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## CLIMATE \& ENVIRONMENT

## Nepal has 752 one-horned rhinos, new census reveals

The population of the endangered species has gone up by 107 since 2015.


Hemanta Shrestha/TKP

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The population of one-horned rhino stands at 752, a new nationwide rhino census has shown.

The findings of the nationwide rhino count, made public on Saturday in Sauraha, Chitwan, concluded that Nepal's rhino population has increased by 107 since the last census in 2015.

The country's rhino population stood at 645 in its four protected areas in 2015.
"The latest finding makes exciting news as the rhino population has increased in the country," said Haribhadra Acharya, a spokesperson for the Department of National Parks and Wildlife Conservation. "The nationwide census has been by and large successful except for two accidents in Bardiya National Park and Chitwan National Park."

In Chitwan, a wild elephant had attacked the rhino counting team, leaving many enumerators injured whereas in Bardiya a mahout, who was part of the counting team, was mauled to death by a tiger.
"The latest rhino census also shows that our conservation effort is on the right track," said Acharya.

As per the latest findings, Chitwan National Park alone accounted for an increase of 89 rhinos. In 2015, it had 605 rhinos and this figure has now gone up to 694 .

The census found that Bardiya National Park has 38 rhinos, Shuklaphanta National Park has 17 and Parsa National Park has three.

These three parks had 29, eight and three rhinos in 2015 respectively.
The count, which took place after a gap of six years, began on March $\underline{22}$ after numerous postponements in the last two years. In 2019, the count could not take place due to a funds crunch. In 2020, the count was called off for an indefinite period just days before schedule due to the Covid-19 pandemic.

Wildlife experts have described the increase in rhino population in the country's protected parks as encouraging news for the country's conservation sector.
"The rise in rhino numbers sounds important especially when there were concerns over the high mortality rate of the animal in recent years," said

Baburam Lamichhane, a wildlife researcher. "That the number has gone up is an encouraging piece of news."

Since the 2015 count, Chitwan National Park, which is home to the largest population of one-horned rhinos, has lost a total of 161 rhinos. At the time, when the country had largely controlled poaching of rhinos, the unprecedented rise in deaths due to natural causes had been a cause for concern.

In the fiscal year 2016-17, 25 rhinos were reported dead, including one killed by poachers. Twenty-six rhinos died in the fiscal year 2017-18; 43 in 2018-19; and 26 in 2019-20. This fiscal year alone, 22 rhinos have died in Chitwan National Park. Of them, four were killed by poachers.

Such reports fuelled concerns if the rhino population had gone down in Chitwan Park.

Acharya, who is also an ecologist with the Department of National Park and Wildlife Conservation, however, said he expected the rhino population to go up.
"Birth and death are natural phenomena. Rhino deaths were reported but we had not seen calves being born," said Acharya. "There never was suspicion that the number of rhinos could go down in the country."

Despite conservationists hailing the increase in rhino numbers, there is still something to worry about-the decline in the annual growth rate of the rhino population.

When rhino census results put their population at 645 in 2015, the country recorded an annual growth of 5 percent. The number after the 2011 census stood at 534 rhinos-503 in Chitwan, 24 in Bardiya and seven in Shuklaphanta.

From 2011 to 2015, the growth rate was 21 percent. Between 2015 and 2021, the growth rate has averaged at 16.6 percent.

As the census shows, the annual growth now remains below 3 percent.
"The increase in rhino population is impressive, but the latest rhino census, which took place after six years, also shows that the annual growth rate has
remained below 3 percent, " said Lamichhane, who is also chief of the Biodiversity Conservation Centre, Sauraha, under the National Trust for Nature Conservation. "The lower yearly growth rate could indicate whether we are approaching the saturation level in terms of population density."

According to Lamichhane, who also has conducted several studies on rhinos, the rhino population can show better growth when the habitat is less congested. But when there is competition among the rhinos, such growth can remain limited.

A study conducted by Naresh Subedi, a wildlife researcher, in 2012 had estimated that a male rhino requires nearly 14 sq km as its home range, and a female rhino needs 9 sq km . However, some may share the same habitat. If the habitat is good and abounds with resources, then a small area would be adequate. Otherwise, a relatively larger area will be required.

Subedi, another expert on rhinos, is also concerned with the relatively smaller annual growth rate of the population this time.

Subedi, a spokesperson for the National Trust for Nature Conservation, said: "Such a trend shows that somewhere at some point of time the population can decrease. Their population cannot increase forever. Naturally, it can go up and down sometimes."

Over the years, Nepal has done a commendable job in recovering the rhino population from the brink of its extinction.

In the early 1950s, around 1,000 rhinos were said to be roaming in Nepal's Tarai jungles. However, as the government launched a malaria eradication campaign and enacted a resettlement programme, Chitwan saw massive migration from the hills and deforestation. As a result, around 70 percent of forests in Chitwan was cleared, according to the Rhino Conservation Action Plan (2017-2021).

With the destruction of forests and uncontrolled poaching, the rhino population declined. A study released in 2003 said that there were less than 100 one-horned rhinos left as a single population in Chitwan during the 1960s.

Increased conservation efforts, strict rules to protect wildlife species and management of wildlife habitats with the establishment of Chitwan

National Park resulted in the gradual increase in rhino population. By 1994, the number had reached 466.

However, the decade-long armed conflict saw massive poaching of rhinos in the country. The recent spike in rhino deaths, mostly due to natural causes, called for special attention from conservationists.

Such deaths were linked to increasing rhino numbers, as territorial clashes among the inhabitants were also leading to their deaths.

An internal study even suggested relocation of rhinos from the western side, where the majority of rhinos had congregated, to the eastern side of the park. The western part is determined by taking Kasara, the park's headquarters, as the centre.
"The rhino population has seen a significant rise in eastern part of the Chitwan National Park, where its population was believed to be low. There were speculations that the eastern block has fewer rhinos, but the number has actually gone up," said Lamichhane. "In the past, we could see threefour rhinos, but this time, 20-22 individuals were spotted. Around 70 rhinos have increased in the eastern belt."

According to Lamichhane, the latest finding has given valuable insights not only into rhino headcount but also their distribution.
"Now internal relocation of rhinos for the sake of increasing the population on the eastern side would not be necessary," said Lamichhane. "However, rhinos at the risk of floods and other threats could be relocated from the western side."

A large number of rhinos concentrated in one area had also worried park officials, as they feared the animals could migrate to India. In recent years, rhinos were swept down to India, making it difficult for Nepali officials to bring them back.

Subedi says the country can still maintain an impressive growth rate of rhino population if biological management is practised.
"In Africa, the rhino population has seen an annual growth rate of 12 percent," said Subedi.

Until 1986, Chitwan National Park was the only rhino bearing area in Nepal. With the aim of establishing a second viable population in Bardiya National Park, 87 rhinos were translocated between 1986 and 2003 from Chitwan.

However, the illegal hunting of rhinos in Bardiya during the armed conflict resulted in a decline in its population from 67 in 2000 to 31 in 2007 and 29 in 2015, according to the department. Later, eight more were moved to Bardiya National Park.

In 2003, four rhinos were translocated to Shuklaphanta National Park and five more reintroduced in 2017.

Subedi says the authorities need to relocate more rhinos from high-density areas as part of the biological management of the population. Chitwan Park holds the second largest population of one-horned rhinos in the sub-continent-after Kaziranga National Park in India.
"A total of 13 rhinos were taken to Bardiya and Shuklaphanta in recent years. However, the population has not gone up substantially. We have been able to control poaching, which is still a major threat to rhino conservation," said Subedi.
"Now what we can do is take more rhinos away from high density to low population density areas. The authorities can annually translocate 15 to 20 rhinos from Chitwan. With this effort, we can still maintain an annual growth of 5 to 7 percent."


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