

Vulture Status of Gujarat

Of the nine species of vultures recorded in India, seven species i.e. White-rumped Vulture, Long-billed Vulture, Eurasian Griffon, Egyptian Vulture, Red-headed Vulture, Cinereous Vulture and Himalayan Griffon. Of these seven species, four species White-rumped Vulture, Long-billed Vulture, Red-headed Vulture and Egyptian Vulture are regularly sighted in Gujarat. Currently, the vulture Population estimation was done by GEER foundation. A total of 999 vultures of four species were recorded during May, 2016 estimation. Of these, 843 individuals were Gyps vulture (458 White-rumped Vultures and 385 Long-billed Vultures), 24 Red-headed Vultures and 132 Egyptian Vultures. While during the previous state wise estimation in May 2012, a total of 1,037 vulture were recorded which included 938 Gyps vultures (577 White-rumped Vultures & 361 Long-billed Vultures), 8 Red-headed Vultures and 97 Egyptian Vultures.

Of the four species of vultures covered under current population estimation, three species viz. Red-headed Vulture, Egyptian Vulture and Long-billed Vulture, have shown population increase by 300%, 36.1% and 6.65%, respectively as compared with the population estimation 2012.

Among various regions of the State, Saurashtra region support the highest population of the four species of vultures population of the four species of vultures (n=458, i.e., 45.84% of total population) followed by North Gujarat (n=203, i.e., 20.32% of total population). Central Gujarat and South Gujarat support 157 (15.71% of total population) and 109 vultures (10.91% of total population) and 109 vultures (10.91% of total population) respectively, whereas Kachchh region recorded the lowest population of vultures (n=72) during the 2016 estimation. Saurashtra region support the highest population of Gyps vultures (n=430; 67.11% of the total population) population is concerned.

To remove the effect of difference in areas of various regions (e.g., Kachchh-45652 sq km & S. Gujarat-14,676 sq.k.) on region-wise vulture population, region-wise crude density was also determined which is summarized in the table below:

Sr. No.	Region (Area in sq. km.)	Population of vultures		Crude Density (number/sq.km) of four species	Crude Density (number/sq.km) of Gyps species
		No. of Four Species of Vultures	No. of Gyps Vulture		
1	North Gujarat (30,424)	203	118	0.0067	0.0039
2	Central Gujarat (40,027)	157	116	0.0039	0.0029
3	South Gujarat (14,655)	109	109	0.0074	0.0074
4	Saurashtra (65,266)	458	430	0.0070	0.0066
5	Kachchh (45,652)	72	70	0.0016	0.0015
	Gujarat State (1,96,024)	999	843	0.0051	0.0043

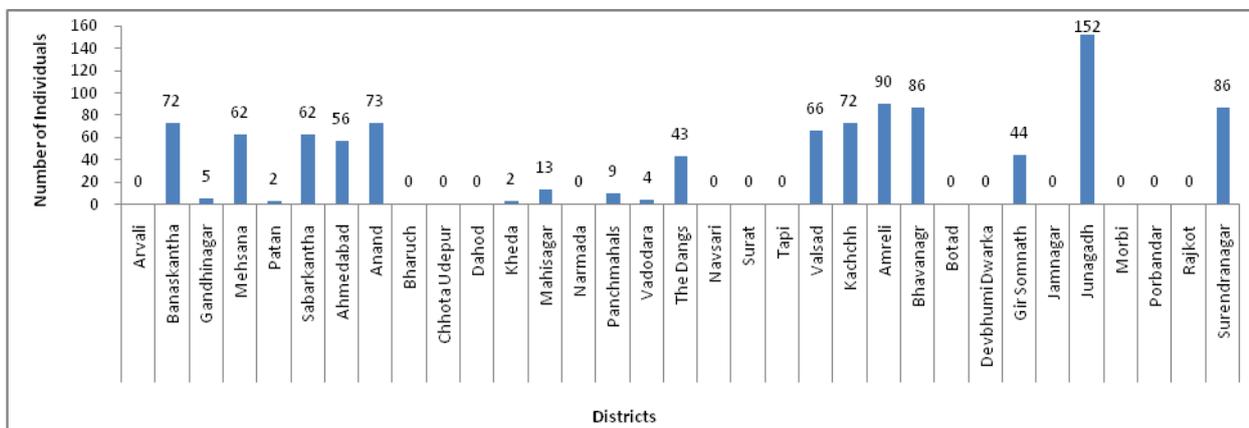
The highest crude density for all the four vultures and *Gyps* vultures is recorded for South Gujarat region, through their population is not the highest in the region. The table also shows that Saurashtra region recorded second highest crude density of four species of vulture

considered collectively (0.0070 individuals/sq.km) as also that of *Gyps* vulture (0.0066 individuals/sq.km).

Red-headed Vulture population is found to be concentrated only in Saurashtra region (18 individuals in Junagadh, 3 in Amreli, 2 in GirSomnath and 1 in Surendranagar districts). Egyptian Vulture population is found to be occurring mainly in Banaskantha district of North Gujarat region (n=32, i.e. 24.24% of total EV population).

Total population decline: Population comparison between 2012 (the year of previous state-wide vulture population estimation) and 2016 (the year of latest/current state-wide vulture population estimation) estimations indicate a population reduction of 3.38% (0.93% annually) in total population of four species of vultures and reduction of 10.12% (0.035 annually) in *Gyps* vulture population. Among all the four vulture species, the steepest decline 920.58% & 5.61% annually) is recorded for White-rumped Vulture. However, the population comparison for decade-long period cannot be made as during 2005, 2007 and 2010 vulture estimations, only *Gyps* vultures were covered. The population decline in total vulture population of the State during the 2012-2016 time-frame was only due to White-rumped vulture population decline (mentioned above). The population has actually increased in case of long-billed Vulture (from 361 individuals in 2012 to 385 individuals in 2016; 6.65% increase), Red – headed Vultures (from 8 individuals to 24 individuals; 300% increase) and Egyptian Vultures (from 97 individuals to 132 individuals; 36% increase).

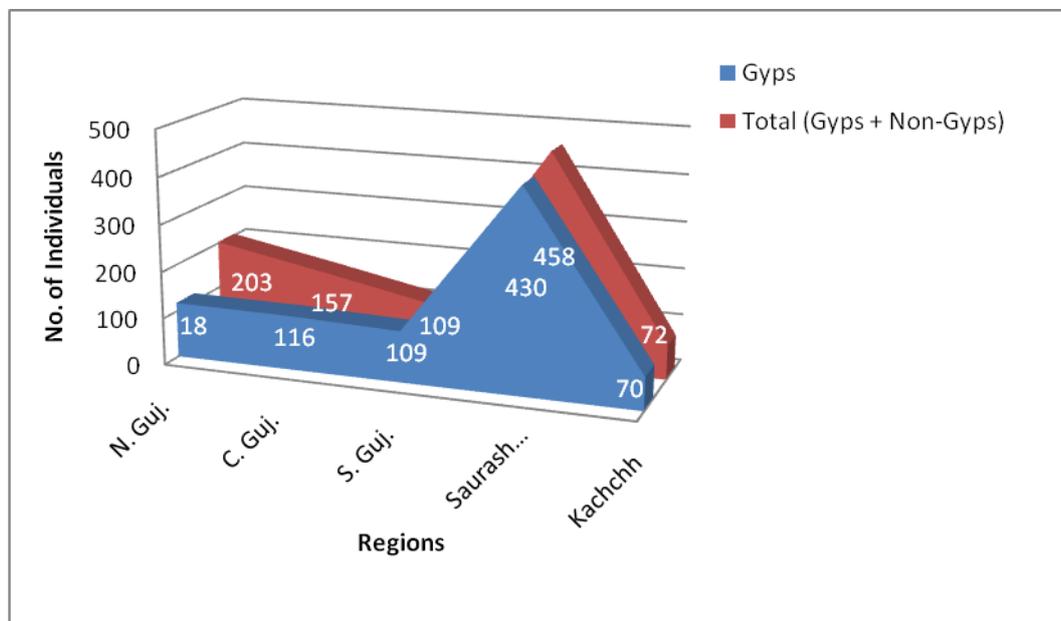
In approximately a decades time-frame, i.e., between 2007 (1,431 *Gyps* vultures) and 2016 (843 *Gyps* vultures), there has been 41.1% decline in *Gyps* vulture population at the rate of 5.65% annually. Between 2012 (i.e., year of previous vulture estimation) and 2016 (i.e., year of the current /latest estimation), *Gyps* vulture population has declined by 10.12% (i.e., from 938 individuals) with annual decline 2.63%. The *Gyps* population decline between 2007 & 2010 estimations and that between 2010 & 2012 estimations has been 25.57% (annually 9.28%) and 11.29% (annually 6.15%) respectively. Thus, it may be concluded that annual rate of population decline for *Gyps* vultures have become slower between 2012-2016 (2.63%) as compared to that between 2007-2010 (9.28%), 2010-2012(6.15%) and 2007-2016(5.65%).



Region wise and district wise population of vultures in Gujarat state-2016

Among all the four species of vultures, the steepest population decline was recorded for White-rumped Vultures between the previous population estimation of 2012 and the latest- one of 2016 and during the long-term (decade long) period of 2007 and 2016.

For approximately a decade-long period of 2007-2016, it is understood for WRV that between 2007 (1,147 WRVs) and 2016 (458 WRVs), WRV population has declined by 60.1% with annual decline rate of 9.615%. In comparison to WRVs, Long -billed Vultures (LBVs) are certainly having better population trend. Thus, for the short-term period between the two latest population estimations, i.e., between 2012 and 2016, the LBV population has increased by 6.65% with an annual increase rate of 1.62%.The population increase for LBV is even more prominent for the long-term time- frame of 2007-2016. Thus, if the comparison is made between Long-billed Vulture population of 2007 estimation (n=217) with that of 2016 population estimation (n=385), it is revealed that there has been increase by 77.2% population with an annual increase rate of 6.51%.

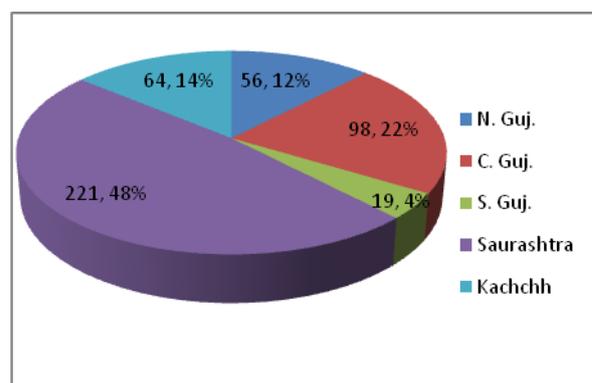


Region-wise population of all the four species of vulture population-2016

White-rumped Vulture (*Gyps bengalensis*):

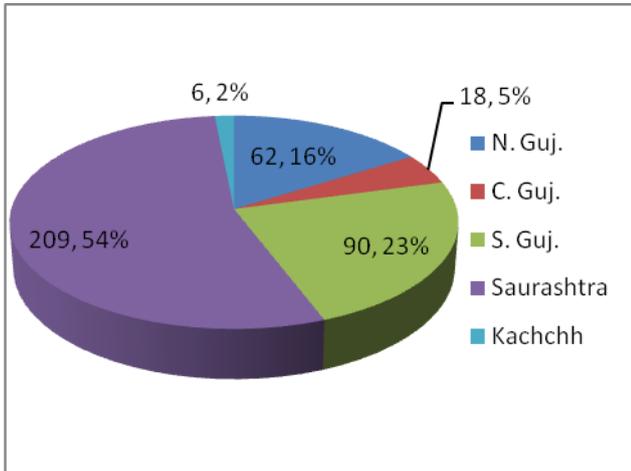
A total 458 White-rumped Vultures are recorded during vulture census 2016. As per 2016 survey, among various regions of the state, Saurashtra region has supported highest population of White-rumped Vulture (n=221 i.e., 48.25% of total WRV pupation) followed by Central Gujarat (n=98, i.e., 21.39% of total proportion). Through North Gujarat and Kachchh regions supported moderate numbers of White-rumped Vultures (i.e. 56 and 64 individuals,

respectively), South Gujarat supported relatively very low numbers (i.e., 19) of White-rumped Vultures.



Distribution of WRV across various regions of Gujarat State-2016

Long-billed Vulture (*Gyps indicus*):



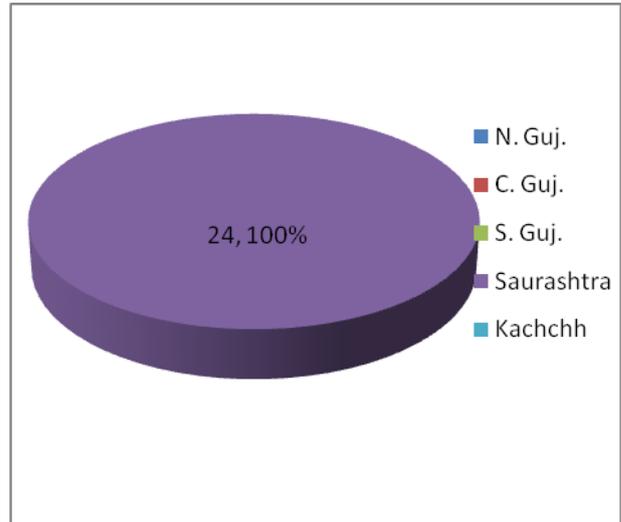
Distribution of LBV across various regions of Gujarat State-2016

As per 2016 estimation, among various regions of the State, Saurashtra region has supported the highest population of Long-billed Vultures (n=209, i.e. 54.28% of total LBV population) followed by South Gujarat region (n=90, i.e. 23.37% of total LBV population). Though North Gujarat region supported moderately high LBV population (n=62, i.e., 16.10% of total LBV population) Central Gujarat supported low population of LBV (n=18) and Kachchh region supported very low numbers (n=6) of LBVs.

Red-headed Vulture (*Sarcogyps calvus*):

Red-headed Vulture is a Critically Endangered species on global scale as per IUCN criteria. It is known to be uncommon in the State having patchy

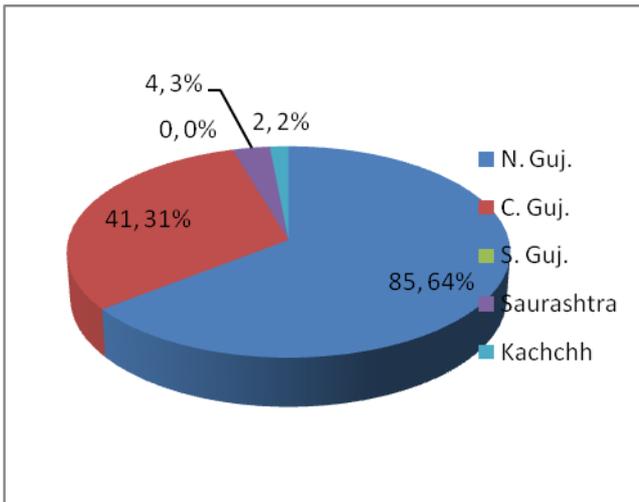
distribution. In the vulture estimations of the years from 2005 to 2010, Red-headed Vulture (as also Egyptian Vulture) is not included. Therefore, past distribution and long-term population trend for this species cannot be determined. In 2012 vulture estimation, a total of 8 Red-headed



Vultures were recorded (with 5 in Junagadh and 3 in Amreli). In 2016 estimation, a total of 24 Red-headed Vultures are recorded and all of them occurred only in Saurashtra region. With 18 in Junagadh, 3 in Amreli, 2 in GirSomnath and 1 in Surendranagar districts. **Distribution of RHV across various regions of Gujarat State-2016**

Thus a population increase of 300% has been recorded with an annual rate of 31.6%.

Egyptian Vulture (*Neophron percnopterus*):



Distribution of EV across various

region of Gujarat State-2016

Egyptian Vulture is an endangered species on global scale as per IUCN criteria. In 2012 vulture estimation, a total of 97 Egyptian Vulture are recorded (with highest numbers concentrated in Ahmedabad and Banaskantha district; i.e., 38 and 33, respectively). In 2016 estimation, a total of 132 Egyptian Vultures are recorded with their populations mainly concentrated in Banaskantha (n=72) and Ahmedabad (n=32) districts. Thus, between 2012 and 2016, a population increase of 36.10% has been recorded with an annual rate of 8%.