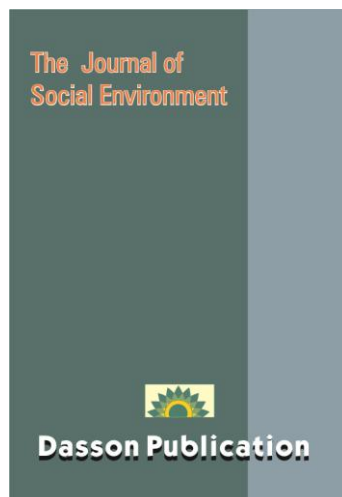


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Spatio temporal changes in the numbers of cows and its milk and manure production in Latur district**¹Shaikh M. D. ²Dr.Suryawanshi M. V.**Department of Geography,
Dr. Babasaheb Ambedkar Marathwada University,
Aurangabad: 431004 India*Corresponding Author Email: mohamadgeo786@gmail.com**Abstract:**

Man is dependent on animals and it depends on plants and animals from historical periods. From last 12000 to 15000 years ago man doing the livestock or animal husbandry occupation. Nearly 3 to 4% GDP is gets from animal husbandry occupation. Peoples of India, Maharashtra and Latur district are doing this animal husbandry occupation for milk, meat, manure. Cows are considered holy by Hindus in India. They were beloved animal of Lord Krishna and they work as a symbol of abundance, wealth, and strength. They deliberate Cow as adobe of 33 crore Hindu Gods Cow is measured as holy in Hindu religion. Present study generally depends on the secondary data. Collected through District statistical Department, Censes handbook of Osmanabad District Livestock censes 1997,2003,2007,2012. Mean objective of this research paper is Spatio temporal changes in the numbers of Cows and its milk and Manure production in Latur district. .

Keywords: Cows, livestock, milk production, manure production.**Introduction:**

Man gets food from plants and animals from ancient period. Man is dependent on animals and it depends on plants and animals from historical periods. From last 12000 to 15000 years ago man doing the livestock or animal husbandry occupation. Nearly 3 to 4% GDP is gets from animal husbandry occupation. Peoples of India, Maharashtra and Latur district are doing this animal husbandry occupation for milk, meat, manure, wool, leather products. The agrarian economy of India greatly depends on contribution from livestock sector. Besides providing drought and traction power for agriculture and rural transport it provides raw materials in the form of wool, hair, hides, skins etc. for the manufacturing sector. Even more importantly, it is a source of quality nutrient in the form of milk and milk products, meat and manure and eggs. Several important development have taken place since 1962 in different branches of animal sciences. Intensive crossbreeding programmers in cattle have led to the evolution of high yielding milk animals. Buffalo improvement work has also received greater attention. New sheep breeds with quality wool have been produced. Great strides have been made in poultry research and development programmers. New aquaculture techniques have opened up revolutionary possibility in inland and coastal aquaculture. There is practically no field of animal sciences in which research has not made significant progress, In Latur district there are two veterinary colleges and sixty veterinary (small) hospitals. There are some important varieties of cows like Deoni cow, Lalkandhari cow etc.

In Latur district the animal husbandry occupation is subsidiary occupation and it's very helpful to agriculture of Latur districts.

Objective:

- Spatio temporal changes in the numbers of Cows and its milk and Manure production in Latur district.

Database and Methodology:

Present study generally depends on the secondary data. Collected through District statistical Department, Censes handbook of Latur District, Livestock censes, Animal husbandry Department of Latur district and socio-economic abstract of Latur District. The collected data are analysed by cartographic and statistical techniques. The actual growth rate of specific decade is found by distributing the difference between the Distribution of Cows, Milk production, Manure Production from Cows in Latur District of Three decades.

Study Area:

Latur district is located in the South-East part of the Maharashtra state and it lies between 17° 52' North to 18° 50' North Latitudes and 76° 12' East to 77° 18' East Longitudes. It is bounded by North Beed and Parbhani districts and North-East Nanded district, on the South-East and South to the Karnataka slate and on the North-West, West and South bounded by Osmanabad district. For the administrative purpose Latur district divided into two revenue divisions Latur and Udgir. In the Latur district 10 tehsils like then Latur, Ausa, Udgir, Renapur, Chakur, Ahmadpur, Devani, Nilanga, Shirur Anantpal and Jalkot. Devani, Shirur Anantpal and Jalkot these three tehsils are newly created. Total geographical area of Latur district is 7157 sq. km. Out of Total geographical area of Maharashtra it covers 2.39 per cent. Latur district is newly formed district and it is separated in 1982 from Osmanabad district.

Distribution of Cows in Latur District:

Cows are considered holy by Hindus in India. They were beloved animal of Lord Krishna and they work as a symbol of abundance, wealth, and strength. They deliberate Cow as adobe of 33 crore Hindu Gods Cow is measured as holy in Hindu religion. Cow is treated as the main and greatest animal and is given the greatest significance, existence at the apex in the Animal world.

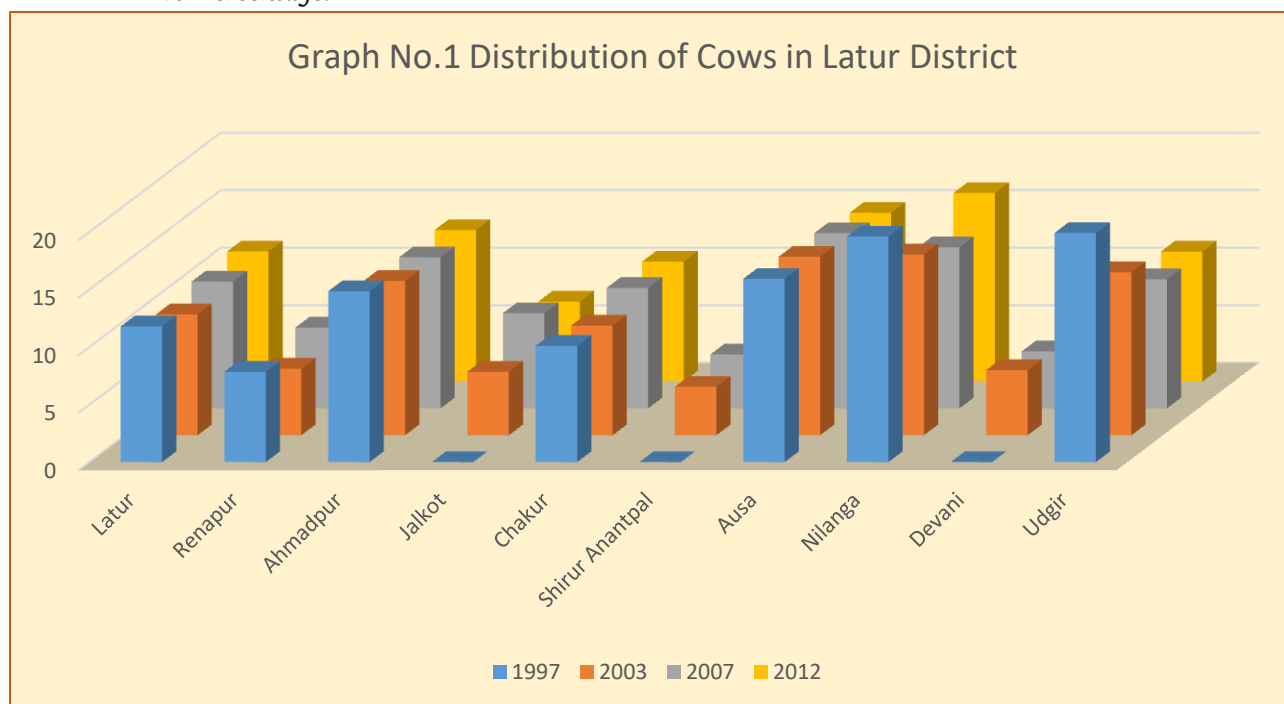
Table No: 1 Distribution of Cows in Latur District

Tehsils	1997		2003		2007		2012		Changes	
	No	%	No	%	No	%	No	%	No	%
Latur	12461	11.79	10338	10.51	10417	11.02	11117	11.30	-1344	-10.79
Renapur	8297	7.85	5686	5.78	6639	7.02	6450	6.56	-1847	-22.26
Ahmadpur	15690	14.84	13191	13.41	12416	13.13	12942	13.16	-2748	-17.51
Jalkot	0	0.00	5422	5.51	7814	8.27	6836	6.95	6836	100
Chakur	10682	10.10	9362	9.52	9903	10.47	10247	10.42	-435	-4.07
Shirur Anantpal	0	0.00	4144	4.21	4432	4.69	4060	4.13	4060	100
Ausa	16828	15.92	15253	15.51	14390	15.22	14420	14.66	-2408	-14.31
Nilanga	20716	19.60	15451	15.71	13236	14.00	16112	16.38	-4604	-22.22
Devani	0	0.00	5565	5.66	4684	4.95	5078	5.16	5078	100
Udgir	21044	19.91	13924	14.16	10609	11.22	11105	11.29	-9939	-47.23
District	105718	100.00	98336	100.00	94540	100.00	98367	100.00	-7351	-6.95

Source: 1. Socio-Economic Review and District Statistical Abstract. Latur District. 2001, 2005, 2010, 2015.

2. Livestock censes 1997,2003,2007,2012.

Note: No. = Number of Livestock.
 %=Percentage.



Cows in the district are shown In the Table-1 indicate. In the year1997, there were 105718 (100%) Cows in the district and in the 1997 the highest number of Cows were recorded 21044 (19.91%) in the Udgir tehsil and lowest Cows 8297 (7.85%) in the Renapur tehsil.

In the year 2003, there were 98336 (100%) Cows in the district and in the 2003 the highest number of Cows were recorded 15451 (15.71%)in the Nilanga tehsil and lowest Cows 4144 (4.21%) in the Shirur Anantpal tehsil

In the year 2007, there were 94540 (100%) Cows in the district and in the 2007 the highest number of Cows were recorded 14390 (15.22%)in the AUSA tehsil and lowest Cows 4432 (4.69%) in the Shirur Anantpal tehsil.

In the year 2012, there were 98367 (100%) Cows in the district and in the 2012 the highest number of Cows were recorded 16112 (16.38%)in the Nilanga tehsil and lowest Cows 4060 (4.13%) in the Shirur Anantpal tehsil.

In the year of 1997 to 2012, there were decrease 7351 (6.95%) Cows in the district and in the 1997 to 2012 the highest number of Cows were decrease 9939 (47.23%)in the Udgir tehsil and lowest decreaseCows 435 (4.07%) in the Chakur tehsil.

Milk production from cows in Latur district:

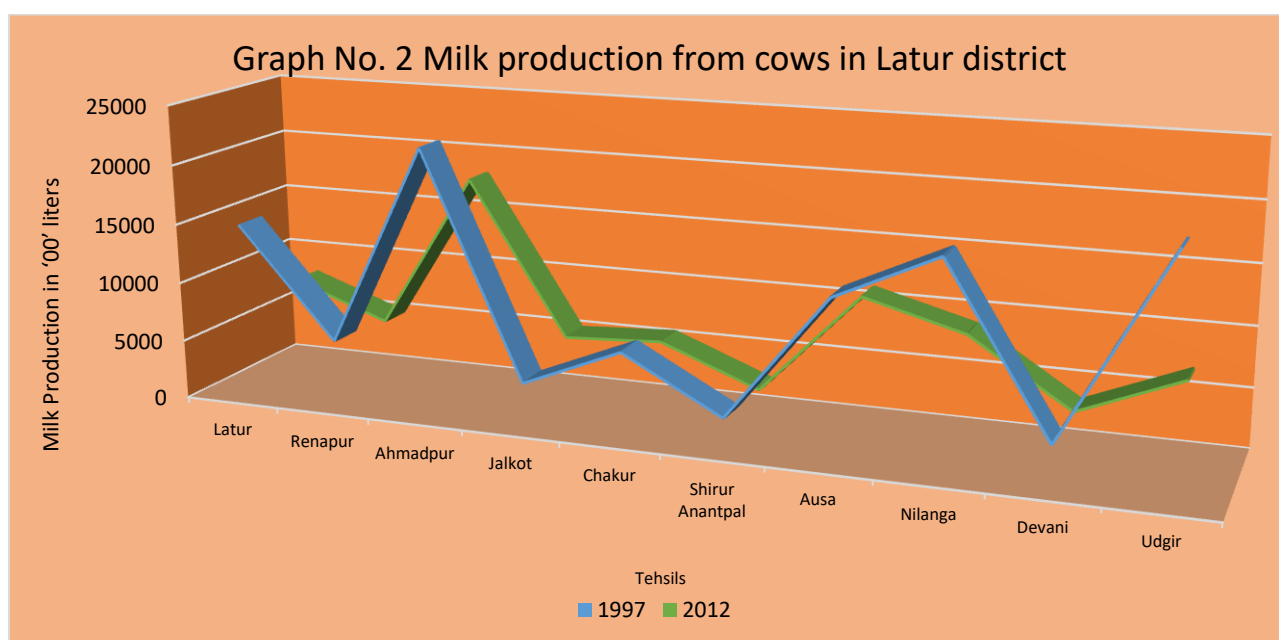
Milk is very significant for health entire the world. Indians cannot live without cow milk. It is a devoted part of our daily diet. From the life a daily dose of better health to being that perfect element for various sweet and savoury delicacies cow’s milk can taste as well as health. Known for its incalculable health benefits and cow’s milk is perfect replacement for a whole balanced meal.

Table No. 2 Milk production from cows in Latur district (Production in ‘oo’ liters)

Tehsils	1997	Percentage	2012	Percentage	Vol. of Ch. In %
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Latur	14764	13.55	7935	10.64	-6829	-46.25
Renapur	5531	5.08	5020	6.73	-511	-9.24
Ahmadpur	22383	20.54	18133	24.32	-4250	-18.99
Jalkot	3662	3.36	5209	6.99	1547	42.24
Chakur	7121	6.54	5667	7.6	-1454	-20.42
Shirur Anantpal	2637	2.42	2420	3.25	-217	-8.23
Ausa	13156	12.07	11087	14.87	-2069	-15.73
Nilanga	17077	15.67	8824	11.83	-8253	-48.33
Devani	3445	3.16	3400	4.56	-45	-1.31
Udgir	19184	17.61	6871	9.21	-12313	-64.18
District	108960	100	74566	100	-34394	-31.57

Source: 1. Socio-Economic Review and District Statistical Abstract. Latur District. 2001, 2005, 2010, 2015.
2. Livestock censuses 1997,2012.



The base year (1997) and the last year (2012) milk production shows in 2 tables for Latur District. The total cow’s milk production was 10896000 (100%) liters in 1997 and highest cow’s milk production in 1997 was 2238300 (20.54%) liters in Ahmadpur tehsil and in 1997 lowest cow’s milk production was 263700 (2.42%) liters in Shirur Anantpal tehsil.

The total cow’s milk production was 7456600 (100%) liters in 2012 and in 2012 highest cow’s milk production was 1813300 (24.32%) liters in Ahmadpur tehsil and in 2012 lowest cow’s milk production was 242000 (3.25%) liters in Shirur Anantpal tehsil.

In the year of 1997 to 2012, there were decrease 3439400 (31.57%) liters total cow’s milk production in the district and in the 1997 to 2012 the highest number of total cow’s milk production were decrease 825300 (48.33%) liters in the Nilanga tehsil and lowest decrease total cow’s milk production Devani 4500 (1.31%) tehsil.

Manure Production from Cows in Latur District:

Manure is very useful to increase the production of different crops, for biogas, any for many other domestic purposes. The manure gets from different animals and farmers use it to increase the productivity of soil so many farmers of manures as compost in the field. There are so many useful

organic matters in animal manure gets from the different animals. One healthy and young cattle waste manure produced nearly 24 kgs, buffaloes produced nearly 32 kgs, sheep and goats produced 1.25 kgs each and oxen produced nearly 22 kgs waste manure per day. (C.S.Prasad, 2014). Method of manure handling mainly depends on type of livestock housing system.

The base year (1997) and the last year (2012) Manure production shows in 3 tables for Latur District. The total Manure production from Cows was 359570200(100%) Kg. in 1997 and highest Manure production from Cows in 1997 was 738628 (20.54%) Kg. in Ahmadpur tehsil and in 1997 lowest Manure production from Cows was 8701000 (2.42%) Kg. in Shirur Anantpal tehsil.

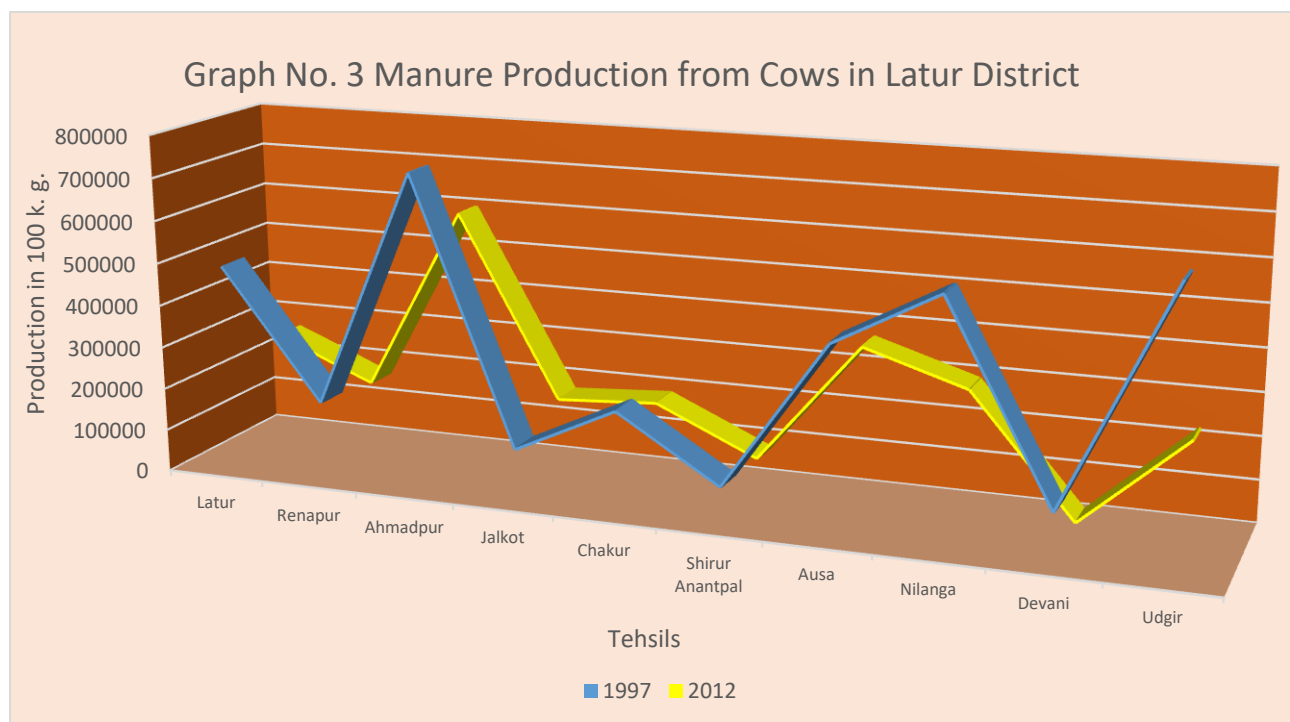
The total Manure production from Cows was 235967800 (100%) Kg. in 2012 and highest Manure production from Cows in 2012 was 598400 (25.36%) Kg. in Ahmadpur tehsil and in 2012 lowest Manure production from Cows was 1120000 (0.47%) Kg. in Devani tehsil.

Table No. 3 Manure Production from Cows in Latur District (Production in 100 Kg.)

Tehsils	1997	Percentage	2012	Percentage	Vol. of Ch. In %	
Latur	487212	13.55	261866	11.10	-225346	-46.25
Renapur	182534	5.08	165660	7.02	-16874	-9.24
Ahmadpur	738628	20.54	598400	25.36	-140228	-18.98
Jalkot	120846	3.36	171908	7.29	51062	42.25
Chakur	235004	6.54	187000	7.92	-48004	-20.43
Shirur Anantpal	87010	2.42	79860	3.38	-7150	-8.22
Ausa	434148	12.07	365860	15.50	-68288	-15.73
Nilanga	563552	15.67	291192	12.34	-272360	-48.33
Devani	113696	3.16	11200	0.47	-102496	-90.15
Udgir	633072	17.61	226732	9.61	-406340	-64.19
District	3595702	100	2359678	100	-1236024	-34.38

Source: calculated by author from various statistical

techniques.



In the year of 1997 to 2012, (table-3) there were decrease 123602400 (34.38%) total Manure production from Cows in the district and in the 1997 to 2012 the highest number of Manure production from Cows were decrease 10249600 (90.15%) in the Devani tehsil and lowest decrease Manure production from Cows 715000 (8.22%) in the Sirur Anantpal tehsil.

Conclusion:

Animal husbandry occupation is very important occupation in India, Maharashtra and in Latur district also. Agricultural farmers of Latur district are also engaged in this occupation. Farmers take care of animals for milk, Manure production Cow is treated as the main and greatest animal and is given the greatest significance, existence at the apex in the Animal world. In the year of 1997 to 2012, there were decrease 7351 (6.95%) Cows in the district and in the 1997 to 2012 the highest number of Cows were decrease 9939 (47.23%) in the Udgir tehsil and lowest decrease Cows 435 (4.07%) in the Chakur tehsil. In the year of 1997 to 2012, there were decrease 3439400 (31.57%) liters total cow's milk production in the district and in the 1997 to 2012 the highest number of total cow's milk production were decrease 825300 (48.33%) liters in the Nilanga tehsil and lowest decrease total cow's milk production Devani 4500 (1.31%) tehsil. In the year of 1997 to 2012, (table-3) there were decrease 123602400 (34.38%) total Manure production from Cows in the district and in the 1997 to 2012 the highest number of Manure production from Cows were decrease 10249600 (90.15%) in the Devani tehsil and lowest decrease Manure production from Cows 715000 (8.22%) in the Sirur Anantpal tehsil. It is very dangerous that the number of cows is decreasing year by year.

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