



SPATIO-TEMPORAL ANALYSIS OF LIVESTOCK POPULATION IN ROHTAK DISTRICT, HARYANA

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Abstract:

Animal husbandry intrinsic role of agriculture in India since ages and plays a crucial role in the agrarian communities. Haryana influence a very striking position in the country for its livestock wealth. Haryana is birthplace of Murrah buffaloes. Livestock growth rate has decreasing in 2010 to 2017. It is recorded in population of buffaloes is drastically decreasing 45.49% in 2010 to 2017. As per animal husbandry census 2017, there is a drastic change in animal population in Haryana as well as in Rohtak district. Animal data shows a sharp decline in animal population during current decade. Haryana state has recorded declining trends in animal population growth in same time.

Keywords: Livestock, Sustainable Livelihood, Decline animal population.

Introduction:

Human

life is assisted by animals from the initial stage of civilization in many ways from agriculture, transport, food and even security. Haryana as known as “*Deshan me Desh Hariyana, Jit Doodh Dahi ka khana*” is an agriculturally advance state of India. Haryana is well known for its milk yielding capacity in country and famous as “milk bowl state of India” and have tremendous growth in livestock activities sector in addition of agricultural advancement after green revolution in India. Availability of ample quantity and quality of food has geared the livestock activities in the state of Haryana, especially in case of milk provider animals. As per 2012 livestock report , Buffalo contributes highest with 69% followed by Cattle 20.50%, Goat 4.19%, Sheep 4.11% and Pigs 1.44% of the total livestock population. Near about 90% of livestock population is categorized as milk producer livestock in state of Haryana. Haryana state is well known globally for its quality of buffalo breed namely “Murrah” which is also one of the most productive livestock in world. Livestock rearing is an integral component of economic and social fabric of masses and directly linked with the agricultural activities in Haryana, especially in rural areas where farmers used to keep livestock as secondary source of income and for their food requirement. Animal husbandry plays a significant role in livelihood security and economic sustenance of rural people by providing regular employment and household income generation throughout the year and also provides security against the risk in crop failure in agriculture sector. It benefited people in multiple ways as we have discussed above which varies from household income to sustainable livelihood. Land resources and demographic structure make animal husbandry dominant in the agriculture system of the region from historical times.

Research Methodology: The Rohtak district is selected for the present study because of its geographical location. The district is situated in the centre parts of the state. However, its location is more inclined towards the national capital of Delhi. The district has 136 villages as per 2011 census. The secondary sources of information such as census, statistical abstract and other sources were taken into consideration to find out the level and growth of Livestock population in rural areas of Rohtak as well as Haryana. To achieve the objectives i.e. to examine the level and growth of agriculture and livestock in rural area of Rohtak, the agriculture abstract, statistical abstract and other government and non-government publications



has taken into consideration. To evaluate the spatial pattern of livelihood in relation to livestock resources among the different social agrarian communities

Study area:

Rohtak district is situated in the Middle Eastern part of the Haryana state. It lies between 28° 40' 46" North to 29° 6' 08" North Latitude and 76° 12' 40" East to 76° 52' 00" East longitude and situated at a distance of about 70 Km from Delhi. It has a geographical area of 1745.00 km² consisting of 1639.02 km² of rural area and 105.98 km² of Urban area. District is surrounded by Jind district in north, Hisar at north west, bounded by Sonipat district at north east, Jhajjar being in South and Charkhi Dadri district at the south west end, Rohtak gets a compact and oval shape. Under the district come 03 Tehsil, 01 sub- Tehsil, 05 blocks namely, Rohtak, Meham, Sampla, Kalanour and Lakhanmajra and 136 villages. The cultivable area of the district is 1464 km² which is 87 percent of the total area of the district. The total irrigated area of the district is 97900 ha, out of which 66900 ha is irrigated by canals and 31000 ha by tube wells.

The total farming families in the district are 89975.

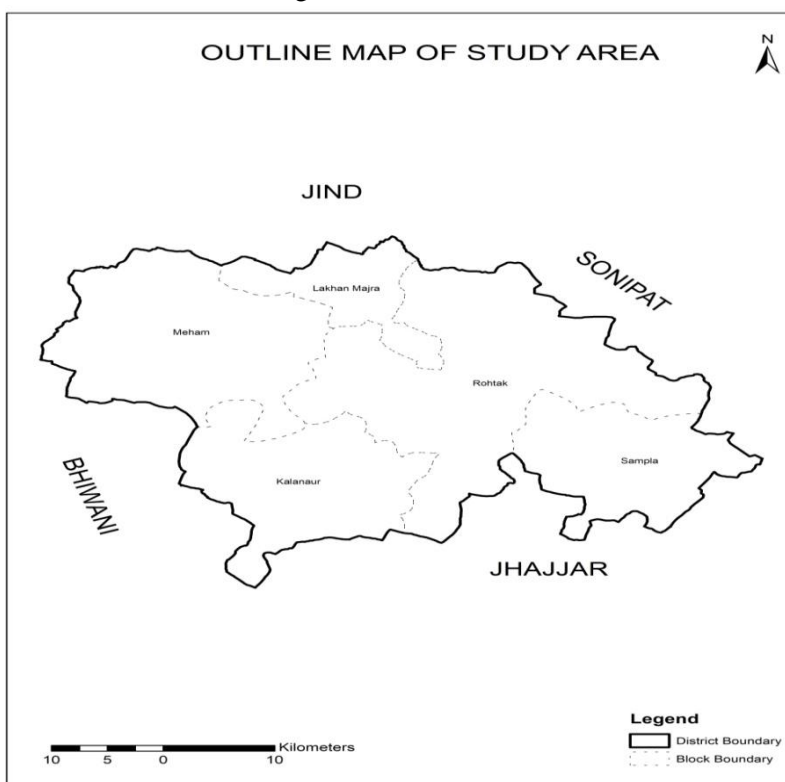


Fig. 1

Result and Discussion:

India is the one of largest livestock population in world. India is blessed with large livestock population by its diverse climatic conditions and has 15, 58, 18, 7 and 5 percent of world's cattle, buffalo, goat, sheep and chicken population respectively. This large livestock population is providing livelihood support to a large segment of Indian population, approximately more than 60 percent of rural population and 8 percent part of national work force is employed by livestock activities as per 11th five-year plan statistics It fulfils the requirement of energy for cooking food in rural low-income groups. It also acts as insurance during crop failure for farmers. In aggregate it seems to supporting a sustainable rural livelihood for rural India.

**Table 1 Livestock in Rohtak District: 2009-2017**

Category	Number of Animals in Haryana 2010	Number of Animals in Rohtak 2010	Number of Animals in Rohtak 2018	Change in Livestock in Rohtak District 2010-17	
				In Numbers	In Percentage
Cattle	15,52,361	54,710	43713	-10997	-20.1005
Buffaloes	59,53,288	2,77,359	151165	-126194	-45.4984
Horses & Ponies	25,834	827	225	-602	-72.7932
Donkeys	4,838	367	78	-289	-78.7466
Mules	10,600	388	122	-266	-68.5567
Sheep's	6,01,379	24,364	9319	-15045	-61.7509
Goats	5,38,320	10,617	5912	-4705	-44.3157
Camels	38,608	108	2	-106	-98.1481
Pigs	1,33,521	9,884	7181	-2703	-27.3472
Poultry Birds	2,87,85,497	4,19,148	20484	-398664	-95.1129
Total Livestock	3,76,44,246	7,97,772	238201	-559571	-70.1417

Source: Dept. of Veterinary Science

Rohtak district has a long history of cattle rearing. During and after the green revolution the extension of canal irrigation and breaking up of grazing areas led to decrease of feed and forage. The area size of the district has been reduced drastically as two new districts, namely, Sonapat and Jhajjar were carved out in last decade of last century. Resultantly, the district's contribution total livestock wealth reduced to 4.3 percent as per Livestock Census 2007, there were 3.9 lakhs of animals and 4.2 lakhs poultry birds in Rohtak district and its smallest five community development block units. There has been a big decrease in all categories of animals except Buffaloes where 62.3 percent increase is recorded in last decade. In the last decade (1997-2007) poultry birds have also increased four times from 1.0 lakhs to 4.2 lakhs in number during this period. All other categories of animals have recorded a drastic and

Table 2 Livestock in Rohtak District: 1999

Category	Number of livestock in Haryana	Number of livestock in Rohtak	Percentage from state
Cattle	2,399,800	73,600	3.1
Buffaloes	5,138,300	170,900	3.3
Horses and Ponies	49,100	2,000	4.1
Donkeys	63,400	3,600	5.7
Mules	34,500	1,400	4.1
Sheep	1,293,300	52,700	4.1
Goats	797,200	30,900	3.9
Camels	96,200	700	0.7
Pigs	675,100	38,100	5.6
Poultry birds	9,222,900	102600	1.1

Source: Dept. of Veterinary Science, 1999-2000



Notable decreasing of more than 50 percent noticed. Cattle populations have experienced a decrease of 25.7 percent and horse and ponies, donkeys, mules, sheep, goats, camels and pigs have recorded big decrease.

Table: .3

Change in Livestock in Rohtak District: 1999-2010

Category	Change in Number of Animals in Haryana	Rohtak Change in Number of Animals in	Change in Percentage
Cattle	N.A	-18890.0	0.4
Buffaloes	N.A	106459.0	1.4
Horses and Ponies	N.A	-1173.0	-0.9
Donkeys	-44262.0	-3233.0	-1.9
Mules	-52800.0	-1012.0	-0.4
Sheep	566879.0	-28336.0	0.0
Goats	-754980.0	-20283.0	-1.9
Camels	-758592.0	-592.0	-0.4
Pigs	37321.0	-28216.0	1.8
Poultry birds	28110397.0	316548.0	0.4
Total Livestock	34635446.0	321272.0	2.1

Source : Cattle Census 2010

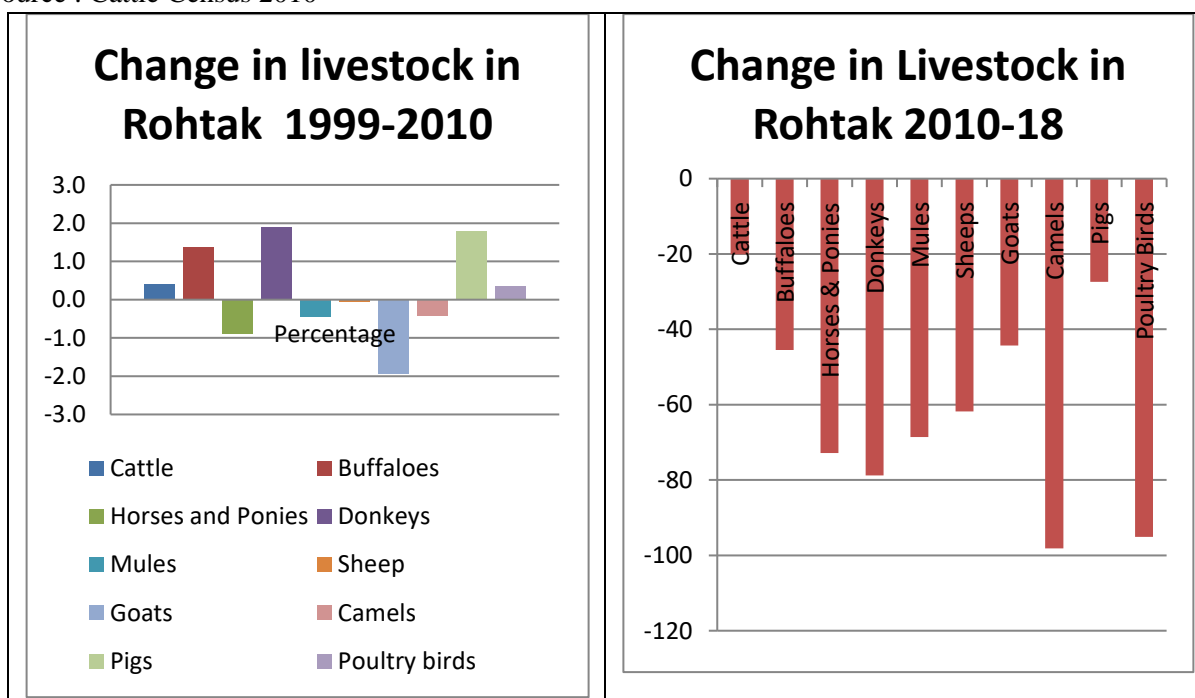


Fig. 2

Where livestock data have been taken for analysis there are two trends emerging out from data. One is that the milk producing animals are increasing in district the number of buffaloes has increased in the district from 1999 to 2010 time period. Buffalo has the 1.4 Percent increase in its population, which is main source of milk in Haryana state. This may be probably due to government's efforts to increase the milk production and economically feasibility of buffaloes for agrarian society. Cattle have slight growth of



0.4 percent over last cattle census. Second trend reveals as increase in poultry and pigs population (0.4 & 1.8 percent respectively) in district, both are used for food purposes and this may be cause behind this. On the other hand horses, Ponies, Mules, Sheep, Goats and camels have negative growth over the period in study area.

As per data of last cattle census records of year 2017 available, there is a drastic change in animal population in Haryana, as well as in Rohtak district. Animal census data shows a sharp decline in animal population share during current decade in comparison of previous decades. Here it is observed that population of animals has declined 70.1 percent in districts which including 20.1 percent decline in cattle, 45.4 percent in buffaloes, 72.8 percent in horses and ponies, 78.8 percent in Donkeys, 68.5 percent in Mules, 61.7 percent in Sheep, 44.3 percent goats, camels have lost its almost existence and recorded only 2 number with 98.1 percent decline. Pigs have declined -27.3 percent and poultry birds have also decline of 95.1 percent decline. Records obtained from latest livestock census of 2017 exhibits sharp decline in animal population growth in Rohtak district. Haryana state have also declining trend in animal population growth in same time period. Declining population of animals should be impact of changing agricultural practices, economic viability of animals or may be due to changing life style of agrarian communities.

Conclusion: All animals considered in study are observed negative population growth ranged from 20 percent in cattle population to 98 percent in Camels population during this period. Declining population of buffaloes in region known for its quality breed and high milk production is an issue of concern for scholars as well as for policy makers and planners. Horses & Ponies have observed decline of 72.8 percent, donkey's 78.8 percent, Mules 68.5, Sheep and goats have decline of 61.8 and 44.3 percent respectively. Camels have recorded only two numbers in total, almost on condition of extinction in district. Pigs have recorded 27.3 percent decline and poultry birds have recorded 95.11 percent decline during the period considered. The growth of livestock animal is declining during 2010-2018 period. The highest decline is observed among camel, poultry birds, donkey, horse and ponies. The lowest decline is observed in low and pigs.

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