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Breedable Cow Population and It's Contribution to the Formal Milk Market in Sri Lanka.

Introduction

Data such as breedable cow population and its contribution to the formal milk market in Sri Lanka is not available at present. This type of data is extremely important for future planning and development of the dairy sector in Sri Lanka. Therefore, a survey was carried out during the period of June to August, 2007 with the objective of studying the distribution of breedable cows (milking, non milking, heifers and heifer calves) and their contribution to the formal milk market in different districts of the country.

Methodology

Data collected through seven (07) main (medium to large scale) local milk collecting and processing agencies (*MILCO Pvt. Ltd, Nestle Lanka Ltd, Kothmale Swiss Cheese Co. Pvt. Ltd, Noorani Estates Pvt. Ltd, Rich Life Ltd, Mahaweli Authority, NLDB*) contributing to 90% of the formal milk market in the country. Information on herd structure such as total number of female animals viz. in milk at that time, non milking animals (pregnant, non pregnant), heifers (more than one year), heifer calves (less than year) were collected. Moreover, data on milk collecting centres, chilling centres, milk sales (Annual, June and January) were recorded. Practice of evening milking and breeding method was also recorded.

Information on a total of 32,568 farmers (mostly direct suppliers) who supply milk to the surveyed agencies were collected through the collecting centre using a simple questionnaire. Data analysis was carried out according to the districts and are presented in this document (for neat cattle).

Data on other medium to large scale milk collecting agencies and co-op societies could not be collected. Data on some of the bulk milk suppliers operating under these agencies were also not recorded.

Breedable Cattle Population

The total number of farmers were 32,568 and that was nearly 81% of the total number of registered farmers in surveyed companies. Total number of female animals were 186,375 in the sample (all island) during the period of June-August in year 2007.

The highest number of total female animals were recorded in Kurunegala district (29,084) followed by Anuradhapura district (20,689) while the lowest number was in Matara district (592).

Milch Animals in a Herd

The percentage of milch (once calved and having potential of producing milk) animals to total female animals was highest in Nuwara Eliya district (75%) followed by Kandy (72%) and Colombo (72%) districts whereas the least (59%) was in Batticaloa district (*Table 1*).

Table 1. Herd Composition Distribution as Percentage

District	Total number of Females	Percentage to Total Herd			Percentage to Milch Animals		
		Milch	Heifer calves		Milking	Non Milking	
			(<1year)	(>1 year)		Pregnant	Non Pregnant
Colombo	1487	72%	19%	9%	61%	13%	26%
Gampaha	3515	70%	21%	9%	67%	20%	13%
Kalutara	1528	69%	21%	10%	64%	15%	21%
Kandy	12934	72%	18%	10%	70%	22%	8%
Matale	13998	70%	18%	12%	60%	28%	12%
Nuwara Eliya	18798	75%	15%	10%	72%	22%	6%
Galle	1527	66%	22%	12%	62%	24%	14%
Hambantota	4106	65%	21%	14%	54%	26%	20%
Matara	592	60%	26%	14%	68%	6%	26%
Anuradhapura	20689	63%	22%	15%	56%	25%	19%
Polonnaruwa	3791	68%	19%	13%	58%	26%	16%
Kurunegala	29084	69%	20%	11%	62%	23%	15%
Puttalam	18624	65%	21%	14%	54%	28%	18%
Ampara	13528	66%	20%	14%	56%	25%	19%
Trincomalee	5674	62%	22%	16%	59%	20%	21%
Batticaloa	8591	59%	21%	20%	52%	30%	18%
Badulla	16224	70%	20%	10%	71%	19%	10%
Monaragala	6948	68%	20%	12%	71%	7%	22%
Kegalle	2747	71%	20%	9%	69%	19%	12%
Ratnapura	1990	68%	21%	11%	62%	19%	19%
Sri Lanka	186,375	68%	20%	12%	62%	24%	14%

Note: Northern Province is not included

It is clear that the values for Nuwara Eliya, Kandy, Colombo, Gampaha, Matale, Badulla and Kegalle are in accordance with the acceptable value of 70% of milch animals in a productive herd. The island average of milch animal percentage was 68% to the total female herd (Table 1).

Out of the total female population, around twenty percent (15% to 26%) of animals were heifer calves. Number of heifer calves were highest in Matara district (26 %) and the least in Nuwara Eliya district (15%) according to this survey. Colombo, Gampaha and Kegalle districts had the lowest percentage of heifers (09%) while the highest percentage of heifers was in Batticaloa district (20%). On an average the percentage of heifers had been 12 out of the total female animals in this sample.

Out of the total milch animals the 62% of the animals were in milk at that time. This was highest (72%) in Nuwara Eliya district and lowest (52%) in Batticaloa district. On an average 38% of the animals were dry cows (non milking animals).

Fourteen percent of milch animals were non productive (neither milking nor pregnant) at the time of survey. This group may be sub fertile or infertile and there is a direct impact on production economics of the herd. The non productive percentage (6%) was very small in Nuwara Eliya district compared to all the other districts. It is large as 26% in some districts such as Colombo and Matara. Therefore, it is recommended to have infertility investigations and treatment whenever possible to correct this situation for economical milk production.

Table. 2 Number of Animals , Marketable Surplus and Evening Milk Collection

District	Total female animals	Milking animals	Marketable surplus in litres (per milking animal)			Evening milk collection
	Farm Average	Average	Per farm/day		June	%
			June	January		
Colombo	6.0 (1-24)	2.3 (0-15)	6.3	5.8	2.7 (0.8-15)	0
Gampaha	4.9 (1-25)	1.9 (0-16)	5.5	5.2	3.7 (0.8-12)	0
Kalutara	4.9 (1-24)	1.9 (0-8)	5.2	4.6	2.8 (1-10)	0
Kandy	3.1 (1-46)	1.3(0-18)	6.3	4.8	5.3 (1.7-34)	70
Matale	4.9 (1-29)	1.5 (0-10)	5.8	4.3	3.9 (0.4-18)	10
Nuwara Eliya	2.7 (1-18)	1.3 (0-6)	8.1	7.6	6.3 (1-36)	100
Galle	5.3 (1-31)	1.8 (0-16)	4.6	3.4	2.9 (0.7-13)	0
Hambantota	13.1 (3-110)	3.7(0-30)	4.1	8.5	1.8 (0.5-6)	0
Matara	5.1 (1-21)	1.8 (0-7)	3.8	2.5	2.6 (0.8-8.5)	0
Anuradhapura	9.6 (1-107)	2.7 (0-40)	4.7	5.7	2.2 (0.8-20)	0
Polonnaruwa	7.9 (1-150)	2.4 (0-30)	3.8	6.4	2.7 (0.5-8.5)	0
Kurunegala	5.6 (1-58)	2.1 (0-15)	6.6	5.4	3.1 (1.3-32)	0
Puttalam	8.4 (1-86)	2.8 (0-30)	4.7	4.0	2.5 (0.6-11)	0
Ampara	8.9 (1-56)	2.7(0-23)	3.6	4.5	1.5 (0.5-10)	0
Trincomalee	12.2 (2-62)	3.7(0-17)	5.5	6.8	1.8 (0.5-12.5)	0
Batticaloa	36.6 (6-289)	10.1(0-84)	8.1	20.1	0.9 (0.5-4.3)	0
Badulla	3.9 (1-42)	1.6 (0-15)	5.4	4.2	4.0 (0.6-20)	30
Monaragala	5.8 (1-66)	2.2 (0-33)	4.4	3.1	2.6 (0.4-15)	0
Kegalle	3.9 (1-31)	1.6(0-7)	6.1	5.8	3.9 (1.2-11)	10
Ratnapura	7.5 (1-57)	2.6 (0-12)	7.6	7.2	3.6 (1.0-15.5)	10
Island Average	6.5 (1-289)	2.1 (0-84)	6.16	4.11	3.7 (0.5-13)	

*Range between minimum and maximum is indicated in the parenthesis

Note : Northern province is not included

Herd Size

Average number of female animals per farm was highest (36.6) in Batticalo district followed by Hambantota (13.1) district . It was least (2.5) in Nuwara Eliya district. The average number of animals in milk vary from 10.1(Batticaloa) to 1.3 (Nuwara Eliya) at the time of surveying (Table 2) . On an average small herd sizes (less than 5 animals) were seen in , Gampaha, Kalutara, Kandy, Matale, Nuwara Eliya ,Badulla and Kegalle districts. Average marketable surplus of milk per farm in the month of June varied from 3.6 l to 8.1 l per day.

Marketable Surplus of Milk

Average marketable surplus per one milking animal was highest in Nuwara Eliya district (6.3 l) followed by Kandy (5.3 l) and Badulla (4.0 l) districts in the month of June. The lowest average productivity was(0.9 l) in Batticalo . Lowest marketable surplus of 0.5 l per day per milking animal in June was recorded in the districts of Monaragala, Batticalo, Trincomalle, Ampara, Polonnaruwa and Hambantota districts. It was evident that there are differences in marketable surplus of milk in June and January. This difference might be due to the different calving pattern and availability of high quality grasses under different climatic conditions.

Evening milk collection was not a common practice in most of the districts except in Nuwara Eliya and Kandy districts (Table 2). This practice has to be established in other districts to improve milk collection in the country.

Table 3 .Average Marketable Surplus per One Farm

Milk Sales/farm/day	No.of farms	Percentage
Over (\geq) 5 litres	10975	34
Over (\geq)10 litres	5678	17
Over (\geq)20 litres	834	3
Over (\geq)50 litres	54	0.2
Over (\geq)100 litres	7	0.02

There were 7 farms (0.02 %) in the sample with equal or more than 100 litres of milk and 54 farms with over 50 litres of milk per one day (Table 3). On an average 34 % of the farmers had over 5 litres of milk per day.

Table 4. Average Marketable Surplus per Animal

Milk Sales/animal/day	No.of farms	Percentage
Over (\geq) 5 litres	6385	20
Over (\geq)10 litres	1376	4
Over (\geq) 20 litres	156	0.5

About 20% of the farms had animals with productivity of over 5 litres per day. Number of farms with high productive animals of over 20 litres were 156 and that is only 0.5 % of this sample (Table 4). Only 4% of the sample had animals with more than 10 litres of milk per day.

Acknowledgement

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Survey on Cost of Production of Pork under Different Production Systems

Understanding on cost parameters in pork production is necessary for cost calculation and policy formulation pertaining to swine industry. Therefore, a survey was carried out in Central, North Western and Western Provinces during June to September 2008. A total of 52 randomly selected farms were visited and data were analyzed.

This survey results revealed that the existence of two production types based on feeding system such as feeding with a mixture of swill and agricultural by products and with agricultural by product only. In 99% of surveyed farms feeding system was based on the first category and results presented in this document are for the same system.

Average marketable age varied from five (5) months to 12 months and final live weight ranged from 50 kg to 110kg (Average 73.3 kg). Cost of production of pork on live weight basis ranged from Rs 70.16/kg to Rs 139.98/kg with the average cost of Rs 113.06/kg (Table 5)

Table 5. Cost of Production of Pork

Item	Average COP/ kg	Percentage of total
<i>Operational cost (Rs)</i>		
Animals	44.6	39.4
Feeds	29.77	26.3
Transport	19.99	17.7
Labor	14.95	13.2
Other operational cost	1.16	1.0
<i>Non operational cost (Rs)</i>	2.59	2.3
COP of pork (live weight)	113.06	

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