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CURRENT TRADE OF LIVE STOCK PRODUCTION IN INDIA AND PRODUCTION STATUS AT PARAG DAIRY, VARANASI (U.P.)

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Abstracts: This article in research on current trade of live stock production in India and production status at Parag dairy, Varanasi, based on Primary and secondary data of year 2014-15. Indian economy generally based on Agriculture produce and their manufacturing product, the current population of India is 1,333,185,427 based on latest united nation estimates. India in 68 percentage population rural and 32 percentage population urban based. India has vast resource of livestock and poultry, which play a vital role in improving the socioeconomic conditions or rural masses, India ranks first in respect of buffalo and milk production, 2nd in cattle and goats, 3rd in sheep, 4th in duck. India has 57% of the world's buffalo population and production of milk 132.4 Mt. in year 2012-13. Importance of Poultry and egg, meat production, fish production and live stock. Trends in production: wool, meat, milk, paneer, curd, lassi, Butter milk. Parag dairy in situated Varanasi (U.P.) produce various products in market as: Milk, Paneer, Curd, Butter milk, Lassi, Sweet (peda). Monthly Average various products: milk production 8507 kg, Lassi 4398kg, and Peda 1449 kg, Paneer 1830 kg and Curd 6473 kg. The livestock sector in India faces many problems: low productivity, livestock health, knowledge gap and marketing. Agriculture and animal husbandry sector provide large self-employment opportunities and emerged various job opportunities.

Keywords: Agriculture, Animal husbandry, Poultry and egg, Milk, Lassi, Product, Production and Job opportunities, Marketing, Livestock

Introduction: India has vast resource of livestock and poultry, which play a vital role in improving the socioeconomic conditions of rural masses. India ranks first in respect of buffalo, 2nd in cattle and goats, 3rd in sheep, 4th in ducks, 5th in chickens and 6th in camel population in the world. India has 57% of the world's buffalo population. Animal Husbandry sector provides large self-employment opportunities. According to National Sample Survey Organization's latest survey July 2004 - June 2005 NSSO 61st round ^[1]. The estimate of employment in animal husbandry sector was 11.44 million in principal status and 11.01 million in subsidiary status, which is 5.50% of the total working population of the country. Out of the 22.45 million engaged in animal husbandry sector, 16.84 million are females. Animal Husbandry and Fisheries sectors together Statistical Organization (CSO), the value of engage 23.68 million populations, which is

around 5.80% of the total work force in the country. The livestock and dairy products such as milk and meat provides protein, calcium, vitamins, and other nutrients that go lacking in diets that are exclusively made up of staples such as cereals. With its 1.2 billion populations and 8 percent GDP growth rate, India is rapidly emerging as one of the biggest markets in the world. Livestock sector contributes approximately 4 percent to GDP and 27 percent to agriculture GDP. India has emerged as the world's second largest poultry market with an annual growth of more than 14 percent, producing 61 million tonnes or 3.6 percent of global egg production. The annual growth rate of egg production is 5-8 percent. Apart from this, India ranks 6th in broiler production (125 billion Rupees) with an annual output of 2.39 million tonnes of broiler meat, as per the estimates of the Ministry of Agriculture, Govt. of India ^[2]. The total poultry industry is valued at about 350

billion rupees. The per capita consumption per year is approx 2.4 kg, which is much lower than the National Institute of Nutrition's recommendations of 11 kg. In dairying, India ranks as the world's largest milk producer with an annual output of 116 million tonnes approx. With an annual growth rate of 4 percent, India's milk production accounts for 16 percent of the total global output^[3].

Livestock and Its Importance: The livestock sector contributed over 5.26 per cent to the total GDP during 2006-07 According to estimates of the Central Statistical Organization (CSO)^[4], the value of output from livestock and fisheries sectors together at current prices was about Rs. 2,82,779 crore during 2007-08 which is about 31.6 per cent of the value of the output of Rs. 8,94,420 crore from agriculture and allied Sector^[3].

Production of Milk: India continues to be the largest producer of milk in the world and India produced 13.1 per cent of the total milk produced in the world and first rank in milk production in the world. At present the first five countries in the world producing maximum milk are India, USA, Russia, Germany and France. In 2011-12 total production of milk is 127.9 Mt. And per capita availability of milk is 290 gram per day. In 2012-13 total production is increases 132.4 Mt. and per capita availability is 299 grams per day. (Final BAHS 2014 11.03.2015. pdf. page no. 16)

Poultry and Egg: As a result, India is now the world's fifth largest egg producer and the eighteenth largest producer of broilers. Table eggs and broiler meat are the major end products of the poultry sector in India. The organized sector of poultry industry is contributing nearly 70 per cent of the total output and the rest 30 per cent in the unorganized sector in India. The Andhra Pradesh, Tamil Nadu and Maharashtra producing nearly 70 per cent of the country's egg production. Presently production of eggs is estimated to number about 37 billion, that of broilers 895 million, and that of poultry meat 735,000 tones. Egg production has increased from 21 billion in 1990-91 to 51 billion numbers in 2006-07 and 53.5 billion numbers in 2008. India ranks fifth in the world with annual egg production of 1.61M.T. Poultry exports are mostly to Maldives and Oman. Indian poultry meat products have good markets in Japan,

Malaysia, Indonesia and Singapore. Afghanistan is a major exporter of poultry products that export in 2011-13. 183247.23 MT which value in Rs 7,816.36 lakhs^[5].

Meat and Meat Products: Today, the increasing demands of the meat and meat products for in domestic and foreign market, particularly to the Gulf and West Asia and neighboring countries. In 2003 India had a livestock population of 470 million that included 205 million cattle and 90 million buffaloes. Cattle, buffaloes, sheep and goat, pigs and poultry are the types of animals, which are generally used for production of meat. There is a huge scope for expanding exports, especially in buffalo and poultry meat, eggs and dairy products. Australia is the major importer country. India import from Australia 488.31 Mt, that's value in money is 429.06 lacks rupees, second importer country of India is United Arab Emirates where import 81.43 Mt^[6].

This study was envisaged with the following objectives:

1. To analyze the trade pattern of livestock and dairy products
2. To study on Parag dairy, Varanasi
3. To study of problems facing the livestock and dairy processing industry

Research Methodology: This chapter deals with the detailed description of the methodology adopted to achieve the various objectives of the present research work viz. , research design, methods and tools used to obtain the evidence required and the data analysis procedure

A. **Sources of Data:** This study is based on both Primary and secondary data sources. Primary data was collected from Parag dairy located in Ram Nagar industrial area Varanasi. While the secondary data was collected from various web portal, journals and government publication. The secondary data for the study purpose was compiled for the period from 2006-07 to 2015-16

B. **Selection of products:** The Parag dairy products include ghee, table butter, curd, flavoured milk, plain milk, toned milk, kheer, butter milk, paneer, and sweets like peda, gulab jamun, rasgulla and kalakand. For the purpose of the study, following products were selected under the major categories of dairy, poultry and livestock.

Categories	Selected Products
Dairy	Milk, Paneer, Curd, Butter milk, Lassi, Sweet (peda)
Poultry	Egg
Livestock	Wool and goat meat, Buffalo meat

Total sum of itmes

C. Analytical Tools : Average = $\frac{\text{Total sum of itmes}}{\text{Total no. of itmes}}$

Results and Discussion: The whole chapter has been divided in to three sections. Section one deals with the current status of trade pattern of livestock and dairy products, To study products of parag dairy, Varanasi and section three is devoted to constraints and problems in processing of livestock and dairy products.

1. Trends in production of Milk, Paneer, Curd, Butter Milk, Lassi

A. **Milk Production :** Table 1.1 shows the total milk production and per capita availability in India. In 2006-07, total milk production was 102.6 million tonnes and per capita availability 251 (gms/day), which observed an increased by 5 per cent in total production and per capita availability by 3.58 per cent in 2007-08. In 2008-09, total milk production

increased by 3 per cent and per capita availability increased by 2.30 per cent over the preceding year. In 2009-10, total milk production has increased by 3.74 per cent and per capita availability increased by 2.63 per cent over the preceding year. In 2010-11, milk production increased by 4.72 per cent and per capita availability increased by 2.93 per cent over the preceding year. In 2011-12, total milk production increased by 5 per cent and per capita availability increased by 3.2 per cent over the preceding year. In 2012-13 total milk production increased by 3.51 per cent and per capita availability of milk increased by 3.44 per cent over the preceding year.

Table 1.1 Trends in milk production in India

Year	Production (Million Tonnes)	Per Capita Availability (gms/day)	Growth in milk product (%)	Growth in per capita availability (%)
2006-07	102.6	251	-	-
2007-08	107.9	260	5	3.58
2008-09	112.2	266	3	2.3
2009-10	116.4	273	3.74	2.63
2010-11	121.8	281	4.72	2.93
2011-12	127.9	290	5	3.2
2012-13	132.4	300	3.51	3.44

(Source: Department of Animal Husbandry, Dairying & Fisheries, ministry of Agriculture, GoI)

Table 1.2 shows the total milk production in major five states and all India. In the year 2012-13, the state of Uttar Pradesh recorded highest milk production which was to the tune of 23409 million tonnes followed by Rajasthan (15540 million tonnes), Andhra Pradesh (13360 million tonnes), Gujarat (10855 million tonnes), Punjab

(9680 million tonnes). At the national level, the total milk production was estimated to be 132424 million tonnes in the year 2012-13. The table also shows that all the states and India as whole observed an increasing trend in milk production over the year.

Table 1.2 State wise estimates of milk production (2006-07 to 2012-13)

Rank	States/UTs	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
1	Uttar Pradesh	18094	18861	19537	20203	21031	22107	23409
2	Rajasthan	10309	11377	11931	12330	13234	14356	15540
3	Andhra Pradesh	7938	8925	9570	10429	11203	12180	13360
4	Gujarat	7533	7911	8386	8844	9321	10275	10855
5	Punjab	9168	9282	9387	9389	9423	9546	9680
	All India	102580	107934	112183	116425	121848	127949	132424

(Source: State/UT Animal Husbandry Departments)

Table 1.3 shows the per capita availability of milk of major five states and all India. In the year 2012-13, the state of Punjab has highest per capita availability of milk which was 930 grams/day followed by Haryana (704 Gram/day), Rajasthan (561 Gram/day), Gujarat (480 Gram/day), and Himachal Pradesh (479

Gram/day). At the national level, the per capita availability recorded (300 Gram/day). The table also shows that Punjab observed decreasing pattern while others states and all India shows increasing pattern of per capita availability of milk over the year.

Table 1.3 trends in Per capita availability of milk (2006-07 to 2012-13) (Grams / day)

Rank	States/UTs	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
1	Punjab	957	956	955	944	937	933	930
2	Haryana	624	621	644	662	679	692	705
3	Rajasthan	449	486	501	509	538	553	561
4	Gujarat	372	385	402	418	435	456	480
5	Himachal Pradesh	393	420	424	397	446	464	479
	All India	251	260	266	273	281	290	300

(Source: State/UT Animal Husbandry Departments)

B. Egg Production: Egg production in India is likely to surge from the current level of about 7,500 crore to about 9,500 crore by 2015, as per a sector specific analysis by The Associated Chambers of Commerce and Industry of India (ASSOCHAM). Table-4.1.5.1 shows the total production of egg in India and their per capita availability of from 2006-07 to 2012-13. In 2006-07, total egg production of India was 50663 million nos.

and in 2012-13 it was 66540 million nos; an increase by 31.33 per cent in seven years. The table also shows that the decreasing pattern of egg production over the year. The per capita availability of egg in 2006-07 was 45 nos./head/annum and 60 nos./head/annum in 2012-13. Thus, the per capita availability of egg increased by 33.33 per cent from 2006-07 to 2012-13.

Table 1.4 Trends in of production and per capita availability of egg

Year	Egg (Million nos.)	growth in production (%)	egg	Per Capita Availability (nos./head/annum)	growth in per capita availability (%)
2006-07	50663	-		45	-
2007-08	53583	5.8		47	4.4
2008-09	55562	3.7		48	2.1
2009-10	60267	8.5		53	10.4
2010-11	63024	4.6		53	0
2011-12	65480	3.9		58	9.4
2012-13	66540	1.6		60	3.4

Source: State/UT Animal Husbandry Departments

Table 1.5 (also presented in figure 1 and figure 2) shows the total wool and meat production in India from 2005-06 to 2012-13. In 2005-06, total wool production in India was 44.9 (million Kg) which increased to 45.3 (million Kg) in 2012-13,

by 0.89 per cent. In 2005-06, total meat production of India was 2.3 (million Tonnes) which increased to 5.5 Mt in 2012-13. 5.5 Mt., by 139.13 per cent.

Table 1.5 Trends in production of wool and meat (2005-06 to 2012)

	Wool (Million Kg)	Growth in %	Meat (Million Tonnes)	Growth in %
2005-06	44.9	-	2.3	-
2006-07	45.1	0.44	2.3	0
2007-08	43.9	-2.66	4.0	73.91
2008-09	42.8	-2.50	4.2	5.00
2009-10	43.1	0.70	4.5	7.14
2010-11	43.0	-0.23	4.9	8.88
2011-12	44.4	3.25	5.1	4.08
2012-13	45.3	2.02	5.5	7.84

Source: State/UT Animal Husbandry Departments

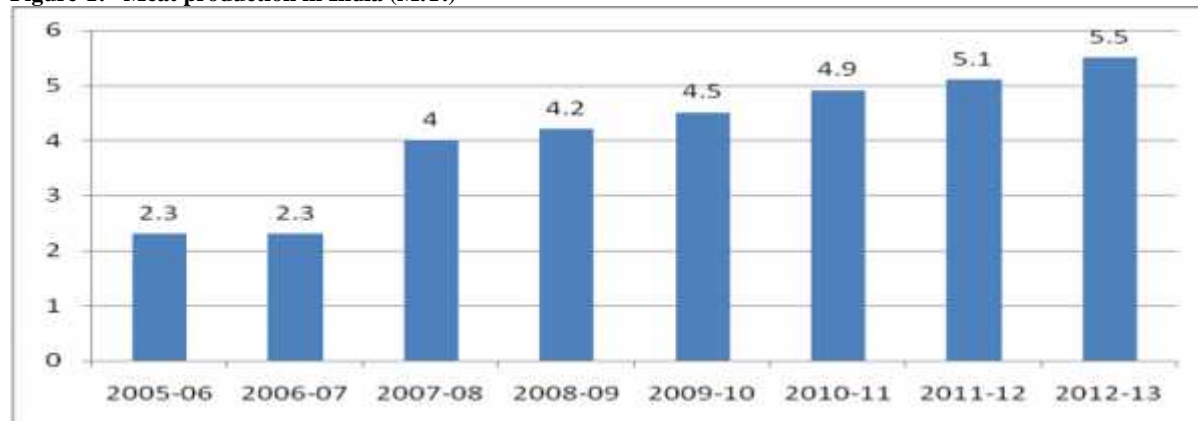
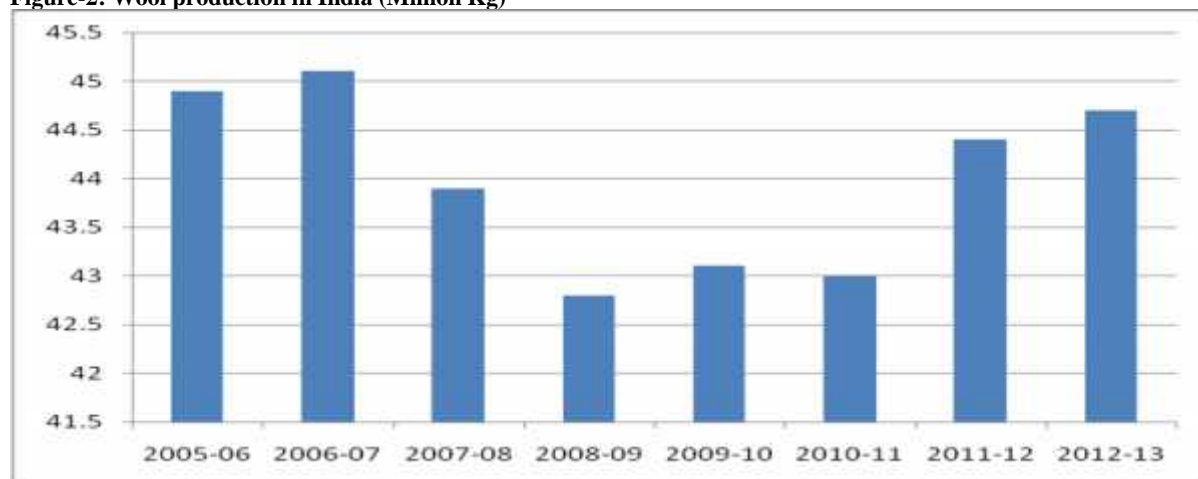
Figure-1: Meat production in India (M.T.)

Figure-2: Wool production in India (Million Kg)



2. **To Study an Parag Dairy:** PCDF (Pradeshik Cooperative dairy federation, Uttar Pradesh), Cooperation was formed in 1962 with the aim to develop organized dairying in the State on Cooperative lines PCDF's is a cohesive body that successfully does away with the exploitative forces of years to years-the Middlemen. Therefore a direct link is established between the producer and the ultimate consumer. This Apex Milk Cooperative draws its inherent strength from the farmers committed participation, and injects corporate skills and dynamic professionalism into what is fundamentally a traditional institution. Over the years PCDF has expanded, diversified,

channelized into new areas, over new dimensions, onto new challenges. Today it features prominently in the National Milk Grid, supplying Milk to Mother Dairy for sale in Delhi^[7].

Table 2.1 shows the highest production of paneer was recorded in the months of March, May, October, and December which was to the tune of 1860 Kg. While least production of paneer estimated in the months of June, July, August, and November which was 1800 kg. The average monthly production was estimated 1830 kg with total production cost Rs. 315590. The monthly average selling price was estimated Rs. 457550 while monthly average profit was estimated Rs 74415.

Table 2.1 Month wise production of Paneer in Parag dairy Ram Nagar, Varanasi

Month	Total Production (in kg)	Production cost including all activity of firm (Rupees)	Selling (Rupees)	Price	Profit (Rupees)
January	1860	388740	465000		76260
February	1660	351120	420000		68880
March	1860	388740	465000		76260
April	1800	376200	450000		73800
May	1860	388740	465000		76260
June	1800	376200	450000		73800
July	1800	376200	450000		73800
August	1800	376200	450000		73800
September	1800	376200	450000		73800
October	1860	388740	465000		76260
November	1800	376200	450000		73800
December	1860	388740	465000		76260
Total	21960	3787080	5445000		892980
Average	1830	315590	453750		74415

Table 2.2 shows that the highest production of curd was recorded in the months of January, February, October and December which was to the tune of 6820 Kg .While least production of curd in the months of April, May,

June and July which was 6200, kg. The monthly average production was estimated 6473 kg., with average production cost of Rs. 404977. The monthly average selling price was Rs. 500055 with monthly average profit Rs. 84110.

Table 2.2 Month wise production of curd in Parag dairy, Ram Nagar, Varanasi

Months	Total production (kg)	Production cost including all cost	Selling price	Profit
January	6820	422840	511500	88660
February	6600	409200	495000	85800
March	6510	403620	494760	91140
April	6300	390600	504000	113400
May	6200	403000	496000	93000
June	6000	390000	480000	90000
July	6200	403000	496000	93000
August	6510	410130	520800	11067
September	6300	396900	485100	88200
October	6820	428400	511500	83100
November	6600	409200	495000	85800
December	6820	422840	511000	86160
Total	77680	4859730	6000660	1009327
Average	6473	404977	500055	84110

Table 2.3 shows the highest production of butter milk was recorded in the months of March, April, May, June and July. This was to the tune of 9200 kg., while least production of butter milk was estimated in the months of February, October, August and November which

was 8014 kg. The monthly average production was estimated 8507 kg while the average cost of production was estimated Rs. 222095. The average selling price of one month was Rs 282835 with monthly average profit of Rs 60740.

Table 2.3 Month wise production of butter milk in Parag dairy Ram Nagar, Varanasi

Month	Total production (in kg)	Production cost including all cost	Selling price	Profit
January	8060	193440	257920	64480
February	7280	174720	232960	58240
March	9300	241800	306900	65100
April	9000	252000	297000	45000
May	9300	260400	325500	65100
June	9000	252000	315000	63000
July	9300	260400	325500	65100
August	8680	225680	303800	78120
September	8250	214500	264000	49500
October	8060	209560	257920	48360
November	7800	187200	249600	62400
December	8060	193440	257920	64480
Total	102092	2665140	3394020	728880
Average	8507	222095	282835	60740

Table 2.4 shows the highest production of lassi was in the months of May, June, July and August. This was to the tune of average 4558 Kg., while least production of lassi estimated in the months of February, December and November which was tune up average 4200 kg.

The monthly average production was estimated 4398 kg. The monthly average cost of production was estimated Rs. 186489. While the average monthly selling price was Rs. 206950 with profit Rs. 20565.

Table 2.4 Month wise production of Lassi in Parag dairy, Ram Nagar, Varanasi

Month	Total production (kg)	Production cost including all cost (Rs.)	Selling price (Rs.)	Profit (Rs.)
January	4340	173600	195300	21700
February	3920	156800	176400	19600
March	4495	188790	202275	13485
April	4350	195750	208800	13050
May	4650	209250	232500	23250
June	4500	202500	225000	22500
July	4650	209250	232000	22750
August	4495	188790	215760	26970
September	4350	182700	208800	26100
October	4495	188790	202275	13485
November	4200	168000	189000	21000
December	4340	173600	195300	21700
Total	52785	2237870	2483410	245590
Average	4398	186489	206950	20565

Table 2.5 shows the highest production of sweet (peda) was estimated in the months of January, March, August, October, November and December. This was to the tune of 1510 Kg .While least production of sweet (peda) was recorded in the months of February, April, May,

June and July which was 1378 kg. The monthly average production was estimated 1449 kg. The monthly average cost of production was estimated Rs. 258540. The monthly average selling price estimated Rs. 364916 while profit was Rs. 106384.

Table 2.5Month wise production of sweet (Peda) in Ram Nagar, Varanasi

Month	Total production (kg)	Production cost including all cost (Rs.)	Selling price (Rs.)	Profit (Rs.)
January	1550	286750	387500	100750
February	1400	252000	350000	98000
March	1488	264864	372000	107136
April	1350	236250	337500	101250
May	1395	244125	348750	104625
June	1350	236250	337500	101250
July	1395	244125	348750	104625
August	1488	264864	372000	107136
September	1440	256320	360000	103680
October	1488	267840	372000	104160
November	1500	270000	390000	120000
December	1550	279000	403000	124000
Total	17394	3102488	4379000	1276612
Average	1449	258540	364916	106384

3. Problems in the Dairy Industry

A. Constraints to Strengthening and Infrastructure for Milk Production:

The indigenous (Zebu) cattle (*Bos indicus*) are well adapted and thrive well in the tropical climate condition by virtue of their superior resistance towards heat and tropical diseases. Among the various indigenous breeds sahiwal, red sindhi and tharparkar are preferred for milk production. Dairy industry infrastructure established National Production Policy and available genetic, cross breeding, marketing, health, electricity etc. facility.

B. Human Resource Development: The rate of growth of dairy education and research institutions has been commensurate with the development of the Indian dairy industry. The education network comprises 11 Dairy Science Colleges, 31 Veterinary Colleges and over 80 Agricultural Colleges and Research Institutions affiliated to 25 State Agricultural Universities, one university each of Horticulture and Forestry, Veterinary and Animal Sciences and Veterinary, Fishery and Animal Sciences. Besides these, many general universities also offer Dairy Education as a vocation course at the B.Sc. level. Dairying is also included as a vocational course for ten plus two level education [8]. In view of the increasing demand for middle level floor shop management personnel in the Dairy Industry, a two year National Diploma in

Dairying is also offered by the National Dairy Research Institute, Deemed University, Karnal. In addition, over half a dozen major research Institutes under the Indian Council of Agricultural Research (ICAR), New Delhi, work in the field of Animal Sciences. These institutions provide facilities for certificates, diplomas and degrees, the latter also at Master’s and Doctoral level, in Animal and Dairy Science, with specialization in animal health, production and processing technology [8].

C. Small Dairy Farms: Or it might not be suitable to call them as dairy farms. Majority of dairy animals are kept by small farmers and the number can vary from 1 to 5 animals per farm.

D. Feeding of Animals: The dairy farming in India is a supplementary business to agriculture. Means the dairy animals are raised on the residue (leftover) of agriculture mainly. Very few farmers have separate fodder cultivation fields. Other constraints in feeding are:

- a. No awareness about balanced feeding of cattle, i.e. knowledge of how much of what should be fed to animals.
- b. Water only given in limited amount/ times.
- c. Supplements feeding are very minimal or absent.

E. Health Issues: In animal health there are following challenges like:

- a. Availability of qualified veterinarians in rural areas.
- b. Frequent disease incidence like FMD which has negative impact on dairy production. It also affects many animals in village.
- c. Absence of preventive health care measures like vaccination and deworming.

F. Management of animals: In management there are challenges like:

- a. Hygienic animal shed.
- b. Teat washing and dip before milking^[9]

Conclusion: This research paper in study and observed current trade of livestock production in India and Production status at Parag dairy, Varanasi. The study based on year 2014-15, India is a largest country in Animal population and milk production. The total milk production in India 2012-13 in 132.4Mt. and per capita availability 300gm/day. That is highest last 6 years from 2006-07 to 2012-13 and total milk production increased by 3.51 percent with per capita availability of milk increased by 3.44 percent over the preceding year. India in highest milk production state Uttar Pradesh 23409MT year 2012-13 and per capita availability of milk highest state Punjab 930gm/day. In 2006-07, total egg production of India was 50663 million nos. and in 2012-13 it was 66540 million nos; an increase by 31.33 percent in seven years. Per capita availability of egg increased by 33.33 percent from 2006-07 to 2012-13. In 2005-06 total wool production in India was 44.9 (million kg) which increased to 45.3 (million kg) in 2012-13 by 0.89 percent and 2005-06 total meat production of India was 2.3 (million Tonnes) which increased to 5.5 MT., by 139.13 percent. Parag dairy ram nagar varanasi a vital role play in varanasi and nearby areas. The total production one year Paneer 21960 kg, and average monthly 1830kg. That are selling amount one year RS.5445000 and profit by Paneer monthly average RS. 74415. The monthly average curd production was estimated 6473kg, with average production cost of RS. 404977. The monthly selling price was RS. 500055 with monthly average profit RS. 84110. butter milk recorded in the months of March, April, May, June, July in average 9200kg and monthly average production was estimated 8507kg while the average cost production was estimated RS. 222095. The average selling price of one month was RS. 282835 with monthly

average profit of RS. 60740. The highest production of lassi was in the months of May, June, July and August. This was to the tune average 4558kg. The monthly average cost of production was estimated RS. 186489., while the average monthly selling price was RS. 206950, with profit RS. 20565. The sweet (peda) monthly average production was estimated 1449kg and monthly average cost of production was estimated RS. 258540. The monthly average selling price estimated RS. 364916 while profit was RS.106384.

The any problems face an entrepreneur and business men in live stock and dairy industry; small dairy farm, feeding of animals, health issues, management of animals. Livestock are an integral component of farming system in Indian Agriculture. It contributes manifold to the growth and development Agriculture sector; important food and nutritional security generate income and employment.

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