

GROWTH AND DEVELOPMENT ANIMAL IN SATARA DISTRICT: A GEOGRAPHICAL ANALYSIS

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Abstract: -

India's economic base is mostly relevant in agriculture sectors and State of Maharashtra is leading and most important Agriculture base of the all over state in India. After independence Maharashtra have many agricultures implemented project has done and agriculture development taken in five-year plan. Dairy is the allied activity in the after independence of India, most allied work as Poultry, Fishing, Mining, Forestry and Dairy also. In the Maharashtra state, Satara district is one of the most important district of agriculture and allied activity. livestock is the leading property of the district. Livestock is an important source of protein for provide farm families through the consumption of milk, dairy products, eggs and meat (S.S.Kaware). Current research paper is based on the secondary data. For the studying period is 2003 to2017-18 for cattle animal. In the year 2003 the total cattle are 360980 and buffaloare 368591. Current year of cattle and buffalo total number are 341084,312644 respectively. The recent research paper we studied the geographical analysis of growth and development of animal.

Key Words: Development, Growth, Implement.

Introduction:

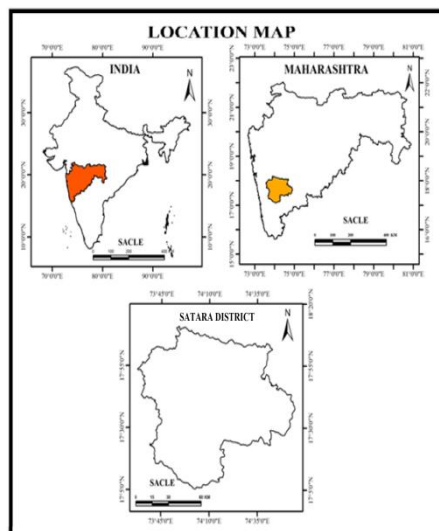
The Maharashtra state is a part of the Deccan Plateau region and it is rich in properties of Soil, mineral, water. There has been occurring in the geographical and historical background. The district has a various river flowing such asKrishana, Bhima river basin, and their tributaries and these sources useful for irrigation. Satara district is the most important region for agriculture and subsidiary activity such as Poultry, Dairy, and Dairy Products. Food products, cash crops, and other crops are grown in agriculture sectors. The Satara district has one of the important regions of western Maharashtra. Geographically Satara district occurring the relief feature such as hilly area, Plateau, and Plain region. Normally, the Plain region is suitable for the agriculture and subsidiary activity as compare to the hilly and Plateau region. In the plain region, dairy activity is the leading subsidiary business in the Satara district. In recent situations livestock of the Satara district has a growing total number of animals. They have a play vital role in the economy of the satara district as well as the

Maharashtra state. In the Satara district has increased the dairy subsidiary occupation as an economic purpose. Such as milk and processed milk products.

2. Study Region:

Satara district has the most important region of the western Maharashtra and Deccan plateau region. Administratively they have included in Pune division. In the Pune, division has subdivided in Satara, Sangli, Solapur, Kolhapur, and Pune district. The Satara district has Latitudinal extend as 17° 5' North to 18° 11' North and 73°33' East to 74° 54' East Longitude. It occupied a 10484 sq.km geographical region. It has situated the western Maharashtra or Sahyadri range. The district lies between the western side of Raigad district, Northern side in Pune District, Solapur district in the east side, and Ratnagiri in the south also. The administrative district has divided 11 tehsils, namely Satara, Koregaon, Karad, Khatav, Phaltan, Patan, Jaoli, Wai, Khandala, Man, and Mahabaleshwar.

Fig. 1 Location map of satara District



3. Objective:

The main objective is the growth and development of animals with the reference the growth analysis in the study region.

4. Data Source and Methodology:

The present research paper is based on the secondary data form. The study period is the 2003 to the 2017 year. The researcher has used the tehsil wise data of Cattle and Buffalo animals in the Satara district. The data occurring the Socio-Economic Review of each census year, and District Deputy Commissioner Animal Husbandry Satara.

For the analysis, the data used percentage method for showing the tehsil wise distribution and growth of animals in Satara district. The researcher used the following formula for percentage, Growth, and Density values.

$\text{Percentage} = \frac{\text{No. of Animal in Selected tehsils}}{\text{Total No. of Animal in the Entire Study region}} \times 100$
$\text{Growth Rate} = \frac{(\text{Current Year No. of Animal} - \text{Base Year No. of Animal})}{\text{Base Year No. of Milch Animal}} \times 100$
$\text{Density} = \frac{\text{Animal population in selected tehsil}}{\text{Total Geographical Area in selected tehsil}} \times 100$

5. RESULT AND DISCUSSION

5.1 Distribution of Animal in Satara District:

Animal Distribution shows that the pattern of where animals live. In the selected research paper, we studied the animal from Cattle and Buffalo. It has been shown the variation in animals in region to region. The Satara district has current livestock is 1180514 out of 341084 from Cattle and 312644 from Buffalo. Researcher, we study selected the period from 2003 to 2017. The following categories are developed for analyzing data Low (Less than 5.00), Moderate (5.01 - 10.00), High (10.01 and above).

1. Cattle Distribution in the Satara District:

The Satara district has a historical background of dairy husbandry. Here the analysis result depicted as the percentage of Cattle distribution in period 2003 to 2017.

In the year, 2003 a high Percentage of cattle in the satara district has depicted as Phaltan Karad, Khatav, and Man tehsil. Moderate Percentage of cattle in Patan, Satara, Koregaon, Wai, Jaoli, and Khandala tehsil and low Percentage of Cattle in satara district has only Mahabaleshwar.

Table No.1 Distribution in Animal in Satara District 2003-2017

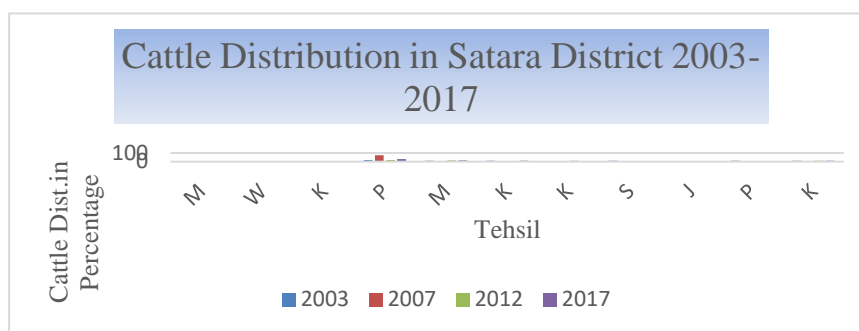
Tehsil	Cattle Distribution in Percentage				Buffalo Distribution in Percentage			
	2003	2007	2012	2017	2003	2007	2012	2017
Mahabaleshwar	1.52	0.9	2.75	1.92	0.72	1.47	1.17	0.99
Wai	7.71	2.15	6.83	5.64	4.82	5.05	20.41	4.87
Khandala	5.22	1.71	5.99	6.74	1.67	2.07	2.3	2.34
Phaltan	19.34	74.61	18.02	28.92	5.02	5.02	5.65	5.37
Man	10.19	3.93	14.05	13.82	5.4	8.58	10.25	10.52
Khatav	10.83	7.78	9.5	10.37	14.32	13.52	12.27	17.78

Koregaon	8.8	3.02	10.23	7.57	6.93	8.7	8.45	8.19
Satara	9.55	2.72	8.17	6.27	11.01	43.87	11.2	10.3
Jaoli	5.75	1.24	3.75	2.66	4.94	13.78	3.28	2.63
Patan	9.81	2.75	8.83	6.47	17.47	15.71	15.55	16.37
Karad	11.29	3.18	11.87	9.61	27.66	25.31	24.78	20.63
Total	100	100	100	100	100	100	100	100

Source: - Compiled by Researcher based on Socio Economic Abstract of Satara District, 2003-2017.

In the year, 2007 a high Percentage of cattle in the Satara district has depicted as only Phaltan Tehsil. Remaining tehsil depicted as a low percent of the cattle in the Satara district. for the year, 2012 a high percentage of cattle in the Satara district has Phaltan, Man, Karad, and Koregaon tehsil. Moderate percent of Patan, Wai, and Khandala tehsil and remaining tehsil shows the low percent of cattle in the Satara district. In the year, 2017 Phaltan, Man, and Khatav tehsil shows the high percentage of cattle. Moderate percent Karad, Koregaon, Khandala, Patan, Satara, and Wai tehsil. Low percent of cattle in this year shows the Mahabaleshwar and Jaoli tehsil

Fig. No. 2
wise
Cattle in
district 2003-2017



Tehsil
Percent of
Satara

In the year 2003 to 2017 period the depicted the high percentage of cattle in the Satara district is Phaltan tehsil and Man, Khatav tehsil also.

2. Buffalo Distribution in the Satara District:

The selected study period shows the buffalo distribution in Satara district has drastically changed as compared to cattle distribution tehsil. In the year, 2003 the Karad tehsil shows the high percentage of buffalo distribution remaining tehsil as Patan, Khatav, and Satara. The moderate percent of Koregaon, Phaltan, Man, Jaoli and Wai tehsil. The low percent of buffalo is showing Mahabaleshwar and Khandala tehsil. In the year, 2007 the Satara tehsil has leading tehsil of buffalo percent in Satara district remaining tehsil as Karad, Patan, Jaoli, and Khatav depicted the high percent of buffalo. The moderate percent is Koregaon, Man, Phaltan, and Wai tehsil. Remaining tehsil in the Satara district shows the low percent of buffalo in the Satara district. In the year, 2012 high percent of buffalo is

Karad, Wai, Patan, Khatav, Satara, and Man tehsil. Moderate percent showing tehsil as Koregaon and Phaltan and low percent of Mahabaleshwar, Khandala, and Jaoli tehsil.

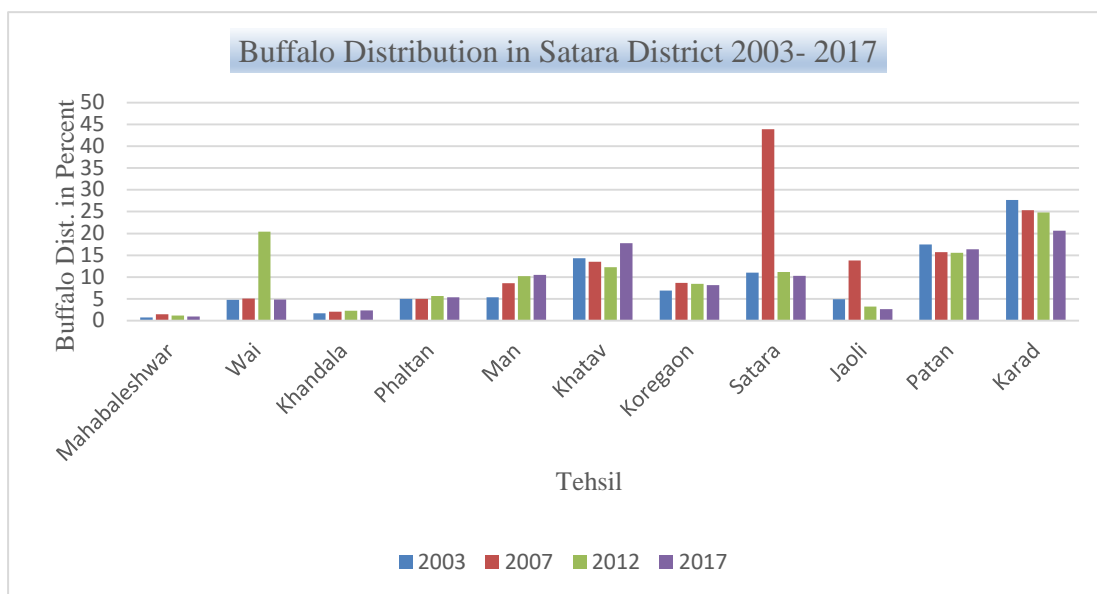


Fig. No. 3 Tehsil wise Percent of Buffalo in Satara district 2003-2017

In the year, 2017 the distribution of buffalo in the satara district shows the high percentage of Karad, Kathav, Patan, Man, and Satara tehsil. Moderate percent of Koregaon tehsil and low percent is depicted in Mahabaleshwar, Khandala, and Jaoli tehsil. For the study period, 2003-2017 high percent of buffalo distribution in the satara district depicted Karad tehsil has leading tehsil of all over tehsil. only Satara tehsil has shown in the year 2007 leading tehsil of buffalo distribution in Satara district.

5.2 Growth of Animal in SataraDistrict (2003-2017)

Growth is a process of increasing/decreasing in the size or any content are going to a positive or negative way within a specific period time. They are considering the positive or negative relation in the asset area. For this research paper, we calculating the growth of animals in the Satara district for analysis of the concrete condition. We classified the four classes for showing the growth of animal especially Cattle and Buffalos. Classes are negative growth (-0.00), less than (10.00), Moderate (10.01 to 20.00) and High growth (20.01 and above).

1. Growth of Cattle in Satara District 2003-2017

The growth rate of cattle in Satara district analysis in the year 2003-2017. The high growth is depicted in the year 2003-07 in Phaltan, Man, and M'shwar tehsil. In this year moderate growth is shown as the Khatav and Koregaon tehsil and remaining tehsil like Khandala shows the low growth rate of cattle in the Satara district. The negative growth rate is depicted by Satara, Jaoli, Patan, Karad, and Wai tehsil. Total growth in the Satara district is shown as 221.08. In the year 2007-12 highest growth rate depicted only Karad Tehsil, moderate growth is shown in Man, Khandala, and Koregaon tehsil. Remaining tehsil of the district shown the low growth rate of cattle. The negative growth rate is depicted the M'Shwar, Phaltan, Khatav, Satara, and Jaoli tehsil. The total growth of the district has shown -67.45. In the year 2012-17, high growth rate is depicted the Phaltan tehsil. The low growth rate is recorded the Khandala tehsil remaining tehsil Man, Khatav, Koregaon, Satara, Jaoli, Patan, Karad, M'Shwar, and Wai recorded the Negative growth rate of cattle in Satara district and total growth is shown the -9.59

Table No.2 Growth of Dairy Animal in Satara District: 2003-2017

Tehsil	Growth of Cattle in Satara District				Growth of Buffalo in Satara District			
	2003-07	2007-2012	2012-17	2003-2017	2003-07	2007-2012	2012-17	2003-2017
Mahabaleshwar	89.81	-0.34	-37.09	19.01	91.87	-19.61	-25.13	15.48
Wai	-10.39	3.33	-25.34	-30.87	-1.25	1.67	-14.77	-14.43
Khandala	5.09	13.98	1.72	21.83	16.78	12.77	-9.59	19.06
Phaltan	1138.79	-92.14	45.06	41.32	-5.82	14.37	-15.87	-9.38
Man	23.89	16.33	-11.05	28.19	49.49	21.46	-9.01	65.21
Khatav	12.1	-18.2	-1.31	-9.5	-11.08	-7.74	28.31	5.26
Koregaon	10.31	10.23	-33.1	-18.65	18.31	-1.31	-14.19	0.19
Satara	-8.66	-2.09	-30.54	-37.88	-5.48	3.08	-18.57	-20.66

Jaoli	-30.52	-1.78	-35.91	-56.27	-33.82	-3.77	-29.1	-54.84
Patan	-9.82	4.32	-33.74	-37.67	-15.3	0.6	-6.72	-20.52
Karad	-9.62	21.52	-26.78	-19.58	-13.79	-0.5	-26.25	-36.74
Total	221.08	-67.45	-9.59	-5.51	-5.51	1.64	-11.39	-15.18

Source: - Compiled by Researcher based on Socio Economic Abstract of Satara District, 2003-2017.

In the year 2003-17, high growth rate of cattle is recorded the Phaltan and Khandala tehsil. The moderate growth rate is Man, and Khandala tehsil. In this year's negative growth rate recorded Wai, Khatav, Koregaon, Satara, Jaoli, Patan, and Karad tehsil, and total growth of the district is shown the -5.51.

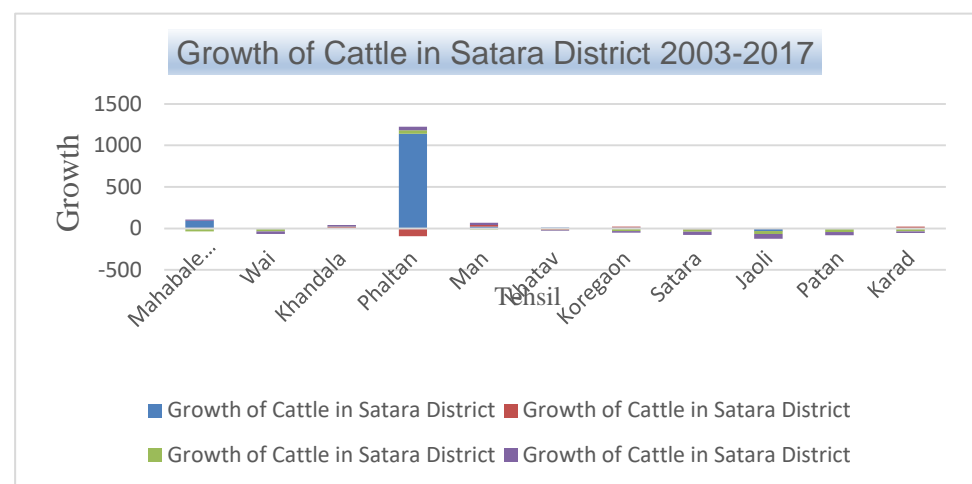


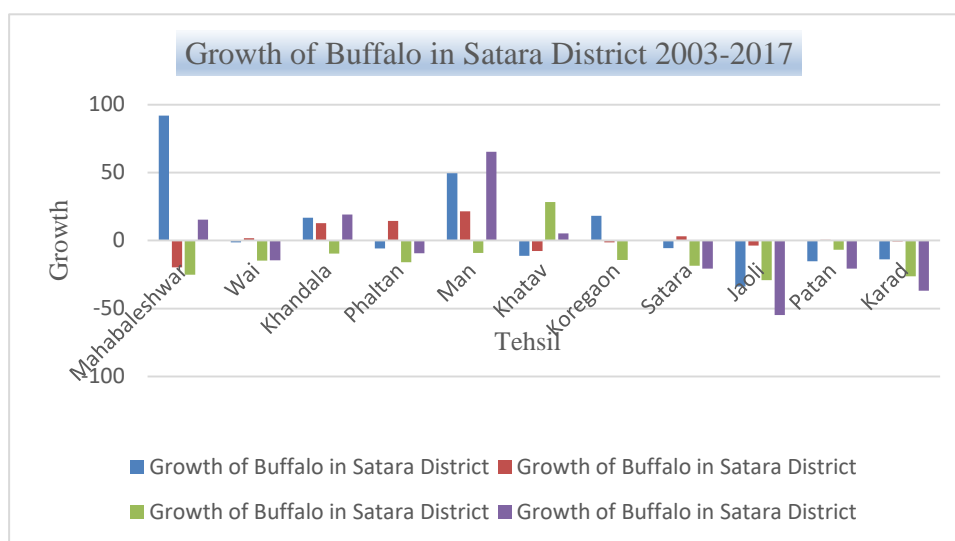
Fig No. 4
Tehsil wise
growth of

Satara district: 2003-2017

2. Growth of Buffalo in Satara District 2003-2017

In this study region, the high growth rate of buffalo is depicted in the year 2003-07 M'Shwar, and Man tehsil, and the year 2007-12 and 2012-17, depicted the highest growth of buffalo in Man tehsil. In the year 2003-07, a moderate growth rate is shown the Koregaon, and Khandala tehsil. Remaining tehsil Wai, Phaltan, Khatav, Satara, Jaoli, Patan, Karad depicted the negative growth of buffalo in the district. The total growth rate of buffalo in the district is shown -5.82. In the year 2007-12, Phaltan, and Khandala tehsil depicted the moderate growth rate. The low growth rate of buffalo is shown in the Wai, Satara, and Patan tehsil, the negative growth rate depicted the M'Shwar, Khatav, Koregaon, Jaoli, and Karad tehsil. In this year the total growth rate of Buffalo in the Satara District is 1.64. In the year 2012-17, a high growth rate depicted the only Man tehsil, and the remaining tehsil of Satara district shown the negative growth rate of buffalo in the district. The district total of buffalo is shown the -11.39.

In the year 2003-2017, high growth rate of buffalo has depicted the Man tehsil and moderate growth rate is Khandala and M'Shwar tehsil. The low growth rate is shown in the Khatav and Koregaon tehsil and the negative growth rate is depicted in the Wai, Phaltan, Satara, Jaoli, Patan, and Karad tehsil. In the year 2003-2017, high growth rate of buffalo has depicted the Man tehsil and moderate growth rate is Khandala and M'Shwar tehsil. The low growth rate is shown in the Khatav, and Koregaon tehsil and the negative growth rate is depicted in the Wai, Phaltan, Satara, Jaoli, Patan, and Karad tehsil. The total growth rate of buffalo in the satara district is shown the -15.18.



5.3 Animal Density

Satara District:2003-2017

Density means the ratio between the Animal and Land in a specific area. For this research paper, we calculating density in Cattle and Buffalo in the Satara district. Density calculating the 100 per square km.

In the year 2003, Satara district average density is recorded 68 per sq.km. high density apparent in Karad, and Phaltantehsil.Average density entered in Wai, Khandala, Khatav, Koregaon, Satara, Patan, and Jaoli tehsil. Low density apparent in Mahabaleshwar, and tehsil. Moderate density entered the Man tehsil. For the year 2007, the average density is increased as compared to previous and next year about 68 and 61 per sq.km and add up 140 per sq.km area. In this year Phaltan and Karad tehsil entered the highest density. The moderate density recorded the Satara, Koregaon, Khatav, and Wai tehsil. Remaining five tehsil entered the low density of the Satara district. In the year 2012, Average density recorded the 68 sq.km. the highest density entered Karad, Satara, and Phaltantehsil. Average density entered Wai, Khandala, Man, Koregaon, and Patan tehsil. Low density entered M'Shwar tehsil and moderate density entered the Jaoli, and Khatav tehsil. For the year 2017, the average density is decreased 61per sq.km.as compared to the year 2007. high density entered the Karad, and Phaltan tehsil. Average density entered in the Khandala, Khatav, Satara tehsil and moderate density entered the Wai, Man, Koregaon, Jaoli, and Patan tehsil. The low density found in M'Shwar tehsil only.

Table No. 3 Animal Density in SataraDistrict: 2003-2017

Sr.No.	Tehsil	Density of Animal			
		2003	2007	2012	2017
1	Mahabaleshwar	16	31	29	19
2	Wai	65	60	62	49
3	Khandala	50	54	62	61
4	Phaltan	72	719	72	94
5	Man	39	52	61	55
6	Khatav	63	63	55	63
7	Koregaon	64	73	76	57
8	Satara	86	80	80	61
9	Jaoli	66	45	44	30
10	Patan	68	59	60	50
11	Karad	129	113	120	88
Total		68	140	68	61

Source: - Compiled by Researcher based on Socio Economic Abstract of Satara District, 2003-2017

6. Conclusion:

Satara district is a part of the western Maharashtra state. In the Satara district some parts divided the drought-prone region. Phaltan, Man, Khatav, Karad region indicate drought features. In this region less availability drinking water, Fodder, and well-developed agriculture system. Dairy animal husbandry is an important income source in this region. This region is an appropriate and auspicious region for dairy animal husbandry. In the other tehsil continuously decreasingly growth of animal husbandry as compared above region. Because of other developmental activity and agriculture development in this part. But the study period animal population is decreased in year by year. We suggest the save animal husbandry and improve the Natural GODHAN

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