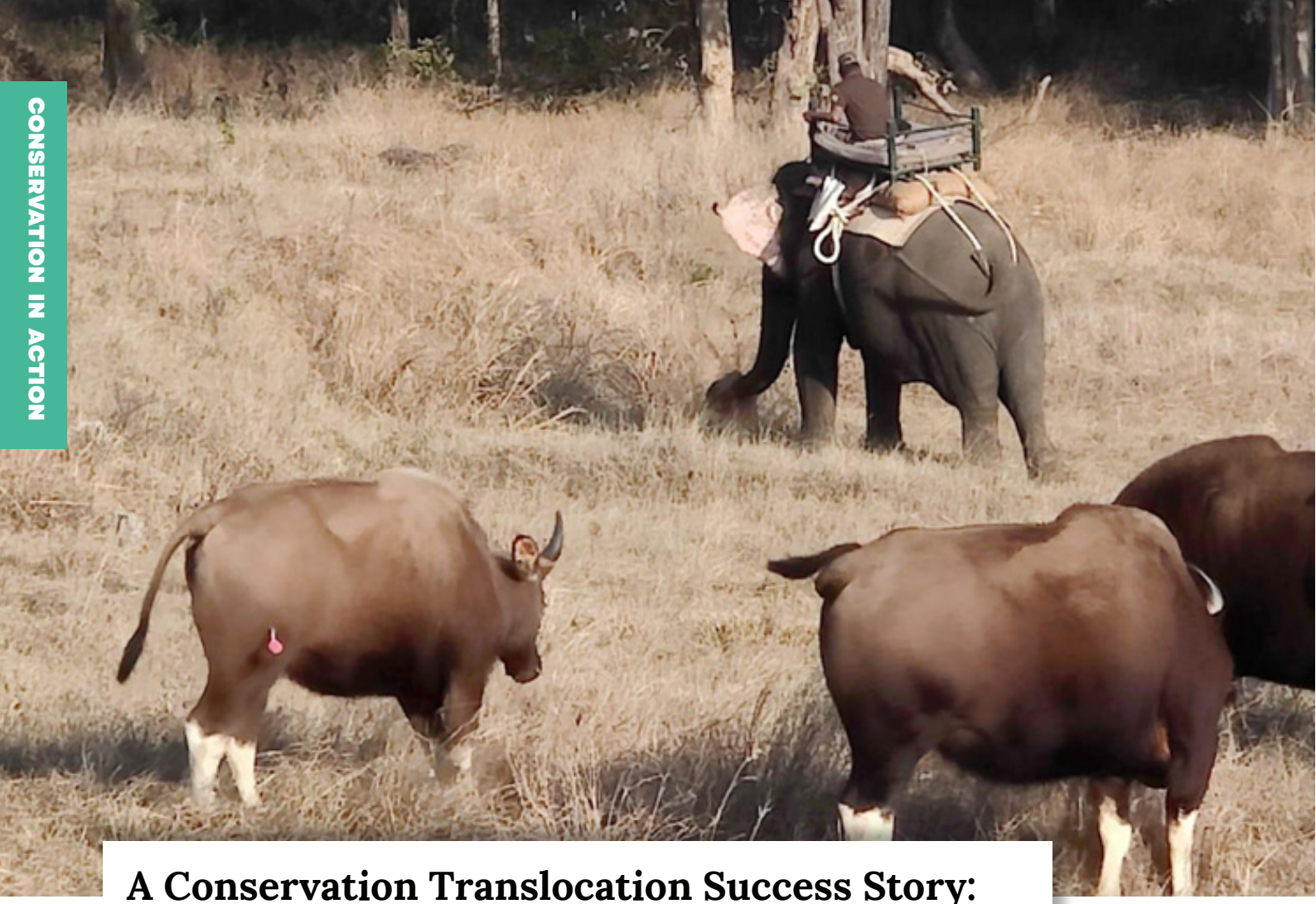

A Conservation Translocation Success Story: Gaur Supplementation in Bandhavgarh Tiger Reserve, Madhya Pradesh

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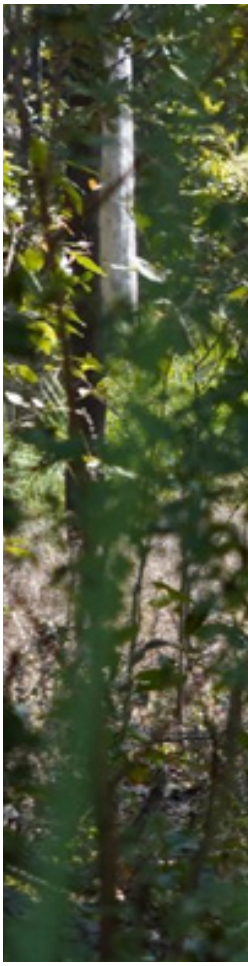

Conservation translocation such as reintroduction and supplementation has gained significant attention in recent decades. There is a growing interest in re-establishing or supplementing populations that are dwindling or fragmented in their natural habitats aiming to minimize the global biodiversity loss. Conservation translocation became a crucial tool to reduce the species decline worldwide. Moreover, these translocations are important for ecosystem restoration as they provide benefits not only limited to the species level but also at the ecosystem level.

Nestled between the Vindhyan and Eastern flanks of Satpura hill ranges, Bandhavgarh Tiger Reserve in Madhya Pradesh had a small population (< 40 individuals) of Gaur (*Bos gaurus*) until 1995. By 1998, the population was locally extinct. The Bandhavgarh Tiger Reserve provided excellent/ offered an excellent habitat for the gaur, which prompted the Madhya Pradesh Forest Department to collaborate with the Wildlife Institute of India and '& Beyond' (previously CC Africa) to initiate the translocation of 50 individuals from Kanha Tiger Reserve to Bandhavgarh during 2011—2012. The population boosted from 50 individuals to ~170 over a decade, therefore becoming a remarkable example of successful conservation translocation. However, the low genetic diversity within the species raised concerns, necessitating the supplementation of gaur individuals which are genetically distinct from the established population.

The gaur, Asia's largest bovine, is a species vulnerable to habitat loss and genetic bottlenecks. Once widespread across India's deciduous forests, local extirpations have fragmented their populations, necessitating interventions to ensure long-term viability. This case study examines the 2025 translocation of gaurs from the Satpura Tiger Reserve to the Bandhavgarh Tiger Reserve, a landmark initiative aimed at addressing the genetic impoverishment in a reintroduced population. Through interdisciplinary collaboration, advanced veterinary protocols, and adaptive management, the project underscores the complexities and triumphs of large herbivore conservation.

Satpura Tiger Reserve, known for its rich biodiversity, harbours a healthy population of gaur, which has been prioritised for supplementation of gaur to Bandhavgarh Tiger Reserve. Preparations for translocation were initiated on 16th February 2025 with efforts focused on identifying and monitoring herds, as well as approaching and gradually acclimatizing the herds to captive elephants. On 18th February 2025, park managers, wildlife health officers from different parks, teams from the Wildlife Institute of India, School of Wildlife Forensics Science and Health (SWFH, Jabalpur), Wildlife Conservation Trust and other officials from wildlife services gathered at Satpura Tiger Reserve. The team resided at Churna and Dhain rest houses of the Churna and Bori Ranges to oversee the entire translocation process.

On 19th February, a series of important activities were carried out. The day began with a visit to previously identified gaur-distributed areas, followed by a health and fitness examination of captive elephants selected for the field capture operation and a briefing session for *Mahouts*. Afterward, a thorough inspection of vehicles took place which included a small off-road truck, a large transportation truck and stretchers intended for carrying and weighing the animal.

A mock drill was conducted to simulate the process of animal lifting, weighing and offloading onto the vehicles using stretchers. Additionally, a field laboratory was set up and discussions regarding health monitoring essentials and biological sampling relevant to ensuring the fitness of the individuals destined for translocation. The inspection continued with a review of radio collars and marking equipment, darting systems, drugs and medicaments. Duties were assigned to the respective team members, and final arrangements were carefully checked to ensure everything was in place for the successful conservation translocation.

On 20th February 2025, the teams gathered early in the morning at Churna Rest House and had a brief run-through of the capture and translocation process.

The animal monitoring team quickly spotted a herd of 6 individuals at a grass meadow, located just half a mile from the Churna Guest House. As soon as the captive elephants arrived, the darting team proceeded to the location. An adult female, around 4 — 5 years old, was darted using a combination of *Thiafentanil* (a narcotic) and Azaperone. The animal went down on sternal recumbency within three minutes of darting. The team then approached and blindfolded the animal, evaluated its physiological parameters, weighed it, fitted a radio collar, shifted it onto the stretcher with utmost care and carried it to the transport container.

Moving the gentle giant onto a stretcher and subsequently carrying it to the truck positioned on the road head was a challenging task, but was made successful by a dedicated team of frontline staff duly trained through mock drills. Once the animal was safely loaded into the transport container, additional tranquilizers such as intermediate (*Haloperidol*) and long-acting tranquilizers (*Perphenazine enanthate*) were administered to induce sedation during the transportation and for acclimatization at the release site. *Naltrexone hydrochloride* was then administered to the individual to reverse the effects of the initial sedatives. After about two minutes of drug reversal, the animal regained consciousness and stood up in the transportation truck.

Meanwhile, the captive elephants were used to keep the rest of the members of the herd intact and secure while the animal was being transported to the truck. The team quickly returned to the gaur herd and darted a young adult cow following the same protocols. The process resulted in capturing and securely loading 3 individuals in the container. By the end of the day, a total of 5 individuals (3 adult females and 2 adult males) were captured and safely loaded into the transportation truck. This operation continued till 23 February 2025 and culminated in the successful release of 22 individuals in Bandhavgarh Tiger Reserve, marking a major milestone in the restoration of the species.

Once the captured animals were comfortably settled in the transportation truck and after ensuring that there was sufficient fodder and water in the container, the journey to Bandhavgarh Tiger Reserve commenced. A team of field officers, veterinary professionals (Wildlife Health Officers), research scholars and support staff accompanied the animals on the ~ 570 km journey, which took almost 16 - 18 hours. Multiple stops were made along the way to frequently monitor the animal's health and fitness and to provide additional

fodder and water. The team arrived at Bandhavgarh Tiger Reserve the following morning, where the animals were safely released into a specially constructed soft-release enclosure for the initial period.

This enclosure was designed to serve as a transitional space enabling the gaur to adjust behaviourally and acclimatize to the new environment. Furthermore, it allowed the animals to recover from the effects of tranquilizers. The enclosure also supported the development of cohesiveness and herd formation. The animals are currently being intensively monitored to ensure their health and well-being.

The successful establishment of gaur population in Bandhavgarh Tiger Reserve, along with genetic supplementation marks a significant step to ensure the long-term survivability of gaur through improved genetic diversity. This conservation effort is a testament by the conservation enthusiasts to address the biodiversity crisis, by adopting vital measures such as conservation translocation. The success of this translocation is a result of the collective efforts of forest officials, scientists, experienced veterinarians, and wildlife experts, who worked tirelessly to ensure the safety and well-being of the gaurs throughout the process.