAIT. This market potential is not helping the milk producers' which is an irony in Puducherry. The states like Karnataka where the sellers' margin is very low is registering a steady increase in milk production and hence able to produce surplus milk and supply it to PONLAIT regularly.

Table 4: Sale of Milk and Milk Products in the Last 10 Years by Ponlait

Year	Milk	Cow		Flavoured		Butter		Sweet	Ice
	Ghee	Khoa	Milk	Curd	Milk	Paneer	Lassi	Cream	
Lit/day	MT	MT	000 Lit	000 Lit	000 Lit	Kg	000 Lit	000 Lit	
00-01	46,417	203	1.2	14.8	0.8				
01-02	47,706	228	4.6	18.5	1.3				
02-03	48,152	167	4.9	65.0	1.3	0.3	113		
03-04	42,936	148	7.6	14.5	2.0	13.3	111		
04-05	52,935	108	16.3	29.7	2.6	14.4	239		
05-06	58,698	79	18.5	40.8	20.4	165.5	592		
06-07	73,075	45	23.9	46.8	18.2	30.7	693		
07-08	82,110	104	27.0	54.5	27.5	43.2	800		
08-09	88,600	161	37.0	53.0	52.0	50.0	2,027	31.1	
09-10	90,790	193	44.4	63.6	62.4	60.0	2,432	37.3	2,100.0
11-12	1,02,673	576	174.3	593.2	729.5	406.2	17.8	97.5	486.3

Source: PONLAIT, 2013

Reasons for decrease in milk production

The decrease in milk production in Puducherry could be attributed to several factors which include, low milk procurement prices, increase in the cost of inputs especially concentrates and dry fodder, decrease in cultivable lands *vis-a-vis* grazing lands, subsidies on various inputs including milch cows, preference of people to work as industrial labour rather than agricultural labour etc. The high price of labour is also attributed to the implementation of Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) which provides work for 100 days. The net result is that farmers are losing interest in farming itself.

Low Milk Procurement Price

Milk procurement price is always a contentious issue. The milk procurement price is supposed to be fixed by the milk cooperative union (PONLAIT). But unfortunately, it is fixed by the government in many states and Puducherry is no exception to this. The milk producers always feel that the procurement price is low and it is not economical for them to stick on to dairy farming as a livelihood occupation.

It is well known that the milk procurement prices are being increased at a slow rate compared to input prices. The Government has no control on prices of inputs which include concentrate feed ingredients (oil cakes, brans and grains), dry

fodder etc. whereas it keeps the consumer milk price low as milk is considered as an essential food item consumed by all sections of the society without any exception. Incidentally, the numbers of milk producer families are less compared to milk consuming families. In the number game in a democratic country like India majority wins and the weaker section automatically gets marginalized (Rao *et al*, 2009) [20]. Procurement prices were increased less frequently though not commensurate with the increase in input prices (Natchimuthu *et al.* 2005, Kalra and Dhaliwal, 2008) [5, 9]. A non remunerative milk price (making the dairy farming unattractive) is the most important constraint to the milk producers (Ramkumar *et al* 2001, Venkatadri *et al.*, 2008) [18, 24]. PONLAIT purchases milk from the milk producers at an average price of Rs.19 per litre of milk (with 4.0 % fat and 8.5 % SNF) and after processing it and standardizing at 3.0 % fat, as toned milk and sold for Rs.26/- per litre (Table 5). It could also be noticed from this table that the milk procurement price as well as the milk sale price is lowest in Puducherry compared to any other state in Southern India. Puducherry and Kerala depend upon the neighbouring states not only for milk but also for the inputs, the dry fodder and concentrates. Whereas, there are several other private agencies were selling same quality of milk at a much higher price than PONLAIT (Table.6).

Table 5: Producer's margin in Southern states of India (2012)

Sl. no	State	What producers get for 4 % fat & 8.5 % SNF (in Rs/ lit)	What consumers pay for 3 % fat & 8.5 % SNF (in Rs/ lit)
1.	Andhra Pradesh	18.40	34.00
2.	Tamil Nadu	19.00	27.00
3.	Kerala	27.46	34.00
4.	Karnataka	25.50	33.00
5.	Puducherry UT	18.68	26.00

Source: NDDB, KMF & PONLAIT, 2012

Table 6: Milk price for toned (3.0 % Fat) & standardized milk (4.5% Fat)

Milk distributor	3% Fat milk/litre	3.5 % milk	4.5 % fat/litre
Ponlait	26	28	-
Aavin	27	-	31
Heritage	30	-	32
Subhkisha	30	-	32
Cavins	28	-	34
Gowardhan	30	-	34
Rusi	30	-	32

Source: PONLAIT & PRIVATE agencies, 2012

High cost of inputs

The important constraints perceived by the farmers in Puducherry region is high cost of commercial feed and low procurement price for milk (NPCBB, 2006) [15]. Though there is increase in milk procurement prices recently, the increase in price of milk was not compensated with the increase in feed prices. The cost of production of concentrate feed is not less than Rs. 20/- per Kg with the prevailing market prices (Table 7) and what the dairy farmer gets is not even meeting the concentrate feed cost. Probably because of this reason PONLAIT discontinued production of concentrate cattle feed.

Table 7: Retail Prices of feed ingredients in Puducherry (average in 2013)

Sl.no	Feed Ingredients	Price / kg (in Rs)
1.	Ground nut cake	45
2.	Bajra grain	22
3.	Finger millet grain	25
4.	Maize grain	22
5.	Wheat bran	17
6.	Rice bran	13
7.	Red gram husk	15
8.	Red gram flour	16
9.	Green gram flour	18
10.	Tapioca flour/tippi waste	16
11.	Deoiled Rice Bran	11

Source: local market prices in Puducherry town

When the feed milk price ratio (Table 8) was highest in Puducherry (1: 2.2 in the year 2008-09), the milk procurement recorded was also highest (60,175 litres per day). The feed milk price ratio is decreasing over the recent year which is the major constraint for the dairy farmers. The feed milk price ratio should be more than 1: 1.5 to be attractive. In many dairy developed countries the price ratios are more than 1: 2.5 (IFCN Dairy Report 2007). When the price ratios are less than 1: 1.5, the dairy farmers are forced

to feed their cows on extensive system but due to decreasing grazing lands they need to depend upon semi intensive system of grazing coupled with stall feeding of little quantities of concentrates in Puducherry. There were reports from several parts of India including Puducherry and Karnataka that the dairy farmers were disposing off their cows (distress sale) mainly due to high cost of inputs, which need to be addressed by the policy makers.

Table 8: Feed Milk Price Ratios in Puducherry during 2003 – 2012

Year	Compound feed price (Rs/ kg)	Milk Procurement price for 4.5 % fat (Rs/litre)	Feed : Milk price	Sale price of tonned milk (Rs/litre)
2003	6	10.17	1: 1.7	12.00
2004	6	10.17	1: 1.7	12.00
2005	6.5	10.17	1: 1.6	12.00
2006	6.5	10.17	1: 1.6	12.00
2007	6.5	11.17 & 12. 17	1: 1.7 & 1: 1.9	14.00
2008	6.5	14.50	1: 2.2	17.50 & 18.00
2009	7.5	16.00 & 16.50	1: 2.1 & 1: 2.2	20.50 & 21.00
2010	9.3	16.50	1: 1.8	21.00
2011	11.3	19.00	1: 1.7	21.00
2012	13.3	20.00	1: 1.5	26.00

Source: PONLAIT, 2012

With increased feed and fodder prices the animals are being maintained on low plane of nutrition, one of the main reasons

for repeat breeding, low conception rate and ultimately low productivity in dairy cattle.

Land under fodder cultivation in Puducherry

The latest season and crop report released by the Directorate of Economics and Statistics in South India revealed that the Total Cropped Area (TCA) in the U.T had dropped for the 5th consecutive year in 2009 – 2010 and was now 31,910 ha when compared to 32,768 ha in preceding year (The Hindu, 2011) [21].

There is a drastic reduction in the net area sown in Puducherry UT. It was decreased from 40,000 ha in 2000 to 19,205 in 2008 -09. This decrease is because of fast urbanization and industrialization. The cultivable land in the region is showing a decreasing trend which is mainly due to the sale of cultivable lands to non agricultural purposes. The land owners started selling their lands for higher price and invested in industries, since they do not consider farming as a profitable venture any more. The land used for fodder cultivation in the UT of Puducherry was about 98 hectares (less than 4% of cropped area) with the total fodder growers of 278 (DAHD,2012) [5].

In addition there was a diversification of crops. Many land lords in rural and peri urban areas have changed their less economical and more labour intensive crops like paddy, sugar cane to *Casuarina* and Horticulture crops including coconut which are less labour intensive and require less supervision. At the same time these crops are free from destruction due to grazing and thefts. *Casuarina* and *Eucalyptus* also provide long term investment and after three or four years they can sell for better price and can get lump sum amount which could be invested in business.

The net result is that the area under food crops is drastically falling leading to decrease in paddy straw as well as hay (ground nut, pulses etc). This decrease in crop residues with concomitant decrease in fodder crops force the cattle owners especially the landless agricultural labour to depend upon purchased inputs. In the past the landless cattle owners used to send their animals for grazing and spend very little on cash inputs such as concentrates and paddy straw. The deficit of dry fodder, concentrates and green fodder estimated based on the livestock census of 1997 showed that in Puducherry UT, there was a deficit of 7.7 % dry fodder, 70 % of green fodder

and 81.9 % of concentrates (Natchimuthu *et al.*, 2005) [13]. This situation would have been worsened now with increase in livestock population and decrease in cropped area.

Farmers losing interest in livestock rearing

In the past livestock rearing was considered as the main subsidiary occupation which provided respectable status and income. Many of the landlords reared livestock to help them in agriculture operation in which both livestock rearing and agriculture was complementing each other. The main reason for people losing interest in agriculture, leave alone livestock rearing, as it is fraught with uncertainties in production as well as marketing. Hence, the farmers' children who are more educated than their parents would not like to continue in farming and rather prefer to work in non farm occupations especially in urban areas. The second reason is the availability of jobs in industries and urban areas which fetch them regular and dependable income compared to livestock rearing. The other reason is preference of the people for white collar jobs rather than working with animals.

Subsidies counterproductive

The Union territory of Pondicherry offers subsidies to encourage dairy farmers to increase milk production in the Union territory (Table.9). These subsidies include milch animal purchase, feed and fodder etc which made the dairy farmers dependent on government. The subsidies in Puducherry proved to be counterproductive as the milk production is falling instead of increasing. Field observations and reports on livestock research and development programmes (LID 1998 & 1999, Rangnekar 2006, Heffernan *et al* 2005, Owen *et al* 2005, Conroy 2005) [11, 19, 6] showed that the benefits of programmes to the resource poor were very limited. Although the subsidies are intended to provide relief to poor/small milk producers the actual beneficiaries of the subsidies are not the small producers. Subsidies if not properly administered and monitored, will demotivate the farmers resulting in decreased production. What the milk producers require is remunerative milk price rather than subsidies on various schemes.

Table 9: Subsidies offered to milk producers in Puducherry

Sl.no	Category	Subsidy
1. Special livestock breeding programme through AHD		
a.	Supply of cattle feed	Rs. 4.50 per kg for heifers Rs. 3 per kg for pregnant cows Rs. 2 per kg for Milch cows
b.	Distribution of Milch Cows	75 % subsidy to BPL families
2. RKVY		
a.	Single milch cow	50% subsidy (maximum of Rs.12,500)
b.	3 milch cows	50 % subsidy (maximum of Rs. 50,000)
c.	5 milch cows (Mini Dairy)	75 % subsidy(maximum of Rs. 75,000)
d.	Mini dairy for Widows	75 % subsidy (maximum of Rs. 1 lakh)
3. Compensation to un-insured animals @ Rs.1,000 per bovine		
4.	Free AI and treatment in the veterinary institutions under DAH & AW	
PONLAIT		
1.	Milch animal Scheme	50 % subsidy
2.	Cattle feed	Now discontinued
Department of Agriculture		
1.	Green fodder cultivation	Rs.5000 per acre

Source: DAH& AW-Annual report and PONLAIT, 2012

Conclusions

The milk producers especially the resource poor farmers are fighting the losing battle of making a living out of dairy

cattle rearing. All odds which include low procurement prices, increased cost of inputs, milk union's biased attitude to protect the interests of the milk consumers and its policy

of encouraging outsourcing rather than enhancing local production are against the milk producers. The negative impact is quite discernible on the decrease in the household herd size, milk production and milk sale in addition to dairy farmers shunning cattle rearing as it is no more remunerative for them. If these trends continue the livelihoods of the resource poor cattle owners will be at stake.

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