All the rhinoceroses

Counting one-horned rhinos in Kaziranga National Park, home to nearly two-thirds of the world's population of the 'vulnerable' species, is no easy task. Rahul Karmakar reports on the unique challenges faced by the officials in the recently concluded census.

There is nothing 'casual' about Biju Saro, 26. His day begins at dawn as he goes about his job of keeping watch at the Bokabil anti-poaching camp, located about 2 km from Borbil Misinggaon, his village. He brings to it the same seriousness that fellow campers, forest guard Natun Chandra Das and home guard Dilip Khakhleri, do. But Saro is a casual employee, one of the 200 contracted to guard the great one-horned rhinoceros (or the Indian rhinoceros), Assam’s iconic mammal.

Rhino census 2018: Kaziranga now has 2,413 rhinos

Bokabil is one of the 178 anti-poaching camps in Kaziranga National Park (KNP), the rhino domain important to the fragile Indo-Burma Biodiversity Hotspot that stretches from eastern Bangladesh to Vietnam.

For ₹7,500 a month, which is much lower than the ₹20,000 that the ‘regular’ guards get, Saro patrols a five sq km area around Bokabil camp, takes turns to monitor the animals round the clock from the camp’s watchtower, updates the Kohora range office regularly on his walkie-talkie, and cleans the weapons, usually a 12 bore rifle or a .303, that the guards use to battle poachers. Kohora (or Central) is one of the five ranges of KNP. The others are Agratoli (or Eastern), Bagori (or Western), Burapahar, and the Northern Range. The KNP used to be 1,030 sq km, with a core area of 482 sq km, when it was notified as a tiger reserve in 2007. But erosion by the Brahmaputra has shrunk it to 884 sq km now.

Former KNP Director M.K. Yadava says that Kaziranga would require at least 3,000 men if they were to be deployed in eight-hour shifts. However, the park, a UNESCO World Heritage Site since 1985, only has a staff strength of about 1,300, of which 200 are casual workers. In the current arrangement, the guards are not expected to work by the clock.

“We sleep in the afternoon between patrols,” says Saro. “And this is because both animals and poachers rest during this time. [Records show that poachers invariably strike at night]. Night-time is for keeping awake, listening to unfamiliar sounds, and gunshots.” What drives him is the hope of becoming a regular employee one day. “I have been a casual worker for three years now. As a
local resident, I feel I deserve to be regularised when the department recruits guards the next time,” he says.

**Chasing the rhino**

It is early morning. The Borbil camp is not on the itinerary of Debasish Baruah, teacher of a local school and one of the enumerators for the Rhino Population Estimation 2018. Harun Chamru, a 45-year-old adivasi, is the driver of Baruah’s Gypsy. He seems to have lost his way after taking the wrong track at a fork flanked by tall elephant grass. “We normally don’t take jungle tracks other than the specified tourist routes,” says Chamru.

A one-horned rhino is chased away as it ventures too close to a camp in Kaziranga National Park in Bokakhat district | Photo Credit: Ritu Raj Konwar

The Gypsy reaches Borbil camp at 8 a.m. Baruah’s team decides to have their breakfast — bread, butter, egg, an apple and two bananas — that has been packed for every member of the rhino census at the Kaziranga convention centre in Kohora. As they start eating, a sudden swaying of the elephant grass about 300 yards away alerts Saro. He dashes up the camp, which is on stilts. Annual flood levels are marked on its pillars with charcoal. He finds a rhino chasing another. “It’s a female,” he announces, pointing to an animal emerging from the grass.

“There are many ways of differentiating a female from a male rhino,” explains Bhupen Talukdar, a retired forest officer who is delivering the pre-census briefing. “We look at the skin fold, the size of the bib (dangling under a rhino’s neck), cut marks on ears, the pattern of tubercles (the series of small lumps on a rhino’s hump), and, of course, the genitalia. But the easiest way is to observe the size of the head. A female rhino has an elongated, narrower head while the male’s head is thicker and shorter. Focus on the horn too. The male’s horn is broader and invariably broken, while the female’s is thinner, unblemished, and tapers into a conical form.”

Rhinos are solitary animals, Talukdar says, but an adult with a calf is invariably a female. “If you spot them, you can simply jot down the sex even if you are unable to observe its head or horn.”

The enumerators are asked to report to the convention centre before 5 a.m. for the estimation exercise the next day. “Your kitbag includes a GPS device, a compartmentalised map of Kaziranga, a note sheet with columns for male, female, ‘un-sexed’, and calves under three and over three years. ‘Un-sexed’ is for rhinos whose gender is difficult to determine from afar,” says Rabindra Sarma, KNP’s Research Officer.

The GPS is a first for a Kaziranga census. About 40 elephants, 29 of them hired from private owners, are parked at strategically located camps, ready to take the observers around. Sarma has a word of advice for enumerators who would be on an elephant’s back. “Tie your GPS, binoculars, note sheets, everything around your neck. You never know when a rhino might give chase. If the elephant suddenly starts running, you’ll be caught off guard.”
Sarma’s warning proves prophetic. Dilwar Hussain, a policeman turned environmentalist, is perched on an elephant, Urvashi, who starts running when a male rhino chases her away from a group of rhinos. “We couldn’t count that group properly,” he says later. “It was only when the mahout put a ‘gamosa’ [decorated Assamese cloth towel] on her eyes that she stopped running and we could resume counting.”

The elephant-back estimation, which begins at 6:30 a.m., lasts for five hours. “It is tough on the elephant. Given that it is carrying our weight, it sweats more as the day gets hotter,” says Kaushik Barua, an environmentalist who counted 107 rhinos on Day 1 and 21 on Day 2 of the estimation exercise.

The observers on jeeps have a longer day — they finish by 1 p.m. Baruah, a veteran, says counting on jeep is less challenging than doing it from an elephant’s back. But his vehicle ran into a herd of elephants, which blocked the track for 45 minutes. “We had no choice but to wait for the elephants to move,” says Chamru. “Elephants are less aggressive than rhinos.”

**Counting controversy**

KNP has had rhino censuses since 1966. But earlier estimation exercises were not dogged by controversy, which sets the latest exercise conducted on March 26-27 apart. In the run-up to the 2018 Rhino Population Estimation, some experts were sceptic about the methodology being adopted, pointing out that the headcount approach based on sighting by humans could lead to inflated figures, as had happened with tiger censuses in the past. They have suggested alternate methods such as distance sampling and camera traps.

“The number of rhinos is important, but what matters most is how many breeding females, mothers, and calves we find. That is what gives us an idea about the trends and the health of the habitat,” says N.K. Vasu, Assam’s Chief Wildlife Warden. “We have been tracking the headcount since 1966, when Kaziranga had only 366 rhinos. Techniques such as distance sampling and random sampling have evolved since then, but headcount based on actual sightings [the total counted by every enumerator within his or her specified area of estimation] still offers the best results, given the sincerity with which forest officials and wildlife enthusiasts do their job.”

Moh Chaturvedi, a Delhi-based independent environment consultant, counted 69 rhinos along an eight km stretch near the Mihimari and Gendamari camps straddling the Kohora and Bagori ranges. The boxes ticked on her census sheet say that the gender of a third of the rhinos could not be identified.

Baruah has counted 16, six of them ‘un-sexed’. “They were too far away to be identified properly,” he says. The enumerators gather at the convention centre for a de-briefing in the evening. Each sheet is sealed in packets. A committee will pore over them carefully and arrive at the final tally.
“The final counting is not an easy process. Two old rhinos died soon after the estimation was done. Such animals are removed from the list, as are those likely to be double counted by enumerators of adjoining blocks,” says Akashdeep Baruah, Director, KNP.

The total count method relies heavily on the visibility of animals. Officials say that poor burning of tall grasses and reeds due to high moisture content have led to fewer rhinos being sighted this time. These grasses, which grow taller than elephants, are burnt by the forest guards around March every year, which is the time they dry up and constrict other vegetation. In a ‘normal burning’, 50-60% of the grassy stretches are burnt, while a ‘poor burning’ would cover lesser ground. It is difficult to spot rhinos and other animals hidden deep inside the acres and acres of tall grass and reeds growing in dense clusters.

In this year’s exercise, 67 enumerators (38 forest officials from across Assam and 29 invited observers) undertook the census on the back of 40 elephants and jeeps. They have produced an estimate of 2,413 rhinos, 12 more than in 2015.

“Kaziranga is a mixture of woodlands, grasslands and wetlands. The rhinos prefer the grasslands and wetlands, but we could burn only 20% of the grasslands this time against the annual rate of 60%. This affected visibility of the rhinos. So we have decided to go for a recount next year,” says Akashdeep Baruah.

Kaziranga does have a precedent of estimation in successive years, though the gap between two censuses is typically three years. The 2012 estimation had a grass-burning issue too, and officials were apparently unhappy with the 2,290 rhinos counted that year. A re-estimation in 2013 yielded 2,329 rhinos. Keeping records of rhinos has become crucial, as poaching is the main reason for the decline of rhinos in Assam, apart from flood-related deaths, since the banning of legal hunting. Rhinos are poached for their horns and nails, used in traditional medicine. Government records say poachers killed 247 rhinos in Kaziranga between 1996 and March 2018.

In the same period, 76 poachers were killed, while 575 were arrested for illegal entry in the park.

“Estimation of rhinos should be deferred if the conditions are not right. We should ideally go for an assessment of the conditions before conducting the estimation,” says Vasu.

Some experts have suggested different methodologies such as distance sampling — calculating the number of animals in quadrants defined by an imaginary line — that do not rely on actual sighting and are reportedly more accurate. Distance sampling involves counting a part of a population in a specified area and then extrapolating from it.

In the case of tigers, camera traps (a remotely activated camera with motion sensors) and distance sampling ended the practice of estimating populations by counting pug marks. Before the birth of the National Tiger Conservation Authority (NTCA), tiger figures were allegedly inflated from 1,800 in 1972 to more than 3,500 in 2000. The estimate came down to 1,411 in 2006 following the application of sampling methods and camera traps.

“I have been involved in rhino and tiger censuses since 1999, and I can that say no method is foolproof as it all boils down to the efficiency and sincerity of the enumerators. We cannot rule out the possibility of a rhino being counted twice, but past experience suggests that there are greater chances of rhinos being undercounted. That is the reason why the estimate is always within a range of plus-minus 100 from the figure arrived at,” says Sarma. “Nonetheless, I still feel that sampling methods added to headcount can erase doubts. This time, we used GPS for the first
time to ensure more accuracy. But to use GPS effectively, we need to design good transect lines along which an animal is expected to be present,” he adds.

“People find fault in tiger estimation methods too. So it is not proper to say this method is better than that method. Every method has room for improvement,” says Dev Prakash Bankhwal, regional head of the NTCA.

Whatever the method, officials insist that they do not want the rhino population to grow beyond Kaziranga’s carrying capacity. A 2014 population module by the International Union for Conservation of Nature (IUCN) sounded the saturation alarm for Kaziranga rhinos and suggested adding more areas. “Studies revealed that Kaziranga has a carrying capacity of 2,700 rhinos, but the park has already lost land to erosion,” Sarma says. Creating more space for the rhino is believed to be the reason behind an eviction drive mandated by a Gauhati High Court order of October 2015.

Of the six areas or ‘additions’ comprising Kaziranga’s buffer zone of 548 sq km, the northern range, encompassing islands along the Brahmaputra, has been cleared of settlers, as has been the Burapahar area. Most of the settlers here were migrant Muslims, making parties such as the All India United Democratic Front label the drives as selective. Non-Muslims in a couple of other additions are yet to be ejected or relocated.

**Indebted to a shikari**

According to a study by the Wildlife Institute of India, the old generation of shikaris (hunters) who subsequently turned into forest rangers had the tradition of regularly tracking tigers and mapping their movements. The rhinos of Kaziranga — and elsewhere in Assam — owe their existence to a shikari too, though he had earned the moniker for guiding white sahibs who hunted rhinos for trophies. There is a little tale which bears repetition here.

Bapiram Hazarika, more popularly known as Nigona Shikari, had in 1905 guided Baroness Mary Victoria Leiter Curzon around the core area of the present-day Kaziranga on elephant back. The baroness was the wife of Lord George Curzon, who as Viceroy of India would go on to earn notoriety by dividing Bengal.

Impressed by the forest, Lady Curzon asked Nigona how the rhinos could be saved. “Stop the sahibs from hunting them,” he replied. Convinced, she persuaded Lord Curzon to prohibit the hunting of rhinos. Six months later, an area of 57 lakh acres was declared as the Kaziranga Proposed Reserve Forest. The park formally became a Reserve Forest in 1908, a game sanctuary in 1916, and was thrown open to visitors in 1938. It was declared a wildlife sanctuary in 1950 and became a national park in 1974.
“There are many legends behind the name Kaziranga. A popular one says it refers to two tribal lovers, Kazi and Rongai, who eloped to live among the animals,” says Rohini Ballave Saikia, Kaziranga’s Divisional Forest Officer. “Kaziranga is a love story between man and animal and between forest officials and the local people,” says Lohit Gogoi, who runs a restaurant at Kohora, the main tourist point. “People here know that their existence depends on the well-being and conservation of the rhino.”

Officials say that they ensure synergy with local people, who keep them informed about any potential poaching activity. “There can be no conservation without the cooperation of the local community. We let people graze their cattle on the fringes of the park but ensure that they are immunised free of cost, for it is vital to prevent diseases from spreading to the wild animals. We also organise free trips inside the park for local children,” says Akashdeep.

By afternoon, as counting ends, 2,413 rhinos have made it to the enumerated list: 758 males, 942 females, and 385 calves. The sex of 328 remains undetermined. Hopefully, all doubts about numbers will be put to rest after the recount next year.