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Beyond rhetoric: debunking myths and misinformation on India's Project Cheetah

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India's Project Cheetah, initiated in 2022, represents a holistic wildlife conservation initiative aimed at restoring cheetah populations, reviving grassland ecosystems, and fostering socio-economic benefits in the region. Despite its strong ecological foundation and adherence to IUCN protocols, the project has faced persistent criticism, often rooted in ideological biases, oversimplified extrapolations, and sensationalized narratives. Critics have misrepresented key aspects, such as the use of soft-release bomas, ethical concerns, and veterinary interventions, while ignoring the project's adaptive management strategies and measurable progress, including its current status. This perspective piece counters misinformation with factual evidence, highlights the project's scientific and conservation merits, and underscores India's commitment to harmonizing ecological restoration with developmental progress.

KEYWORDS

cheetah (Acinonyx jubatus), conservation translocation, grasslands, India, Project Cheetah, species introduction

Introduction

In the Anthropocene epoch, marked by profound environmental transformations and accelerating biodiversity loss, global conservation initiatives are gaining critical momentum (Johnson et al., 2017; Mosoh et al., 2024). Among these, carnivore conservation has emerged as a priority due to its cascading ecological impacts, offering a mechanism to counteract environmental degradation driven by human activities (Ripple et al., 2014; Bergstrom, 2017; Ingeman et al., 2022). Despite being world's most densely populated and a rapidly developing nations, India has achieved remarkable success in large carnivore conservation, setting a global benchmark. For instance, India now harbors over 70% of the global wild tiger (*Panthera tigris*) population, a landmark accomplishment resulting from the collaborative efforts of Indian scientists, ecologists, government agencies, and diverse stakeholders (Qureshi et al., 2023; Jhala et al., 2025). India's commitment to carnivore

conservation is further exemplified by the reintroduction of tigers into historically extirpated landscapes in the country, such as Sariska in Rajasthan and Panna in Madhya Pradesh (Sankar et al., 2013; Dutta and Krishnamurthy, 2024). Such efforts have led to measurable population recoveries, underscoring the effectiveness of India's adaptive management strategies and long-term conservation planning (Dutta and Krishnamurthy, 2024). These achievements have not only strengthened *in-situ* conservation but also contributed significantly to global scientific understanding of species recovery, population management, and ecosystem restoration (Jhala et al., 2021a; Batool et al., 2025). While multiple stakeholders have played pivotal roles, these initiatives have been predominantly led and sustained by the government sector, reflecting a robust institutional framework and long-term commitment to biodiversity conservation.

Building on this legacy, India has embarked on another transformative initiative: the introduction of the cheetah (*Acinonyx jubatus*), the only large carnivore extirpated in India post-independence due to overhunting and habitat destruction (Chavda and Kazmi, 2019). Declared locally extinct in 1952, the cheetah's introduction represents more than a conventional predator restoration program. It is a holistic ecological initiative aimed at reviving cheetah populations while safeguarding prey species and protecting other endangered fauna within grassland and open forest ecosystems in the country (Jhala et al., 2021b). Furthermore, this project holds significant socio-economic potential, promising to enhance local economies through ecotourism and sustainable livelihood opportunities, thereby reinforcing India's legacy of harmonizing ecological restoration with developmental activities.

In recent years, there has been a noticeable trend where government-led initiatives often face heightened scrutiny. Since its inception in 2022, Project Cheetah has also faced persistent criticism, often rooted in ideological biases, preconceived notions, oversimplified extrapolations, and sensationalized media narratives (Chellam, 2022; Gopalaswamy et al., 2022; Wachter et al., 2023; Down To Earth, 2024; Joshi et al., 2025). While constructive criticism is essential for refining conservation strategies and ensuring accountability, much of the discourse around Project Cheetah has been characterized by self-referential arguments, selective use of literature, and a disproportionate emphasis on negative outcomes (Chellam, 2023; Civil Society News, 2024; Down To Earth, 2024; Joshi et al., 2025). Some criticisms have focused on emotional appeals, which, while understandable, are not balanced with scientific evidence. At times, such critiques have relied on incomplete, exaggerated, or misleading information, shaping narratives that may unduly influence public perception. While raising awareness of concerns is important, an overreliance on sensationalism or unsubstantiated claims risks prioritizing rhetorical impact over factual accuracy.

While the unfounded negative narratives surrounding Project Cheetah are unlikely to diminish the Government of India's steadfast commitment to the initiative, the National Tiger Conservation Authority (NTCA), as the lead implementing agency, recognizes the critical importance of transparency and public accountability. Efforts to disseminate information regarding the project, including mortality details, cheetah movements, prey abundance and research efforts are regularly being carried out in the form of annual reports in NTCA's official website (https://ntca.gov.in/reports/#reports2) and through formal press briefings (National Tiger Conservation Authority et al., 2023; Qureshi et al., 2024a; National Tiger Conservation Authority, 2025; Press Trust of India, 2024a, b). However, it is imperative to further counter misinformation and promote evidence-based discourse by publicizing factual data and providing an accurate assessment of the project's current status. This is essential not only for rectifying misconceptions but also for advancing the broader objectives of conservation science and practice.

Scientific merit of Project Cheetah

The decision to introduce cheetahs in India was not made impulsively. A consultative meeting involving global species experts, IUCN office bearers, non-governmental organizations, renowned academic experts, and officials from the Government of India was held in September 2009. The plans to reintroduce cheetahs were advanced only after a consensus was reached during this meeting (Ranjitsinh and Jhala, 2010; Jhala et al., 2021b). Further to this, the project underwent rigorous assessments, including site evaluations by national and international experts (Ranjitsinh and Jhala, 2010; Jhala et al., 2011, 2021; Marker, 2011, 2020). Prior to the translocation, government officials and conservation managers from Namibia and South Africa also conducted on-site inspections to access the preparedness (National Tiger Conservation Authority et al., 2023). The project adhered to IUCN guidelines for species reintroductions and conservation translocations (IUCN/SSC, 2013; World Organization for Animal Health (OIE) & International Union for Conservation of Nature (IUCN), 2014; Jhala et al., 2021b; Tordiffe et al., 2021), ensuring a science-based approach.

The initiative was also welcomed by the IUCN Cat Specialist Group and the Conservation of Migratory Species (CMS) Scientific Council at its fifth Sessional Committee meeting (ScC-SC5) in 2021 (CMS Scientific Council, 2021). While *Acinonyx jubatus soemmeringii* (northeast African cheetah) was recommended by the committee for introduction in India (CMS Scientific Council, 2021), the selection of *A. j. jubatus* (southern African cheetah) as the founder population was ultimately determined by three key conservation criteria: (1) documented metapopulation growth of the sub species, evidenced by a three-fold increase in wild numbers since 1965 (van der Marve et al., 2016); (2) availability of genetically suitable surplus individuals; and (3) demonstrated adaptive capacity to diverse ecological conditions. This decision aligned with established reintroduction biology principles, acknowledging that such programs necessitate frequent supplementation and it was thus important to source founders from a growing cheetah metapopulation framework that could supply sufficient founder

cheetahs (Buk et al., 2018). The southern African metapopulation's proven success in these parameters justified its selection following comprehensive ecological and logistical assessments.

Although project's scientific framework has been robust from conception through implementation, critiques of Project Cheetah have often raised concerns about its perceived lack of conservation and scientific merit, particularly regarding the ecological criteria guiding the project (Gopalaswamy et al., 2022; Wachter et al., 2023). While a comprehensive rebuttal is beyond this perspective piece's scope, these criticisms have already been rigorously addressed by the scientific community involved with the project (Tordiffe et al., 2023; Cristescu et al., 2024). Overall, these disagreements largely stem from extrapolating cheetah home ranges and space-use patterns from certain African habitats and applying predictive models to the Indian context. However, such extrapolations lack scientific rigor, as the ecology of any species, including cheetahs, is mediated by a multitude of factors (Weise et al., 2017; Cristescu et al., 2024).

For example, in Serengeti National Park, female cheetahs that track the migratory Thomson's gazelles occupy vast home ranges averaging 833 km², far exceeding the 37 km² typical of resident males in the same landscape (Durant et al., 1988; Caro, 1994). In contrast, Kruger National Park and Phinda Resource Reserve, where prey is sedentary, cheetahs are observed to have smaller, overlapping ranges: males occupy 126 to 195 km², while females range across 150 to 171 km² (Hunter, 1998; Broomhall et al., 2003). Cheetah spatial dynamics are further influenced by competition with dominant predators, such as lions and leopards. Additionally, contrary to the assumption that cheetahs are savanna specialists, several studies reveal their adaptability to diverse habitats and prey types (Bissett and Bernard, 2007; Weise et al., 2017). Research has also demonstrated that cheetahs can thrive in thicket vegetation and are not restricted to small or medium-sized prey (Bissett and Bernard, 2007; Mills et al., 2004).

While it is premature to define ecology, home ranges and space-use patterns for cheetahs in India, initial findings suggest ecological adaptability. Preliminary observations from free-ranging cheetahs in Kuno National Park reveal predation on a broad prey spectrum, including Indian hare (*Lepus nigricollis*), chital (*Axis axis*), sambar (*Rusa unicolor*), four-horned antelope (*Tetracerus quadricornis*), chinkara (*Gazella bennettii*), blackbuck (*Antilope cervicapra*), and nilgai (*Boselaphus tragocamelus*), with an average observed kill interval of 6.68 days ± 0.98 SE (National Tiger Conservation Authority et al., 2023). Radio-collar data indicate that cheetahs utilize and hunt across varied habitats, including savanna grasslands, mixed deciduous forests, and riverine patches (National Tiger Conservation Authority et al., 2023; Qureshi et al., 2024a). Notably, despite Kuno National Park harboring very high leopard densities, free-ranging cheetahs have not only endured but successfully segregated themselves spatio-temporally from these potential competitors. In-depth details on all these findings are publicly available and may be accessed for further reference (see data availability statement). Conservation translocations of this scale require extended timeframes to assess long-term viability, and further monitoring will clarify habitat preferences, movement ecology and behavioral attributes.

Previous experiences across Southern Africa also demonstrate that the success of cheetah introduction depends significantly on the introduction environment and individual cheetah behavior contexts (Walker et al., 2022; Dimbleby et al., 2024). Such findings highlight the limitations of applying spatial ecology studies from one region to another without considering local ecological dynamics and behavioral contexts (Cristescu et al., 2024). A more nuanced understanding of cheetah ecology, grounded in local context and supported by empirical data, is thus essential to evaluate the scientific and conservation merits of the project. Given that the project is still in its nascent stages, it is too early to draw definitive conclusions.

Misplaced concerns about cheetahs in captivity

A recurring criticism of Project Cheetah has involved the frequent misapplication of the term "captive" in reference to the introduced cheetahs at Kuno National Park (Chellam, 2024a; Mudur, 2024; Nitnaware, 2024a; Ray, 2024; Joshi et al., 2025). The World Association of Zoos and Aquariums defines captivity as the confinement of animals in man-made enclosures with reliance on human care (Mellor et al., 2015). In contrast, the cheetahs in Kuno are neither held in artificial structures nor dependent on human provisioning. Instead, they were initially held in soft-release bomas (SRBs) with access to an adequate locally available prey base (Qureshi et al., 2024a). These SRBs are fenced natural habitats within the larger Kuno landscape, allowing the cheetahs to hunt independently and exhibit natural behaviors while acclimatizing to their new environment (Figure 1A). This soft-release model is not only an internationally recognized best practice for carnivore reintroductions but has also been shown to increase the odds of reintroduction success by 2.5-fold (Thomas et al., 2023).

Another point of contention is the duration cheetahs have spent in SRBs (Chellam, 2024b; Nitnaware, 2024a; Down To Earth, 2024; Ray, 2024; Joshi et al., 2025; Wildlife Animal Protection Forum of South Africa, 2025). It is essential to clarify that Project Cheetah does not follow a simplistic catch-transport-release approach. Instead, it employs adaptive management strategies designed to maximize the chances of the founder population successfully establishing itself. Kuno's management team had initiated the phased release of cheetahs in May–June 2023 (National Tiger Conservation Authority et al., 2023). However, unforeseen challenges, including an unseasonal winter coat, tick infestations, and associated infections, resulted in multiple mortalities in free ranging settings. This prompted the temporary recapture and return of the cheetahs to SRBs for close monitoring and medical intervention (National Tiger Conservation Authority et al., 2023). Importantly, these setbacks informed critical management adaptations, such as the implementation of topical long-acting ectoparasiticidal treatments, which effectively prevented further mortality during subsequent summer and humid seasons (Muliya et al., 2024a). Having addressed these issues, and the cheetahs now being well adapted to the introduction landscape, the phased release

FIGURE 1
(A) A translocated cheetah inside a soft-release enclosure (SRB) at Kuno National Park. These fenced, natural habitats allow cheetahs to exhibit natural behaviors. **(B)** Indian-born cheetah cubs inside a soft-release enclosure (SRB) at Kuno National Park. **(C)** A coalition of Indian-born male cheetahs in free-ranging conditions within unfenced Kuno National Park. Additionally, we would like to add one more image D **(D)** Free-ranging female cheetah (Namibian origin) and cubs at a waterhole in Kuno National Park.

process resumed in early 2024, with six introduced cheetahs currently thriving independently in Kuno's unfenced wilderness (Yadav, 2025). Meanwhile, other cheetahs await their release in a similarly phased manner.

A recent document circulating among South African animal welfare groups, which has no connection to Project Cheetah, falsely claims that all individuals under the project remain in "captivity" (The Wildlife Animal Protection Forum, 2025). This assertion is factually incorrect, lacks empirical foundation and clearly ignores publicly available evidence demonstrating the current status of translocated cheetahs in Kuno. By the time the above document was released, twelve cheetahs (5 introduced & 7 Indian born cubs over a year old) were already in free-ranging conditions (Press Trust of India, 2024c; The Hindu Bureau, 2025). Given the demonstrable inaccuracies, this narrative should be reassessed to align with established facts. In order to clarify the current status, the precise demographic and spatial information of cheetahs under the project are presented in Table 1.

Critics have also inaccurately portrayed cheetah births in Kuno as "captive breeding," a grossly misleading characterization (Chellam, 2024a; Nitnaware, 2024b; Ray, 2024). Cheetahs cannot be forced to breed, even in controlled environments, a fact highlighted by the more than four decades required for western zoos to develop successful breeding programs (McDermott, 2019; Crosier et al., 2022). The fact that translocated cheetahs in Kuno have produced 25 cubs from six successful litters in 2.5 years (Yadav, 2025), with the first breeding occurring within a year of reintroduction (Qureshi et al., 2024a), demonstrates that these animals are in a stress-free, near-natural environment, not captivity (Figure 1B). Unlike traditional captive breeding programs, the cubs born in Kuno are nurtured and raised entirely by their mothers without any form of human intervention. A comprehensive Standard Operating Procedure has also been established to ensure systematic management of reproducing females and their cubs at India's introduction sites (Muliya et al., 2024b). This mandatory framework implements strict management protocols during critical reproductive phases, with enforceable safeguards to prevent captivity while ensuring animal welfare and health.

Additionally, eleven Indian-born cubs, currently transitioning to adolescence, have already been released into the wilderness alongside their mother (Yadav, 2025). This strategic "Headstarting" approach aims to provide the cubs with an

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TABLE 1 Current status and demographic details of Cheetahs in India as of May, 2025.

Sl. No.	Animal ID	Source Country	Source Location	Current Status
1.	Jwala (Adult ♀)	Namibia	Cheetah Conservation Fund	Free ranging in Kuno National Park since 22 February 2025, with 4 cubs (2 males and 2 females; approx. 14 months old)
2.	Nabha (Adult ♀)		Cheetah Conservation Fund	Soft Release Boma awaiting future release to free ranging setup
3.	Aasha (Adult ♀)		Frans Indongo Safari	Free ranging in Kuno National Park since 6 February 2025, with 3 cubs (3 males; approx. 16 months old)
4.	Gaurav (Adult ♂)		Cheetah Conservation Fund	Soft Release Boma awaiting future release to free ranging setup
5.	Veera (Adult ♀)	South Africa	Tswalu Private Game Reserve	Soft Release Boma; currently with 2 cubs of 3 months age
6.	Gamini (Adult ♀)		Tswalu Private Game Reserve	Free ranging in Kuno National Park since 16 March 2025, with 4 cubs (2 males and 2 females; approx. 13 months old)
7.	Dheera (Adult ♀)		Waterberg Biosphere Reserve	Free ranging in Kuno National Park since 5 February, 2025
8.	Agni (Adult ♂)		Phinda Private Game Reserve	Male coalition, Free ranging in Kuno National Park since 4 December, 2024.
9.	Vayu (Adult ♂)			
10.	Nirva (Adult ♀)		Mapesu Private Game Reserve	Soft Release Boma; currently with 5 cubs of < 1 month age
11.	Prabhas (Adult ♂)		Waterberg Biosphere Reserve	Male coalition, Free ranging in fenced area of Gandhisagar Wildlife Sanctuary since 20 April 2025.
12.	Pavak (Adult ♂)			
13.	Mukhi (Sub-adult ♀)	India	Kuno National Park	Soft Release Boma, hand-reared due to maternal negligence, currently undergoing re-wilding process to explore future release to free ranging setup
14.	Aasha's cubs (3 Sub-adult ♀)		Kuno National Park	Free ranging in Kuno National Park since 6 February 2025. Cubs have separated from the mother naturally and are surviving on their own
15.	Jwala's cubs (2 Sub-adult ♀ and 2 ♂)		Kuno National Park	Free ranging in Kuno National Park since 22 February 2025. Cubs are still with the mother, learning and adapting in free ranging condition.
16.	Gamini's cubs (2 Sub-adult ♀ and 2 ♂)		Kuno National Park	Free ranging in Kuno National Park since 16 March 2025. Cubs are still with the mother, learning and adapting in free ranging condition.
17.	Veera's cubs (2 juveniles; Gender – unknown)		Kuno National Park	Soft Release Boma, being nursed by the mother
18.	Nirva's cubs (5 juveniles; Gender – unknown)		Kuno National Park	Soft Release Boma, being nursed by the mother

increased survival chance, optimal opportunity to grow into adolescence, disperse naturally post release, and contribute to the project's long-term success (Figure 1C). Contrary to critics' claims, this also serves as a testament that the project neither artificially breeds females nor keeps them confined in perpetuity but instead focuses on creating better survival opportunities for the first generation of Indian-born cubs, ensuring their successful integration into the wild.

Misinformed ethical and justice concerns

One of the most recent critiques of Project Cheetah centers on perceived injustices inflicted on local communities and translocated animals (Joshi et al., 2025). This perspective piece exhibits a clear bias, selectively using sources to advance a negative narrative while omitting and misrepresenting key facts. To clarify, there has been

no unjustified displacement or coerced relocation of local communities due to Project Cheetah. The majority of relocations within the current cheetah introduction site occurred long before the project's conceptualization (Kabra, 2003; Jhala et al., 2021b). Since project's inception in 2023, only one village has been relocated, and this resettlement too was conducted in full compliance with existing legal frameworks in India. The process was guided by recommendations and ratified by the affected "Gram Sabha", a community-based village-level assembly where every villager has the right to participate and deliberate on development issues impacting their community (Ministry of Tribal Affairs, 2006).

In India, resettlement in protected areas is strictly voluntary and governed by stringent legal provisions, including the Wild Life (Protection) Act, 1972, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (Ministry of Tribal Affairs, 2006). Importantly, villagers retain the right to remain within protected areas if they choose to do so, as forcible eviction is explicitly prohibited by law (Ministry of Tribal Affairs, 2006). Contrary to critics' assertions, the resettlement process does not rely on offering "one-off compensation" as an incentive. Instead, it provides comprehensive support, including agricultural land, monetary assistance for housing, small-scale investments, and access to communal facilities such as education, healthcare, and irrigation, and hand holding efforts for 5 years, all funded by the government (National Tiger Conservation Authority, 2010). This holistic approach offers marginalized communities improved opportunities for socio-economic integration, contrasting sharply with the restricted and isolated lifestyles they often experience within protected areas, a fact that critics have conveniently mislaid.

While the recovery of large carnivore populations can introduce new trade-offs, the socio-ecological benefits of their conservation frequently outweigh the associated costs (Gregr et al., 2020; Ingeman et al., 2022). In the context of Project Cheetah, hundreds of local youths have been directly employed as forest watchers or cheetah trackers, while skill development programs have trained others as guides and drivers for eco-tourism initiatives (National Tiger Conservation Authority et al., 2023; The Corbett Foundation, 2024). Additionally, improved infrastructure and enhanced connectivity have facilitated better access to healthcare, education, and commercial opportunities, thereby aligning conservation goals with socio-economic development and community well-being in the region. Despite referencing publicly available documents that detail these facts elsewhere in their perspective article (National Tiger Conservation Authority et al., 2023; Qureshi et al., 2024a), critics' deliberate omission and selective disregard for critical information to advance an "injustice" narrative significantly undermine the integrity of their critique.

While the concerns raised by critics regarding animal ethics and welfare are appreciable, their adoption of a narrow or extensionist perspective is problematic and unjustifiable within the context of wildlife conservation and species reintroduction efforts (Paterson, 2006; Thulin and Röcklinsberg, 2020). Such approaches often prioritize the welfare of individual animals from introduced species over broader ecological considerations, including the native wildlife and the restoration of ecosystem functions that benefit from reintroduction initiatives (Paterson, 2006). When the objectives of introduction programs, such as Project Cheetah, are examined through a holistic lens; aimed at restoring, preserving, and saving a species, or enhancing ecosystem function and resilience (Jhala et al., 2021b), the suffering of specific individuals may be regarded as an acceptable, albeit regrettable, cost (Thulin and Röcklinsberg, 2020). This is not to condone or justify suffering at the individual level but to acknowledge it as a potential trade-off in pursuit of the greater good, whether for the survival of a species, the health of an ecosystem, or the preservation of overall biodiversity (Thulin and Röcklinsberg, 2020). Critics also overlook the fact that the South African cheetah population itself is the product of highly managed reintroduction efforts (Buk et al., 2018; Sievert et al., 2020). For instance, cheetahs were reportedly extirpated from the KwaZulu-Natal province by the 1930s but were successfully reintroduced from Namibia to several reserves in the province during the 1960s and 1970s (Marnewick et al., 2007). This historical precedent underscores the potential benefits of well-planned reintroduction programs, which can contribute significantly to species recovery and ecosystem restoration. By focusing narrowly on individual welfare without considering the broader ecological and conservation goals, critics risk undermining efforts that have demonstrated long-term benefits for biodiversity and ecosystem health.

To advance their narrative regarding species wellbeing, critics have often employed selective comparisons, such as contrasting the survival rates of adult cheetahs in Kuno with the 85% average survival rate observed in South Africa's metapopulation (Joshi et al., 2025). This comparison, however, represents a blatant misrepresentation of the data. Existing literature clearly demonstrates that annual survival rates for translocated cheetahs vary significantly across global contexts, ranging from 0% to 85%, depending on factors such as geography, habitat conditions, and management strategies (Marnewick et al., 2009; Houser et al., 2011; Weise et al., 2015; Boast et al., 2018; Schroeder, 2019). A similar approach has been adopted by certain media outlets, who emphasize individual cheetah mortalities while failing to consider broader population dynamics (Nitnaware, 2024c; The Wildlife Animal Protection Forum, 2025). Though direct comparisons are complicated by differing management strategies, Table 2 provides survival rates from key southern African translocation initiatives for reference.

It is important to recognize that some level of mortality is an inherent aspect of conservation translocation, introduction, and reintroduction efforts, and should not be interpreted as an indicator of project's failure. This principle is well-documented by the IUCN in the context of conservation translocations (Soorae, 2021) and was explicitly factored into the Action Plan for Cheetah Reintroduction in India (Jhala et al., 2021b). Notably, the cheetah mortality rate in Kuno has remained well below the anticipated threshold of 50% (Jhala et al., 2021b; Qureshi et al., 2024a). To elaborate, adult cheetah survival rates in Kuno were 70% in the first year (n = 20; mortalities = 6) and reached 85.71% in the second year

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TABLE 2 Documented cheetah survival rates across major Southern African reintroduction projects.

Country	Cheetah Source	Release Location	110 Days post release	1 Year post release	Reference
Namibia	Orphaned - Rewilded	Fenced reserve	100% (n = 10)	60% (n = 10)	Boast et al., 2018
		Free-ranging reserve	71% (n = 7)	71% (n = 7)	Boast et al., 2018
	Conflict suspected	Free-ranging reserve	71% (n = 17)	56% (n = 16)	Weise et al., 2015
	Orphaned - Rewilded	Free-ranging reserve	40% (n = 5)	25% (n = 4)	Weise et al., 2015
South Africa	Conflict suspected	Fenced reserves	Not stated	85% (n = 92)	Marnewick et al., 2009
	Cheetah Metapopulation Project	Fenced reserves	81% (n=192)	67% (n=192)	Schroeder, 2019
Botswana	Conflict suspected	Free-ranging reserve	33% (n = 11)	18% (n = 11)	Boast et al., 2016
	Orphaned - Rewilded	Free-ranging reserve	100% (n = 3)	0% (n = 3)	Houser et al., 2011
Mozambique	Cheetah Metapopulation Project	Free-ranging reserve	54% (n=28)	43% (n=28)	Unpublished data
Malawi	Cheetah Metapopulation Project	Fenced	79% (n=19)	58% (n=19)	Sievert et al., 2022., and Unpublished data
Zambia	Cheetah Metapopulation Project	Free-ranging reserve	58% (n=12)	25% (n=12)	Unpublished data

(n = 14; mortalities = 2) (Muliya et al., 2024a). Over 2.5 years, the overall cub survival rate in Kuno was 66.67% (n = 21; mortalities = 7), a significant figure, given that the species is known to experience very high cub mortality before eight weeks of age (Laurenson, 1994). Despite initial mortalities, Kuno currently sustains a population of 31 cheetahs as of May, 2025, indicating successful population growth at the reintroduction site (Yadav, 2025).

Misconceptions about veterinary capabilities and field interventions

Another frequently discussed topic pertains to the veterinary capabilities at Kuno, including the frequency of management interventions being carried out. It is critical to emphasize that reintroduction is not merely a numbers game but a scientifically complex process. Decisions regarding veterinary interventions are made exclusively by trained on-field wildlife veterinarians based on situational assessments, and uninformed commentary by non-veterinary experts lacks scientific validity. Comprehensive veterinary preparations for the project had in fact begun well before the actual introduction. A detailed Disease Risk Analysis (DRA) was conducted in accordance with IUCN guidelines by a team of veterinary and cheetah experts prior to the animals' arrival (Tordiffe et al., 2021). The fact that not a single animal has been lost to the risks identified in the DRA thus far underscores the robustness of the project's veterinary preparedness and planning.

The project is further supported by a team of three on-field veterinarians from various central and state agencies, ensuring a high standard of cheetah health management (National Tiger Conversation Authority et al., 2023; Qureshi et al., 2024a). Despite Kuno's remote and logistically challenging location, a state-of-the-art veterinary hospital equipped with advanced facilities has been established, enabling the delivery of comprehensive veterinary care (Qureshi et al., 2024a). This infrastructure reflects the project's commitment to safeguarding the health and welfare of the reintroduced cheetahs, while also benefiting the conservation medicine initiatives in native fauna.

Critics often highlight that cheetahs are susceptible to stress, particularly during the capture of free-ranging animals (Joshi et al., 2025). However, they conveniently overlook the fact that the same study they reference (Braud et al., 2019) reported a 20% mortality rate for immobilized cheetahs in South Africa over a 15-year period. In stark contrast, Project Cheetah in India has recorded zero immobilization-related fatalities, a testament to the care, expertise, and precision of the project's veterinary and management teams. Furthermore, critics frequently cite "90 immobilizations" as a point of contention without defining what constitutes an "acceptable number of immobilizations" or providing any scientific basis for their critique. These 90 immobilizations over 20 cheetahs in 2.5 years equate to approximately 2 immobilizations per cheetah per year, a reasonable figure given the range of necessary management interventions, including treatment, prophylaxis, radio-collar deployment, and other critical procedures. Those with practical on-field experience in wildlife management understand that, unlike domestic animals, which can often be handled with minimal restraint, field immobilization in wildlife is a clinically driven decision aimed at ensuring both animal welfare and human safety (Fahlman, 2008; Muliya et al., 2016; Walker et al., 2022). The selective omission of contextual details and the use of partial data to support a predetermined narrative are not only misleading but also scientifically irresponsible. Such approaches risk compromising constructive discourse on conservation efforts, as they fail to acknowledge the complexities inherent in reintroduction programs or the expertise of professionals dedicated to ensuring the health and welfare of introduced animals.

In conclusion, long-term conservation initiatives, including species reintroductions and habitat restoration, require meticulous planning, scientific rigor, and sustained multi-stakeholder collaboration. While cheetah reintroduction is inherently a gradual

and risky process, with inevitable challenges and adaptive learning, Project Cheetah has demonstrated significant progress within just 2.5 years, indicating a promising trajectory. To bolster genetic diversity among the founder population, the Government of India is already negotiating with the Governments of Republics of Namibia, South Africa, and Botswana for additional cheetah translocations. Concurrently, a landscape-scale expansion strategy is being implemented, incorporating neighboring protected areas beyond Kuno National Park's core zone (Qureshi et al., 2024b). Additionally, secondary reintroduction sites, including Banni Grasslands in Gujarat and Gandhi Sagar Wildlife Sanctuary in Madhya Pradesh, are being prepared for cheetah introductions in near future. These efforts incorporate ecological lessons from Kuno, with targeted prey restoration, including translocation of conflict-prone herbivores from human-dominated landscapes, so as to ensure sustainable cheetah prey availability. As the nodal agency, the National Tiger Conservation Authority remains firmly committed to this visionary initiative, ensuring that the majestic cheetah reclaims its ancestral landscapes. This initiative exemplifies India's enduring legacy of harmonizing ecological restoration with developmental progress, setting a global benchmark for conservation stewardship.

Data availability statement

Publicly available datasets were analyzed in this study. This data can be found here: https://ntca.gov.in/documents/#reports2.

Author contributions

SM: Conceptualization, Data curation, Formal Analysis, Methodology, Resources, Writing – original draft, Writing – review & editing. VM: Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. HS: Investigation, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. AK: Investigation, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. SK: Funding acquisition, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. GB: Funding acquisition, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

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Conflict of interest

The authors are affiliated with the National Tiger Conservation Authority NTCA, the nodal agency mandated by the Government of India to implement, and oversee Project Cheetah in India. The views expressed in this article are based on their professional involvement in the project and are intended to provide an informed perspective on its progress and challenges.

Generative AI statement

The author(s) declare that no Generative AI was used in the creation of this manuscript.

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