

ANALYSIS OF DISTRIBUTION OF EXISTING DAIRY PROFESSIONALS

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ABSTRACT

This study focuses on the distribution of Dairy Professionals in the respondent cooperative dairy plants. In total 207 dairy plants across the country gave responses to the questionnaire. The subsequent analysis includes the brief profile of the dairy plants, distribution of Dairy professional in various work areas (departments), gender-wise distribution of dairy professionals, etc and any trends therein. Hence, an overall scenario of existing dairy professionals in the organization can be obtained. In the year 2015-16 the total manpower in the cooperative dairy plants was 30492 out of which 28444 were Non- Dairy Technologists and 2048 were Dairy Technologist. Further, out of the total 2048 professionals in the respondent 207 cooperatives, around 1758 were graduates, 280 were Postgraduates, and 10 were having Ph.D. qualification. In the respondent dairy plants, among the dairy professionals there was 9% female in the year 2011-12 which increased to 13% female dairy professionals in the year 2015-16,. In the year 2015-16, there were 1772 male and 276 female dairy professionals. While the Installed plant capacity of the respondent 207 cooperative dairy plants increased from 308 LLPD to 534 LLPD during the period, the Number of Dairy professionals per lakh litre of Installed plant capacity reduced from 5 in the year 2011-12 to 4 in the year 2015-16. It can be observed that as the processing capacity increases the Non- dairy professionals needed per LLPD decreases more rapidly than the decreases in dairy professionals per LLPD. Out of the total dairy professionals on an average - 53% were in Production, 16% were in Quality Control , 12% were in Chilling Centre, 11% were in Admin./ Purchase, 4% were in Engineering /Utilities, 3% were in Marketing and remaining 1% were in Other work area.

KEYWORDS: Dairy Plants Dairy Manpower, Dairy Professionals, Dairy Work Areas, Dairy Education, Dairy Skills

INTRODUCTION

This study focuses on the distribution of Dairy Professionals in the respondent cooperative dairy plants. In total 207 dairy plants across the country gave responses to the questionnaire. The subsequent analysis includes the brief profile of the dairy plants, distribution of Dairy professional in various work areas (departments), gender-wise distribution of dairy professionals, etc and any trends therein. Hence, an overall scenario of existing dairy professionals in the organization can be obtained.

Primary Information: Cooperative Dairy Plants of India

A total of 207 cooperative dairy plants from India had given responses by questionnaires. The analysis of data is shown below:-

Table 1: Age Profile of Cooperative Dairy Plants (N=207)

Sr. No.	Years in Existence	Frequency	Percentage
1	< 5	13	6%
2	5 to 10	18	9%
3	10 to 20	25	12%
4	20 to 30	43	21%
5	30 to 40	62	30%
6	40 to 50	32	15%
7	> 50	14	7%
8	Total	207	100%

It can be seen from the above table, that around 85% of the total selected cooperative dairy plants were more than 10 years old and around 50% cooperative dairy plants were more than 30 years old.

Installed Processing Capacity Details

The plant capacity is an important factor for determining the manpower requirement in a typical dairy plant. Hence the installed plant capacity of the respondent dairy plants was noted and is presented in the table below.

Table 2

Capacity	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	AVG
Installed Plant capacity(in LLPD) within State	294.49	301.14	387.18	408.05	454.86	369.14
Installed Plant capacity(in LLPD) Outside State	13.55	13.72	53.22	61.22	79.72	44.29
Total Installed Plant capacity(in LLPD)	308.04	314.86	440.40	469.27	534.58	413.43

The above table shows that the Installed Plant capacity of the selected 207 cooperative dairy plants was around 534.58 Lakh liters per day in year 2015-16.

Table 3: Growth in Number of Total Manpower and Dairy Professionals in Respondent Cooperative Plants

INDIA	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	Average	Growth
Dairy Professionals With Following Education Qualification							
Graduates	1387	1419	1500	1622	1758	1537	6.1%
Post graduates	216	222	240	257	280	243	6.7%
Ph.D	8	9	7	7	10	8	5.7%
(A) Total DP	1611	1650	1747	1886	2048	1788	6.2%
(B) Non – DP	27726	27634	27518	28831	28444	28031	0.6%
Total manpower (A+B)	29337	29284	29265	30717	30492	29819	1.0%
DP as % of total manpower	5%	6%	6%	6%	7%	6%	5.2%
Non DP as % of total manpower	95%	94%	94%	94%	93%	94%	-0.3%
Dairy Graduates as % of total DP	86%	86%	86%	86%	86%	86%	-0.1%

INDIA	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	Average	Growth
Dairy Professionals With Following Education Qualification							
Dairy Post Graduates as % of total DP	13%	13%	14%	14%	14%	14%	0.5%
Dairy Doctorate as % of total DP	0.50%	0.55%	0.40%	0.37%	0.49%	0.46%	-0.4%

Note

- 'DP' stands for 'Dairy Professionals'.
- Non -Dairy Professionals = Employees other than Dairy professionals (Excluding contractual & temporary labor)
- In the state of Tamilnadu, the majority of dairy professionals were holding IDD (Indian Dairy Diploma) degree. For computing purpose, these IDD holders have been considered equivalent to B.Tech (D.T.). Since the majority of Dairy Professional degrees offered in present era are in the form of B.Tech (D.T.)

From the above table, it can be seen that in the year 2015-16 the total manpower in the cooperative dairy plants was 30492 out of which 28444 were Non- Dairy Technologists and 2048 were Dairy Technologist. Further, out of the total 2048 professionals in the respondent 207 cooperatives, around 1758 were graduates, 280 were Postgraduates, and 10 were having Ph.D. qualification. During the period 2011-12 to 2015-16 the growth rate in Total Dairy professionals was 6.2%, the growth rate in Dairy professionals (Graduates) was 6.1%, the growth rate in Dairy professionals (Post Graduates) was 6.7%, and the growth rate in Total Dairy professionals (Ph.D.) was 5.7%, The growth in Total Manpower in dairy cooperatives was around 1.0 % while the growth in Non-Dairy Technologist manpower was only 0.6%.

4.1 Gender wise distribution of existing manpower

The following table gives gender wise details of the number and growth of dairy professionals in the respondent dairy plants.

India	Year 2011-12	Year 2011-12	Year 2011-12	Year 2012-13	Year 2012-13	Year 2012-13	Year 2013-14	Year 2013-14	Year 2013-14	Year 2014-15	Year 2014-15	Year 2014-15	Year 2015-16	Year 2015-16	Year 2015-16
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
DP with following Education Qualification															
Graduates	1288	99	1387	1307	112	1419	1356	144	1500	1455	167	1622	1550	208	1758
Post graduates	176	40	216	174	48	222	189	51	240	199	58	257	213	67	280
Ph.D	8	0	8	9	0	9	7	0	7	7	0	7	9	1	10
(A) Total DP	1472	139	1611	1490	160	1650	1552	195	1747	1661	225	1886	1772	276	2048
(B) Non - DP	25791	1935	27726	25610	2024	27634	25360	2158	27518	26556	2275	28831	26097	2347	28444
Total manpower (A+B)	27263	2074	29337	27100	2184	29284	26912	2353	29265	28217	2500	30717	27869	2623	30492
DP as % of total manpower			6%			6%			6%			6%			7%
Non - DP as % of total manpower			95%			95%			95%			94%			93%
Dairy Males as % of total DP & Dairy Females as % of total DP	91%	9%		90%	10%		89%	11%		88%	12%		87%	13%	

From the above table it can be seen that in the respondent dairy plants, among the dairy professionals there were 9% female in year 2011-12 which increased to 13% female dairy professionals in year 2015-16. In the year 2015-16 there were 1772 male and 276 female dairy professionals.

NB: 'DP' stands for 'Dairy Professionals'

Details of Number of Existing Manpower per Lakh Liter of Installed Capacity

The following table gives the information of the number of dairy professionals in the dairy plants per Lakh liter of processing capacity. It also shows the Trend in a number of dairy professionals in a dairy plant with an increase in processing capacity.

Table 4

India - Scenario per LLPD Capacity	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	Average	Growth Rate
Installed Plant capacity (in Lakh litres per day)	308.04	314.86	440.40	469.27	534.58	413	14.8%
(A) Total Dairy professionals	1611	1650	1747	1886	2048	1788	6.2%
(B) Non Dairy Professionals	27726	27634	27518	28831	28444	28031	0.6%
Total manpower (A+B)	29337	29284	29265	30717	30492	29819	1.0%
DP per LLPD capacity	5	5	4	4	4	4	-7.5%
Non- DP per LLPD capacity	90	88	62	61	53	71	-12.3%
Total manpower per LLPD	95	93	66	65	57	75	-12.0%

From the above table it can be seen from 308 LLPD to 534 LLPD during the period, the Number of Dairy professionals per lakh liter of Installed plant capacity reduced from 5 in the year 2011-12 to 4 in the year 2015-16. Similarly, Number of Non-Dairy professionals per lakh liter of Installed plant capacity was 90 in the year 2011-12 and it stood at 53 in the year 2015-16. It can be observed that as the processing capacity increases the Non- dairy professionals needed per LLPD decreases more rapidly than the decreases in dairy professionals per LLPD. That while the Installed plant capacity of the respondent 207 cooperative dairy plants increased

Work area Wise Distribution of existing Dairy Professionals

In order to know the work areas in which the existing dairy professionals in the selected dairy plants are deployed, the following information was collected. The below-mentioned table gives the work area wise number and percentage of existing dairy professionals.

Table 5

Work Area	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	Average
A. Chilling Centre	153	156	168	178	198	171
B. Production	726	732	757	797	885	779
C. Engineering /Utilities	58	65	63	74	58	64
D. Quality Control	206	208	225	261	277	235
E. Marketing	45	40	40	36	37	40
F. Admin./MIS/Purchase etc.	151	147	154	166	168	157
F. Other (Please specify)	15	15	20	20	25	19

Table 6

Total	1354	1363	1427	1532	1648	1465
% DP in Chilling Centre	11%	11%	12%	12%	12%	12%
% DP in Production	54%	54%	53%	52%	54%	53%
% DP in Engineering /Utilities	4%	5%	4%	5%	4%	4%
% DP in Quality Control	15%	15%	16%	17%	17%	16%
% DP in Marketing	3%	3%	3%	2%	2%	3%
% DP in Admin./ Purchase etc.	11%	11%	11%	11%	10%	11%
% DP in Other (Please specify)	1%	1%	1%	1%	2%	1%
Total	100%	100%	100%	100%	100%	100%

N.B: Total DP in the above table is less than Total DP in Section 4.5 above because the actual responses received in this particular question was less.

From the above table it can be seen that out of the total dairy professionals on an average -53% were in Production, 16% were in Quality Control, 12% were in Chilling Centre, 11% were in Admin./ Purchase, 4% were in Engineering /Utilities, 3% were in Marketing and remaining 1% were in Other work area.

Relation between Installed Capacity and work Area wise Manpower

The below-mentioned table gives the trend seen between installed capacity and work area wise increase/decrease in the number of dairy professionals.

Table 7

INDIA - Scenario per LLPD Capacity	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Year 2015-16	AVG	Growth rate	Trend
Installed Plant capacity LLPD	308.04	314.86	440.40	469.27	534.58	413	14.8%	Increasing
A. Chilling Centre	153	156	168	178	198	171	6.7%	Increasing
B. Production	726	732	757	797	885	779	5.1%	Increasing
C. Engineering /Utilities	58	65	63	74	58	64	0.0%	Increasing
D. Quality Control	206	208	225	261	277	235	7.7%	Increasing
E. Marketing	45	40	40	36	37	40	-4.8%	Decreasing
F. Admin./Purchase etc.	151	147	154	166	168	157	2.7%	Increasing
F. Other (Please specify)	15	15	20	20	25	19	13.6%	Increasing
Total	1354	1363	1427	1532	1648	1465	5.0%	Increasing

From the above table, it can be seen that during period, the installed capacity increased from 308 to 534 LLPD at a growth rate of 14.8% and at the same time the dairy professionals increased in all work areas except "Marketing" where it decreased by 4.8%

SUMMARY AND CONCLUSIONS

- In the year 2015-16 the total manpower in the cooperative dairy plants was 30492 out of which 28444 were Non-Dairy Technologists and 2048 were Dairy Technologist. Further, out of the total 2048 professionals in the respondent 207 cooperatives, around 1758 were graduates, 280 were Post-graduates, and 10 were having Ph.D qualification. During the period 2011-12 to 2015-16, the growth rate in Total Dairy professionals was 6.2%, the growth rate in Dairy professionals (Graduates) was 6.1%, the growth rate in Dairy professionals (Post Graduates) was 6.7%, and the growth rate in Total Dairy professionals (PhD) was 5.7%. The growth in Total Manpower in dairy cooperatives was around 1.0 % while the growth in Non-Dairy Technologist manpower was only 0.6%.
- In the respondent dairy plants, among the dairy professionals, there was 9% female in the year 2011-12 which increased to 13% female dairy professionals in the year 2015-16. In the year 2015-16, there were 1772 male and 276 female dairy professionals.
- While the Installed plant capacity of the respondent 207 cooperative dairy plants increased from 308 LLPD to 534 LLPD during the period, the Number of Dairy professionals per lakh liter of Installed plant capacity reduced from 5 in the year 2011-12 to 4 in the year 2015-16. Similarly, Number of Non-Dairy professionals per lakh liter of Installed plant capacity was 90 in the year 2011-12 and it stood at 53 in the year 2015-16. It can be observed that

as the processing capacity increases the Non- dairy professionals needed per LLPD decreases more rapidly than the decreases in dairy professionals per LLPD.

- Out of the total dairy professionals on an average - 53% were in Production, 16% were in Quality Control , 12% were in Chilling Centre, 11% were in Admin./ Purchase, 4% were in Engineering /Utilities, 3% were in Marketing and remaining 1% were in Other work area.
- During period, the installed capacity increased from 308 to 534 LLPD at a growth rate of 14.8% and at the same time the dairy professionals increased in all work areas except “Marketing” where it decreased by 4.8%

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