ISSN (Online): 3048-7803

JWLS

Volume 3 Issue 2 (June 2026)

TYPE Research Article

Community Perceptions and Social Feasibility for Gaur (*Bos gaurus gaurus*) Reintroduction in Nagarjunasagar-Srisailam Tiger Reserve, Andhra Pradesh

Ritesh Vishwakarma[1,2], Arun Kumar Gorati[1,2], Swati Chandola[1], Habeeba Fathima[1], Anukul Nath[1], Samrat Mondol[1,2], Bilal Habib[1,2], Ajaya Kumar Naik[3], B.N.N. Murthy[3], Vignesh Appavu G.[3], Parag Nigam[1,2,*]

[1]Wildlife Institute of India, Chandrabani Road, Dehradun, Uttarakhand, 248001
[2]Academy of Scientific and Innovative Research, Kamla Nehru Nagar, Ghaziabad, Uttar Pradesh, 201002
[3]Andhra Pradesh Forest Department, Aranya Bhavan, Guntur, Andhra Pradesh, 522503

EDITED BY
Shivam Shrotriya
Wildlife Institute of India, Dehradun, India.

*CORRESPONDENCE
Parag Nigam
nigamp@wii.gov.in

RECEIVED 16 May 2025
ACCEPTED 17 June 2026
PUBLISHED 05 July 2026

CITATION
Vishwakarma, R., Gorati, A. K., Chandola, S., Fathima, H., Nath, A., Mondol, S., Habib, B., Naik, A. K., Murthy, B. N. N., Appavu, G. V., Nigam, P. (2026). Community Perceptions and Social Feasibility for Gaur (*Bos gaurus gaurus*) Reintroduction in Nagarjunasagar-Srisailam Tiger Reserve, Andhra Pradesh. *Journal of Wildlife Science*, 3(2), 62-72.
https://doi.org/10.63033/JWLS.PDNP5891

FUNDING
This work was supported by the Andhra Pradesh Forest Department

COPYRIGHT
© 2026 Vishwakarma, Gorati, Chandola, Fathima, Nath, Mondol, Habib, Naik, Murthy, Appavu, Nigam. This is an open-access article, immediately and freely available to read, download, and share. The information contained in this article is distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), allowing for unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited in accordance with accepted academic practice. Copyright is retained by the author(s).

PUBLISHED BY
Wildlife Institute of India, Dehradun, 248 001
INDIA

PUBLISHER'S NOTE
The Publisher, Journal of Wildlife Science or Editors cannot be held responsible for any errors or consequences arising from the use of the information contained in this article. All claims expressed in this article are solely those of the author(s) and do not necessarily represent those of their affiliated organisations or those of the publisher, the editors and the reviewers. Any product that may be evaluated or used in this article or claim made by its manufacturer is not guaranteed or endorsed by the publisher.

Abstract

Understanding the human dimension is essential for effective wildlife conservation management. It is especially important to identify the extent of support for conservation translocation of species involved in human-animal conflict among local communities, particularly those dependent on the forests within the translocation region. The reintroduction of megaherbivores into their historical habitats to restore biodiversity and ecological functions is an emerging topic of interest. In this study, we assessed the social feasibility of gaur (*Bos gaurus gaurus*) reintroduction in the Nagarjunasagar Srisailam Tiger Reserve (NSTR), Andhra Pradesh, India. The study focused on community perceptions, current socio-economic conditions, and perceived risks associated with the prospective reintroduction of gaur. We conducted a semi-structured voluntary questionnaire survey of 109 personnel representing distinct households residing in 22 villages within the core and buffer zones of the NSTR. Data were analyzed using logistic regression models to examine possible influences on public attitudes toward gaur reintroduction. The results indicate that occupation, resource dependency, and fear of potential harm influenced current attitudes. Although 52% of respondents reported no fear of encounters with gaurs, concerns about crop damage and limited access to forests were common among the forest-dependent households. Approximately three-quarters (75%) of respondents were aware of conservation action, with 83% noting that wildlife populations have increased over time. Younger participants and larger households displayed a more positive stance towards gaur reintroduction; however, fear and potential loss remained major deterrents. This study highlights the need for targeted awareness campaigns, effective conflict mitigation measures, and conservation-based approaches that engage the community to increase acceptance of gaur reintroduction in NSTR.

Keywords: Community perspectives, conservation translocation, crop depredation, human-wildlife conflict, megaherbivore, protected area management.

Introduction

The accelerating decline of large terrestrial mammals poses profound ecological consequences, as more species vanish from their historic ranges (Ceballos *et al.*, 2005). Among these, megaherbivores such as elephants, rhinos, and gaur play a crucial role as ecological architects, profoundly impacting vegetation structure, nutrient cycling, predator-prey dynamics, and trophic interactions while affecting the composition and dynamics of ungulate communities (Owen-Smith, 1988; Fritz *et al.*, 2002; Mondanaro *et al.*, 2017). Their presence supports ecological balance, while their decline has been closely associated with significant disruptions in ecosystem processes, underscoring their role in maintaining environmental stability (Berzaghi *et al.*, 2022). Despite their ecological significance, mega herbivores face threats from hunting, competition with livestock, and land-use change, including habitat loss, human encroachment, cultivation, and deforestation (Ripple *et al.*, 2015). By the end of the 20th century, 84 of the 175 species of large herbivores were classified as Critically Endangered, Endangered or Vulnerable (IUCN 2002).

To combat these losses, reintroducing species to their historical ranges is an increasingly recognized conservation method that promotes population recovery and strengthens entire ecosystems (Godet *et al.*, 2018; Novak *et al.*, 2021; Fischer & Lindenmayer 2000; IUCN/SSC, 2013). Such reintroductions involve relocating animals bred in captivity or from existing wild populations to regions where they have

gone extinct (Seddon *et al.*, 2007). Some examples of successful conservation relocations from around the world include Père David's deer (*Elaphurus davidianus*) in Poyang Lake National Wetland Park, China (Jiang *et al.*, 2000), and the restoration of white rhinoceroses (*Ceratotherium simum*) in Kruger National Park (Cromsigt *et al.*, 2014). The red-rumped agouti (*Dasyprocta leporina*) has been reintroduced in Rio de Janeiro, Brazil's Tijuca National Park. European bison (*Bison bonasus*) are being brought back to Romania's Vanatori Neamt Nature Park (Soorae *et al.*, 2021). Successful relocations in India include tiger (*Panthera tigris*) in Sariska Tiger Reserve (Sankar *et al.*, 2013) and gaur (*Bos gaurus gaurus*) in Bandhavgarh Tiger Reserve (BTR) and Sanjay Tiger Reserve (Nigam *et al.*, 2019; 2024a).

However, not all reintroduction efforts succeed, often due to a lack of social and political considerations, including insufficient support for conservation goals from local communities (Griffith *et al.*, 1989). Although wildlife relocations have become a frequently applied tool in conservation over the past 25 years, few studies evaluate the social dimensions that often influence their success (Seddon *et al.*, 2016; Brichieri-Colombi *et al.*, 2016). Recognizing these challenges, contemporary conservation strategies increasingly incorporate social feasibility assessments to ensure that reintroduction plans align with community interests and mitigate potential conflicts (Seddon *et al.*, 2016; Brichieri-Colombi *et al.*, 2016).

Social feasibility refers to the extent to which local attitudes, values, and beliefs align with conservation objectives, and it relies on the community's ability to recognize potential benefits while creating solutions for perceived and actual challenges (Reading & Kellert 1993; Redpath *et al.*, 2013). Concerns such as fear of livestock depredation, economic loss, inadequate compensation for wildlife–related losses, personal safety, and restricted access to forest resources can build resistance to management and conservation initiatives (Allendorf *et al.*, 2006; Talukdar & Gupta, 2014). Intangible factors, such as anxiety and perceived threats associated with the presence of large carnivores and megaherbivores, frequently contribute to negative public perceptions of species reintroduction efforts (Hiroyasu *et al.*, 2019; LeFlore *et al.*, 2020). However, when local communities recognize tangible benefits from forests and wildlife such as enhanced ecosystem services, improved livelihoods, increased biodiversity, and opportunities for ecotourism, their attitudes toward conservation initiatives, including species reintroductions, tend to become more favorable (Williams *et al.*, 2002; Lindsey *et al.*, 2005; Lamichhane *et al.*, 2018; Sakurai *et al.*, 2020).

Understanding social dynamics becomes especially important when reintroducing species that have declined in the past (Nigam *et al.* 2014; Nigam *et al.* 2024a & b). The gaur, one of India's iconic megaherbivores, was historically present across diverse forested landscapes. Owing to habitat degradation, poaching, and changing land-use patterns, the species have become locally extinct in several areas, including Sanjay Tiger Reserve, Bandhavgarh Tiger Reserve, Kanger Valley National Park, and Thattekad Wildlife Sanctuary (Sankar *et al.*, 2001). Historical records, such as the 19th-century Imperial Gazetteer of India (Hunter, 1886), mention that the forests of Nagarjuna Srisailam Tiger Reserve (NSTR) once harbored viable gaur populations. However, decades of habitat loss and hunting pressure have rendered the species locally extinct in NSTR.

This study was conducted as part of the Gaur Reintroduction Plan for NSTR aimed at reintroducing and restoring the gaur population within NSTR. We conducted a social feasibility assessment for the reintroduction of gaur to NSTR to answer two questions: (1) How do local communities perceive the reintroduction of gaur? (2) What factors shape community attitudes toward the reintroduction of gaur in NSTR?

Materials and Methods

Study Area

The study was conducted in Nagarjunasagar Srisailam Tiger Reserve, Andhra Pradesh, India (Figure 1). The reserve is known as India's largest tiger reserve, spanning 3727.82 km^2 (NSTR - Tiger Conservation Plan, 2013-2023). The area is characterized by hilly terrain, plateaus, ridges and valleys that host tropical dry deciduous and tropical moist deciduous forests with bamboo and grasslands dispersed throughout (Qureshi *et al.*, 2023; Yadav *et al.*, 2023). The tiger reserve is hosted along the Nallamala range and fed by the river Krishna along the northern border for a 130 km stretch. The region receives an average annual rainfall of 676 mm, primarily from the southwest monsoon. Temperatures range from 16°C to 46°C, with perennial streams and springs such as Palanka Waterfall and Gundlakamma River (Yadav *et al.*, 2023). Within the reserve, 3,285 people live across 10 villages in the core and 12 in the buffer, primarily belonging to Chenchu, Lambadi, Yadava, and Vaddera communities (NSTR - Tiger Conservation Plan, 2013-2023).

Social Survey

A questionnaire survey was conducted to assess social feasibility in NSTR. A structured questionnaire (Supplementary S1) was developed, drawing on the frameworks proposed by Vasudeva *et al.* (2021), Gillingham & Lee (2003), Bhattacherjee (2012), and Karanth & Ranganathan (2018). The survey included both closed and open-ended questions to evaluate knowledge levels and opinions on the reintroduction of the species in forests where the communities reside and are dependent. A reconnaissance survey was conducted from May to July 2024 to understand the socio-economic status, livestock practices, non-timber forest produce (NTFP) usage, and community perceptions toward wildlife conservation. The survey was conducted over 20 days across 22 villages situated within the core and buffer zones of NSTR. A total of 109 individuals, each from a different family, were interviewed; the survey represented approximately 3.3% of the resident population. The survey was conducted by two trained interviewers familiar with the local language and each interview lasted approximately 20–25 minutes. Participants were initially selected randomly within each village (Vodouhê *et al.*, 2010; Hariohay *et al.*, 2018; Karanth & Ranganathan, 2018), and the snowball sampling method was adopted to further recruit additional willing participants from the same village (Parker *et al.*, 2019). Respondents were stratified into six categories: farmers, government employees, private sector employees, bamboo collectors/artisans, self-employed individuals, and unemployed individuals. This stratification aimed to capture diverse socio-economic perspectives within the region. Interviewers were proficient in both the local language and English, facilitating effective communication. Verbal consent was obtained from all participants, and no incentives were provided, adhering to the ethical standards.

Variables of perception

Variables such as age, gender, education, household size, and the economic status of communities living in proximity to forested areas have been identified as influencing forest use and, in turn, the relationship with the forest and wildlife. (Williams *et al.*, 2002; Ericsson & Heberlein, 2003; Meadow *et al.*, 2005; Ogra & Badola, 2008; Badola *et al.*, 2012; Karanth & Ranganathan, 2018; Hiroyasu *et al.*, 2019; Vasudeva *et al.*, 2021). A total of 15 independent variables were selected and grouped into four broad categories that could help understand possible drivers influencing people's behavior towards wildlife conservation and gaur reintroduction. The categories included (1) Socio-Economic Values, (2) Sense of Forest and Ecosystem Values, (3) Perception of Gaur Reintroduction, and (4) Losses and Fear from Wildlife (Table 1).

The values of response variables ranged from 0 to 1, 0 indicating the lowest level of well-being and 1 indicating the highest level.

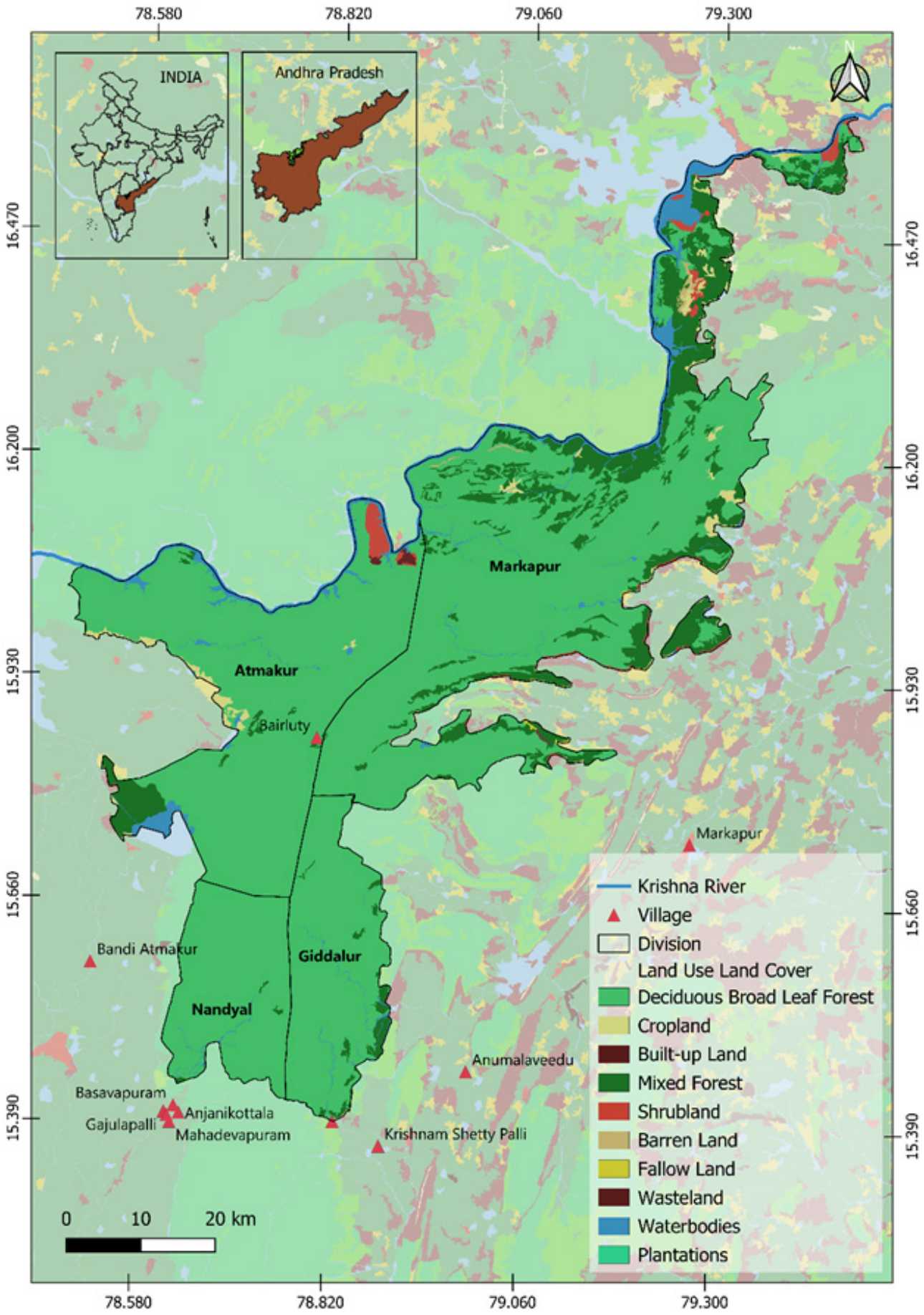

Figure 1. Relocation of gaur (*Bos gaurus gaurus*) is proposed in Nagarjunasagar Srisailam Tiger Reserve, Andhra Pradesh, India

In addition to quantitative data, respondents were also asked for their opinions on whether the gaur should be reintroduced into the NSTR (Table 1). Their answers were grouped into three broad categories: 'Approval' or 'Disapproval', and 'Unsure / No response' for unclear responses, and instances where no response was given. Responses to the question of gaur reintroduction were categorized into three broad groups: positive, negative, and neutral. For logistic regression analysis, neutral or unclear responses were excluded so that the dependent variable represented clear approval (1) or disapproval (0) for gaur reintroduction in NSTR.

Data Preparation

Initially, the dataset was examined to identify any missing or inconsistent data points. Descriptive statistics were computed for each variable to assess the distributional characteristics. The analysis involved calculating descriptive statistics to understand patterns in livestock ownership, land use, forest resource use, and human-wildlife interactions. Categorical data, such as livestock types, land utilisation, and employment activities, were summarized using percentages and frequency counts (Creswell & Creswell, 2017). Reports of crop damage by specific wildlife species were quantified, and the proportion of affected households was calculated. Attitudes toward conservation and gaur reintroduction were analysed by grouping responses into categories supportive, neutral, or opposing and determining the percentage distribution. Additionally, qualitative responses about potential risks and benefits of reintroduction were reviewed to identify recurring themes through content analysis.

Construction of Composite Indices

To reduce the complexity associated with multiple related variables and to represent broader socio-economic dimensions, composite indices were developed by aggregating conceptually related variables, a common practice in social feasibility studies (Dewi *et al.*, 2005; Soman & Anitha, 2020; Vasudeva *et al.*, 2021). Specifically, four indices were constructed: the Economic Status

Table 1. Four broad categories of variables used in logistic regression models to predict the attitude of people towards gaur reintroduction in NSTR, prepared following Vasudeva *et al.* (2021)

Category	Variable	Data Scale	Description and Response Type
SOCIO-ECONOMIC VALUES	Gender (GEN)	Categorical	Gender of the Respondent: Classified into two categories – Male and Female.
	Age group (AGE)	Categorical	Age of the Respondent: Divided into four age groups – 0-18, 19-30, 31-40, and above 40 years.
	Education (EDU)	Categorical	Educational Level at the Time of Interview: Four categories – Illiterate, Primary (1-5 years of schooling), Secondary (6-10 years), and Higher Education (11th standard and above).
	Family Size (FAM)	Ratio	Household Size: The number of family members residing in one physical household structure.
	Occupation (OCC)	Categorical	Occupation of the Respondent: The primary employment or livelihood activity of the respondent.
	Economic Status Index (ESI)	Ratio	Economic Status Index: A composite index reflecting the economic standing of households based on income, assets (*e.g.*, property, livestock), and type of housing, ranging from 0 (low) to 1 (high).
	Government Scheme Beneficiaries (GSB)	Ratio	Government Scheme Beneficiaries: The total number of government programs or schemes from which the household was receiving benefits at the time of the survey.
SENSE OF FOREST AND ECOSYSTEM VALUES	Resource Dependence Index (RDI)	Ratio	Resource Dependency Index: An index measuring the extent of household reliance on forest resources, such as firewood, fodder, and non-timber products, ranging from 0 (low) to 1 (high).
	Income Dependence Index (IDI)	Ratio	Income Dependency Index: An index indicating household dependence on income-generating activities related to forests and forest resources, ranging from 0 (low) to 1 (high).
	Access to clean cooking (LPG)	Categorical	LPG Usage: The use of liquefied petroleum gas for cooking or heating, considered only for households actively refilling LPG cylinders at the time of the interview. Two categories – Yes and No.
	Sense of Ecosystem Services of Forest (FECO)	Ratio	The ability of respondents to identify and acknowledge various benefits derived from forests, based on a set of predetermined ecosystem services.
PERCEPTION OF GAUR REINTRODUCTION	Approval for reintroduction (APOR)	Categorical	Respondents' stance on the reintroduction of gaur, categorized into four levels – Approve, Not Approve, Unsure, and No Response.
	Knowledge of gaur (KOG)	Categorical	Prior Knowledge of Gaur: Whether the respondent had prior awareness of the gaur species. Two categories – Yes and No.
LOSSES AND FEAR DUE TO WILDLIFE	Losses experienced (LOSS)	Ratio	Experience of Wildlife-Induced Losses: The cumulative number of loss experiences due to wildlife, including human-wildlife conflict, crop damage, and livestock depredation.
	Fear for human life upon gaur release (FOGR)	Categorical	Safety Concerns Post-Reintroduction: Concerns regarding personal safety or threats to human life following the potential reintroduction of gaur, classified as Yes or No.

Index (ESI), Forest Dependency Index (FDI), Income Dependency Index (IDI), and Resource Dependency Index (RDI) (Table 1). The indices were calculated by combining related variables into cohesive categories following the approach described by Vasudeva *et al.* (2021). For the Forest Dependency Index (FDI), variables such as forest usage frequency, types of forest resources utilized, and the extent of reliance on forest resources were combined to provide a comprehensive measure of forest dependency. Similarly, the Income Dependency Index (IDI) incorporated variables such as income from forest-based activities, percentage of income derived from forest resources, bamboo cutting and artistry, and income stability to assess economic reliance on forest resources. For the Resource Dependency Index (RDI), factors such as access to forest resources, frequency of resource extraction (NTFP collection), and types of resources accessed were aggregated to quantify resource dependency. The selection and combination of variables into these indices were guided by their thematic relevance and conceptual similarity while maintaining internal consistency (Vasudeva *et al.*, 2021).

Correlation Analysis

Following the development of composite indices and the normality assessment of data (Shapiro & Wilk 1965), Pearson's correlation coefficients were calculated to determine the strength and direction of relationships between the independent variables (Supplementary 1). This step aimed to identify multicollinearity and potential redundant variables that could distort the logistic regression model. Variables exhibiting correlation coefficients above 0.7 were flagged for further scrutiny, and in cases of high multicollinearity, one of the correlated variables was excluded based on theoretical relevance and statistical significance. The use of composite indices also helped streamline highly related variables by representing multiple dimensions within a single explanatory variable, thereby reducing redundancy in the final model.

Chi-square test

A Chi-square test was conducted to determine the statistical significance of associations between independent variables (such as age, gender, education, occupation, resource dependency, experience of loss, and conservation experience) and the two dependent variables (awareness of gaur and attitudes toward its reintroduction), with a null hypothesis set to no significant relationship between knowledge about the gaur and perspectives on its reintroduction. The tests were performed at a 95% confidence level. The analysis was done in R Software version 4.2.4 (Posit Team, 2024).

Logistic Regression Analysis

The logistic regression model (Hosmer *et al.*, 2013) was used using the GLM function in R Software version 4.2.4 (R Core Team, 2024). The binary logistic regression model was structured as follows:

$$\text{logit}(P) = \ln(P/(1-P)) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta i Xi$$

where P represents the probability of a respondent being supportive of gaur reintroduction, Xi are the independent variables, and βi are the corresponding coefficients.

Model Selection

A binary logistic regression model was used to assess the factors influencing the support or opposition to the reintroduction of the gaur. In this model, the dependent variable was binary, with a response of either 1 (approval) or 0 (disapproval) regarding the reintroduction. The model used 15 independent variables (as described in Table 1), which included socio-economic, demographic, and resource dependency indicators, encompassing socio-demographic characteristics, resource dependency, and prior experiences of loss due to wildlife.

Four different logistic regression models were constructed using various combinations of predictor variables (Table 4). The Akaike Information Criterion (AIC) was used as the primary criterion for model selection (Akaike, 1974; Burnham & Anderson, 2004), to identify the most parsimonious model that effectively balances goodness-of-fit and model complexity. Models with lower AIC values were considered optimal, indicating a better trade-off between model fit and the number of predictors included.

A probability threshold of $p < 0.05$ was applied to classify variables as statistically significant (Fisher, 1925). Variables with p-values less than 0.05 were identified as significantly reliable predictors of support for reintroduction, whereas those with p-values equal to or greater than 0.05 were non-significant (Cohen, 1994).

Results

General Socio-demographic profile

Of the 109 respondents, 77.06% were male, and all belonged to rural, forest-dependent communities near NSTR. Major occupations included bamboo craftsmanship (31.19%), private sector jobs (20.75%), agriculture (21.1%), and firewood collection (13%). Most followed a non-vegetarian diet (95.2%) and lived in Pakka houses (67.92%). Educational attainment was low, with over half (54.13%) reporting no formal education. While 86.79% had access to LPG, many still relied partly or fully on firewood for cooking (Table 2).

Livestock ownership was low with 76.6% of households owning no livestock. Very small percentages owned cows, buffalo, or fowl. Around 65% utilized forest resources in timber, bamboo, and NTFP. Among the 21.69% of respondents who reported wildlife-related losses, 66.67% attributed the damage primarily to wild boar, occasionally in combination with chital or sambar, and at times with bears (33%) and leopards (18.51%). Awareness of conservation measures among respondents was high at 75%, with 83% believing that wildlife populations have increased since their childhood. Although only one respondent had seen a gaur during childhood, many cited having knowledge of them second-hand. When queried about the prospect of reintroducing gaur into the area, 52% of respondents expressed that there were no fears, while 24.5% expressed concern, and the remainder were indifferent. Those who supported reintroducing gaur stated ecological benefits, while those opposed expressed fear of limited access to forests and crop damage (Table 3).

Overall Perception Towards Gaur Reintroduction in NSTR

Knowledge about gaur was significantly associated with age ($\chi^2 = 5.083$, $p = 0.04$), occupation ($\chi^2 = 14.072$, $p = 0.002$), and experiences of wildlife-induced losses ($\chi^2 = 12.744$, $p = 0.0003$). These findings suggest that older individuals, certain occupational groups, and those who had experienced wildlife-related losses were more likely to have knowledge of the species. No significant associations were observed with gender, education, resource dependency, or perceived importance of forests (Table 3).

Support for gaur reintroduction was significantly associated with occupation ($\chi^2 = 17.995$, $p = 0.0004$), resource dependency ($\chi^2 = 14.297$, $p = 0.0001$), sense of forest importance ($\chi^2 = 9.803$, $p = 0.001$), and wildlife loss experiences ($\chi^2 = 13.037$, $p = 0.0003$). Respondents more dependent on forest resources and those who had experienced losses were less supportive of reintroduction. No significant associations were found with age, gender, or education, though gender and education showed weak significance ($p = 0.063$ and $p = 0.064$, respectively) (Table 3).

Factors Influencing Gaur Reintroduction in NSTR

Socio-Economic Values: Logistic regression analysis provided insights into socio-economic determinants influencing approval of gaur reintroduction. Age group 3 (31- 40 years) showed a negative relationship with approval ($\beta = -0.5847$, $p < 0.05$),

Table 2. Socio-demographic profile of the respondents of household survey in Nagarjunasagar Srisailam Tiger Reserve, Andhra Pradesh, India.

Total Respondents	**N=109**
GENDER	Male = 84 (77.06%)
	Female = 25 (22.91%)
EDUCATION	Illiterate = 59 (54.128%)
	Primary = 34 (31.192%)
	Secondary = 9 (8.256%)
	University = 7 (6.422%)
OCCUPATION	Government employee = 4 (3.669%)
	Private job = 15 (13.761)
	Private (CBET) = 3 (2.752%)
	Driver = 6 (5.504%)
	Regular labor = 4 (3.669%)
	Agriculture = 23 (21.1%)
	Bamboo artisan = 34 (31.192%)
	Menial job = 1 (0.917%)
	Self-employed = 9 (8.256%)
	Unemployed = 9 (8.256%)
	Other = 1 (0.917%)
MEAN FAMILY SIZE	4.28 individuals
LAND HOLDERS	24.77%

suggesting individuals in this cohort were less likely to support the initiative. Larger family sizes positively correlated with approval ($\beta = 0.3055$, $p < 0.05$), potentially indicating greater openness among households with more members to environmental changes. Access to government schemes was a significant predictor of approval ($\beta = 1.032$, $p < 0.05$), pointing to the role of institutional support in shaping public opinion. Economic well-being, however, did not emerge as a significant variable ($\beta = 1.2929$, $p > 0.05$) (Table 4).

Forest and Ecosystem Values

The second model offered insights into how perceptions of forest and ecosystem services influenced approval of reintroduction. The intercept ($\beta = 1.0362$, $p < 0.05$) established a positive baseline. Interestingly, the sense of ecosystem services (FECO) negatively influenced approval ($\beta = -3.4491$, $p < 0.05$), suggesting that those who highly valued ecosystem services might fear introducing a large herbivore such as gaur. Neither income dependence ($\beta = -0.6273$, $p > 0.05$) nor resource dependence ($\beta = 1.5315$, $p > 0.05$) was statistically significant, suggesting these factors exerted less sway in shaping opinion within this model's framework (Table 4).

Perception of Gaur Reintroduction

In this model, the intercept ($\beta = 0.0274$, $p > 0.05$) indicated neutrality in perception. Knowledge of the gaur (KOG) showed a marginally significant positive effect ($\beta = 0.7936$, $p < 0.05$), suggesting that greater awareness of the species might improve public opinion of its reintroduction, implying that informed populations are more likely to accept ecological interventions (Table 4).

Loss and Fear due to Wildlife

Loss and fear emerged as a significant variable in the fourth model. The intercept ($\beta = 1.4378$, $p < 0.01$) suggested strong baseline approval. However, fear of the gaur's impact on human life (FOGR) significantly reduced approval likelihood

Table 3. Summary Statistics of χ^2 test to determine the relationship between the dependent variables 'Support for gaur reintroduction in NSTR' and 'knowledge about the gaur'

Variable	**Support for gaur reintroduction in NSTR[4]**				**Knowledge about the gaur[5]**			
	n	**df**	**χ^2**	**p**	**n**	**df**	**χ^2**	**p**
Age	109	2	0.828	0.660	109	2	5.083	0.04*
Gender		2	5.503	0.063		2	1.180	0.554
Occupation		3	17.995	0.0004**		3	14.072	0.002**
Education		1	3.424	0.064		1	0	1
Resource dependency[1]		1	14.297	0.0001**		1	1.907	0.167
Sense of Forest Importance[2]		1	9.803	0.001**		1	0	1
Loss experiences due to wildlife[3]			13.037	0.0003**		1	12.744	0.0003**

*p<0.05, **p<0.005
n= Number of samples; df= degree of freedom; χ^2 = Statistic calculated with chi-square test.
1Dependency on forest resources: binary (Yes/No)
[2]Sence of importance of forest: binary (Yes/No)
[3]Loss experiences due to wildlife: binary (Yes/No)
[4]Support for gaur reintroduction in NSTR: Supportive or Non-supportive

($\beta = -2.5001$, $p < 0.01$). Contrary to expectations, actual reported losses ($\beta = -0.032$, $p > 0.05$) did not significantly shape perceptions, indicating that perceived fear may outweigh evidence-based experiences in driving opinion (Table 4).

Discussions

The interactions of socio-economic factors with conservation support have been recognized widely. Both Bennett *et al.* (2017) and Kansky & Knight (2014) found economic stability, household characteristics, and trust in government authorities to be likely influences on community attitudes towards wildlife reintroductions. In NSTR, this was clearly tangible, with larger households showing greater approval for gaur reintroduction. Households with larger household sizes may be positioned for greater income prospects and collective decision-making which could lead to a more favorable trajectory towards projects for conservation. Additionally, access to and use of government services and welfare schemes were reported as important

Table 4. Significant variables predicting the attitude of local households towards gaur reintroduction in NSTR (Category vis models using logistic binomial regression)

Significant predictor variables	Estimate (β)	Std. error	Z value	Pr(>|z|)	Significance level
MODEL 1 SOCIO-ECONOMIC VALUES					
(INTERCEPT)	-3.017	1.9015	-1.59	0.11259	
AGE GROUP (AGE)-3	-0.5847	0.2905	-2.01	0.04414	*
ECONOMIC STATUS INDEX (ESI)	1.2929	0.8938	1.446	0.14805	
FAMILY SIZE (FAM)	0.3055	0.1106	2.762	0.00574	**
GOVERNMENT SCHEME BENEFICIARIES (GSB)	1.032	0.3932	2.625	0.00867	**
AIC (FINAL MODEL)	133.88				
AIC (INITIAL MODEL)	135.43				
MODEL 2: SENSE OF FOREST AND ECOSYSTEM VALUES					
(INTERCEPT)	1.0362	0.3771	2.748	0.006	**
FECO	-3.4491	1.5998	-2.16	0.0311	*
IDI	-0.6273	0.4466	-1.41	0.1601	
RDI	1.5315	1.4933	1.026	0.3051	
AIC (FINAL MODEL)	143.95				
AIC (INITIAL MODEL)	145.79				
MODEL 3: PERCEPTION OF GAUR REINTRODUCTION					
(INTERCEPT)	0.0274	0.2341	0.117	0.9068	
KNOWLEDGE ON GAUR (KOG)	0.7936	0.4309	1.841	0.0455	*
AIC (FINAL MODEL)	149.5				
AIC (INITIAL MODEL)	151.03				
MODEL 4: LOSS AND FEAR DUE TO WILDLIFE					
(INTERCEPT)	1.4378	0.37496	3.834	0.00013	***
LOSS	-0.032	0.57715	-0.06	0.95574	
FOGR	-2.5001	0.4663	-5.36	8.25E-08	***
AIC (FINAL MODEL)	120.32				
AIC (INITIAL MODEL)	152.8				

*Significance code: 0 '***' 0.001 '**' 0.01 '*'*

determinants of support for conservation. Redpath *et al.* (2013) and Oldekop *et al.* (2016) observed that communities that have greater access to institutional resources will tend to have more favorable attitudes toward conservation. In NSTR, respondents who were more aware of government schemes expressed stronger approval for the reintroduction of gaur, which indicates that institutional facilitation, perceived or not, can alleviate some of the hesitation regarding likely losses associated with wildlife. This finding emphasizes integrating strategic conservation practice with broader socio-economic development efforts, similar to various conservation landscapes observed globally (Brooks *et al.*, 2012).

Several respondents were clearly in favor of introducing the gaur to the forest, in part with an understanding of potential aesthetic and ecological value. Comments such as "It is good to have animals in the forest" and "A species should stay in its forest" convey a positive attitude concerning restoring the fauna in NSTR. Other comments addressed the aesthetic and ecological values of reintroduction, highlighting that it would "add aesthetic value to the forest" or that it could help with biodiversity restoration and increase tiger numbers. Clearly in sync with broader conservation efforts, these perspectives also hint at some segment of the community recognizing the ecological value of reintroducing gaur, which is consistent with earlier studies showing community support as an essential factor for reintroduction (Bennett *et al.*, 2017). These kinds of perspectives are also relevant because they suggest potential ways to build community engagement and conservation awareness.

Another important influence on community thinking about gaur reintroduction was dependence on forests. Communities dependent on forest resources often view conservation projects as a threat to their resource-dependent way of life (Infield & Namara, 2001; Berkes, 2004). In NSTR, concerns regarding limited access to the forest and stricter rules emerged as clear themes, particularly that residents would not be able to continue to collect firewood, graze cattle, or collect medicinal plants after gaur reintroduction. Similarly, in the Satkosia Tiger Reserve, a tiger translocation program was impeded by concerns about restricted access and resource dependence, as residents feared they would lose access to limited forest resources, and they expressed concerns about resource extraction restrictions surmounting the wildlife reintroduction approval process (Vasudeva *et al.*, 2021). Redpath *et al.* (2015) pinpoint the importance of addressing perceived resource restrictions, as ongoing perceived losses of access to resources could lead to heightened negativity toward conservation and prompt considerations of alternative approaches to developing sustainable resource management and compensatory mechanisms.

Community perceptions of gaur reintroduction had a small positive relationship to public support, but this relationship was only marginally significant. This was similar to findings in Taiwan, where Best & Pei (2020) showed that communities with greater awareness of leopard cat conservation were more supportive, and that younger, educated individuals were particularly supportive. Although many respondents in NSTR had limited direct experience of gaur, previous generations of the family often passed on anecdotal information. Dickman (2010) notes that a lack of direct encounters with a species can create misconceptions, making targeted awareness campaigns necessary. Barua *et al.* (2013) and Madden & McQuinn (2014) state that the use of participatory meetings, workshops, and storytelling is a way to address these gaps in information and promote informed support for conservation actions.

Fear emerged as a significant deterrent to community support for gaur reintroduction, with concerns centered around crop damage and human-wildlife conflict. Such fears are not unfounded, as previous wildlife interactions in NSTR have left lasting impressions on residents, shaping their attitudes toward new conservation projects. In extended contexts, fear of large carnivores has been a dominant factor influencing support for conservation. Bombieri *et al.* (2023) documented that bold brown bears in human-modified landscapes often triggered heightened public fears, leading to conflict and retaliatory actions. Similarly, Jansson *et al.* (2024) observed that lions in multi-use landscapes in Tanzania strategically altered their movements to avoid human encounters, suggesting that minimizing the potential for conflict is a critical component of coexistence strategies. Interestingly, in NSTR, the perceived loss of resources, such as income or access to land, was less significant than the overarching sense of fear and uncertainty. Kansky *et al.* (2014) argue that fear often carries more weight than anticipated financial losses in shaping community attitudes. Therefore, effective conflict mitigation strategies, such as early-warning systems, compensation schemes for livestock losses, and proactive community engagement, are essential for fostering acceptance (Bruskotter *et al.*, 2014; Slagle *et al.*, 2012).

The fear of crop destruction was a strong factor in NSTR, with respondents expressing their view as "gaur would cause major damage to the crops". This fear resonates with existing literature showing that human-wildlife conflict, particularly in agricultural settings, is a significant barrier to reintroduction project adoption (Kansky & Knight, 2014; Redpath *et al.*, 2013). The perception of economic costs was also talked about fairly frequently, with respondents suggesting that the reintroduction of gaur could create restrictions on forest use and provide fewer resources. Phrases like "It will reduce our visits to the forest for livelihood" demonstrated fear that economic stability would be impacted by more wildlife use in the area. Although it was also interesting to note that some people believed that gaur could also help support tourism development, saying "This can help to promote tourism" and "It will positively impact the forest and hence the economic activity", thus suggesting a somewhat dual perception of economic impacts.

Taken together, these findings provide a comprehensive understanding of how socio-economic, perceptual, and emotive factors influence community attitudes toward the reintroduction of gaur in NSTR. Understanding social and economic realities that shape communities' thinking about species conservation initiatives is important for the success of these initiatives and for ecological factors. This study in sync with other global and local studies, adds to greater depth and underscores the need for holistic approaches to wildlife reintroduction. The assessment of social feasibility is not simply advantageous but necessary for the success of conservation translocation initiatives. The IUCN, in its Guidelines for Reintroductions and Other Conservation Translocations, highlights that feasibility assessments should not only focus on biological and ecological aspects of a translocation but also on social context, community engagement, and potential future conflicts (IUCN/SSC, 2013; Seddon *et al.*, 2014; Brichieri-Colombi & Moehrenschlager, 2016). These guidelines recommend an integrated approach that weighs conservation-related benefits and the social cost and risks involved in conservation plans, regardless of how they are formulated (IUCN/SSC, 2013; Redpath *et al.*, 2013; Bennett *et al.*, 2017).

Despite clearly written guidelines, many translocation projects have neglected social aspects, leading to significant difficulties during implementation. A review of 550 projects indicated that social feasibility assessments were often incomplete or limited in scope, resulting in unresolved controversies and community opposition that ultimately led to ineffective project outcomes (Miller *et al.*, 2014; Soorae, 2018; Teixeira *et al.*, 2007). The lack of consideration for social aspects has been a recurring feature of many failed conservation activities, especially in projects involving larger mammals and human-wildlife conflict (Dickman, 2010; Kansky & Knight, 2014; Nyhus, 2016).The present findings therefore reinforce the importance of incorporating social feasibility assessments into conservation planning and demonstrate that community perceptions, institutional support, livelihood concerns, and conflict-related fears are integral components of successful wildlife reintroductions

Conclusion

The success of gaur reintroduction in NSTR does not completely rely on ecological approaches but also on socio-economic and perceptual dimensions. Park managers, along with conservation efforts, should focus on engaging and building trust with forest-dependent communities, ensuring socio-economic stability, implementing welfare programs, and raising awareness of human-wildlife interactions through outreach and mitigation. Further deploying targeted, participatory awareness campaigns, such as community meetings, workshops, and storytelling, to bridge information gaps within local communities and highlight the gaur's aesthetic and ecological value. Also, integrating tangible benefits may alleviate hesitation, build goodwill, and strengthen trust. Providing a holistic approach that combines ecologically restorative use with community development leads to constant dialogue and ownership by the specific community - this amalgamation will allow for conservation models that are not only ecologically sound, but socially inclusive and place-based. Ultimately, the success of these actions will depend on how well they engage with the needs and perceptions of local communities and how they incorporate long-term benefits for both communities and wildlife.

TO DOWNLOAD SUPPLEMENTARY MATERIAL, CLICK **HERE.**

Acknowledgment

This study was conducted as part of a collaborative initiative between the Andhra Pradesh Forest Department and the Wildlife Institute of India, with the support of the Nagarjuna Sagar Srisailam Tiger Reserve (NSTR), Andhra Pradesh. The authors extend their sincere appreciation to the NSTR field staff for their invaluable assistance during data collection. Special thanks are also extended to Ms. Shanti Priya Pandey, Ms. Tanya Gupta, Mr. V. Saibaba, Mr. Anurag Meena, and Mr. Y. V. Narsimha Rao for their significant contributions and support throughout the study.

CONFLICT OF INTEREST

Samrat Mondol, Bilal Habib & Parag Nigam hold editorial positions at the Journal of Wildlife Science. However, none of them participated in the peer review process of this article except as authors. The authors declare that they have no competing interests.

DATA AVAILABILITY

The study contains sensitive household information, including personal details, which cannot be publicly shared. All relevant data generated during the study are provided within the article and its supplementary materials. Please contact the corresponding author at nigamp@wii.gov.in to obtain access to the dataset and associated documentation.

AUTHOR CONTRIBUTIONS

RV: data collection, formal analysis, visualization, writing—original draft.
AKG: data collection and analysis.
SC: data collection.
HF: review and editing.
AN: formal analysis, methodology, and writing—review and editing.
SM: supervision, writing—review and editing.
BH: supervision, writing—review and editing.
AKN: funding acquisition, permission acquisition, resources.
BNNM: funding acquisition, resources.
VAG: permission acquisition, resources.
PN: funding acquisition, investigation, resources, supervision, and review and editing.

ETHICS STATEMENT

The authors confirm that all procedures involved in this study adhered to the ethical guidelines established by the relevant national and institutional bodies, including the IUCN/SSC (2013) reintroduction guidelines and the Wildlife Institute of India under the Ministry of Environment, Forest, and Climate Change, Government of India. The research also complied with the Code of Conduct for contributors to the Journal. The interview methodology followed the IUCN/SSC (2013) guidelines, and informed consent was obtained from all participants for the use of the data collected. Participant anonymity has been maintained to ensure confidentiality.

ORIGINALITY STATEMENT

We, the authors, confirm that the manuscript submitted is our original research work. The content is not derived from other studies or the published work of the authors. We confirm that all the sources have been properly acknowledged and cited. We also understand that the journal conducts plagiarism checks, and we agree to provide additional clarification if the index exceeds 15% as required during the peer-reviewed process.

References

Akaike, H. (1974). A new look at the statistical model identification problem. *IEEE Transactions on Automatic Control*, 19(6), 716. https://doi.org/10.1109/TAC.1974.1100705

Allendorf, T., Swe, K. K., Oo, T., Htut, Y. E., Aung, M., Allendorf, K., Hayek, L., Leimgruber, P. & Wemmer, C. (2006). Community attitudes toward three protected areas in Upper Myanmar (Burma). *Environmental Conservation*, 33(4), 344-352. https://doi.org/10.1017/S0376892906003389

Badola, R., Barthwal, S. & Hussain, S. A. (2012). Attitudes of local communities towards conservation of mangrove forests: A case study from the east coast of India. *Estuarine, Coastal and Shelf Science*, 96, 188-196. https://doi.org/10.1016/j.ecss.2011.11.016

Barua, M., Bhagwat, S. A. & Jadhav, S. (2013). The hidden dimensions of human–wildlife conflict: Health impacts, opportunity and transaction costs. *Biological conservation*, 157, 309-316. https://doi.org/10.1016/j.biocon.2012.07.014

Bennett, N. J., Roth, R., Klain, S. C., Chan, K. M., Clark, D. A., Cullman, G., Epstein, G., Nelsom, M. P., Stedman, R. *et al.* (2017). Mainstreaming the social sciences in conservation. *Conservation Biology*, 31(1), 56-66. https://doi.org/10.1111/cobi.12788

Berkes, F. (2004). Rethinking community-based conservation. *Conservation biology*, 18(3), 621-630. https://doi.org/10.1111/j.1523-1739.2004.00077.x

Berzaghi, F. & Awasthi, B. (2022). MegaFeed: Global database of megaherbivores' feeding preferences. *bioRxiv*, 2022-09. https://doi.org/10.1101/2022.09.23.509174

Best, I., & Pei, K. J.-C. (2020). Factors influencing local attitudes towards the conservation of leopard cats *Prionailurus bengalensis* in rural Taiwan. *Oryx*, 54(6), 866–872. https://doi:10.1017/S0030605318000984

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices.* University of South Florida.

Bombieri, G., Penteriani, V., Almasieh, K., Ambarlı, H., Ashrafzadeh, M. R., Das, C. S., Dharaiya, N., Hoogesteijn, R., Hoogesteijn, A. *et al.* (2023). A worldwide perspective on large carnivore attacks on humans. *PLoS Biology*, 21(1), e3001946. https://doi.org/10.1371/journal.pbio.3001946

Brichieri-Colombi, T. A. & Moehrenschlager, A. (2016). Alignment of threat, effort, and perceived success in North American conservation translocations. *Conservation Biology*, 30(6), 1159-1172. https://doi.org/10.1111/cobi.12743

Brooks, J. S., Waylen, K. A. & Borgerhoff Mulder, M. (2012). How national context, project design, and local community characteristics influence success in community-based conservation projects. *Proceedings of the National Academy of Sciences*, 109(52), 21265-21270. https://doi.org/10.1073/pnas.1207141110

Bruskotter, J. T., Vucetich, J. A., Enzler, S., Treves, A. & Nelson, M. P. (2014). Removing protections for wolves and the future of the US Endangered Species Act (1973). *Conservation Letters*, 7(4), 401-407. https://doi.org/10.1111/conl.12081

Burnham, K. P. & Anderson, D. R. (2004). Multimodel inference: understanding AIC and BIC in model selection. *Sociological Methods & Research*, 33(2), 261-304. https://doi.org/10.1177/0049124104268644

Ceballos, G., Ehrlich, P. R., Soberón, J., Salazar, I. & Fay, J. P. (2005). Global mammal conservation: what must we manage? *Science*, 309(5734), 603-607. https://doi.org/10.1126/science.1114015

Cohen, J. (1994). The earth is round (p< .05). *American psychologist*, 49(12), 997. https://doi.org/10.1037/0003-066X.49.12.997

Creswell, J. W. & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Cromsigt, J. P. & Te Beest, M. (2014). Restoration of a megaherbivore: landscape-level impacts of white rhinoceros in Kruger National Park, South Africa. *Journal of Ecology*, 102(3), 566-575. https://doi.org/10.1111/1365-2745.12218

Dewi, S., Belcher, B. & Puntodewo, A. (2005). Village economic opportunity, forest dependence, and rural livelihoods in East Kalimantan, Indonesia. *World development*, 33(9), 1419-1434. https://doi.org/10.1016/j.worlddev.2004.10.006

Dickman, A. J. (2010). Complexities of conflict: the importance of considering social factors for effectively resolving human–wildlife conflict. *Animal conservation*, 13(5), 458-466. https://doi.org/10.1111/j.1469-1795.2010.00368.x

Ericsson, G. & Heberlein, T. A. (2003). Attitudes of hunters, locals, and the general public in Sweden now that the wolves are back. *Biological conservation*, 111(2), 149-159. https://doi.org/10.1016/S0006-3207(02)00258-6

Fischer, J. & Lindenmayer, D. B. (2000). An assessment of the published results of animal relocations. *Biological conservation*, 96(1), 1-11. https://doi.org/10.1016/S0006-3207(00)00048-3

Fisher, R. A. (1925). Theory of statistical estimation. *Mathematical Proceedings of the Cambridge Philosophical Society*, 22(5), 700-725. https://doi.org/10.1017/S0305004100009580

Fritz, H., Duncan, P., Gordon, I. J. & Illius, A. W. (2002). Megaherbivores influence trophic guilds structure in African ungulate communities. *Oecologia*, 131, 620-625. https://doi.org/10.1007/s00442-002-0919-3

Gillingham, S. & Lee, P. C. (2003). People and protected areas: a study of local perceptions of wildlife crop-damage conflict in an area bordering the Selous Game Reserve, Tanzania. *Oryx*, 37(3), 316-325. https://doi.org/10.1017/S0030605303000577

Godet, L. & Devictor, V. (2018). What conservation does. *Trends in ecology & evolution*, 33(10), 720-730. https://doi.org/10.1016/j.tree.2018.07.004

Griffith, B., Scott, J. M., Carpenter, J. W. & Reed, C. (1989). Translocation as a species conservation tool: status and strategy. *Science*, 245(4917), 477-480. https://doi.org/10.1126/science.245.4917.477

Hariohay, K. M., Fyumagwa, R. D., Kideghesho, J. R., & Røskaft, E. (2018). Awareness and attitudes of local people toward wildlife conservation in the Rungwa Game Reserve in Central Tanzania. *Human dimensions of wildlife*, 23(6), 503-514. https://doi.org/10.1080/10871209.2018.1494866

Hiroyasu, E. H., Miljanich, C. P., & Anderson, S. E. (2019). Drivers of support: The case of species reintroductions with an ill-informed public. *Human Dimensions of Wildlife*, 24(5), 401-417. https://doi.org/10.1080/10871209.2019.1622055

Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression*. John Wiley & Sons.

Hunter, W. W. (ed.). (1886). *The imperial gazetteer of India: Vol. VII (II).* Oxford at the Clarendon Press

Infield, M. & Namara, A. (2001). Community attitudes and behaviour towards conservation: an assessment of a community conservation programme around Lake Mburo National Park, Uganda. *Oryx*, 35(1), 48-60. https://doi.org/10.1046/j.1365-3008.2001.00151.x

International Union for Conservation of Nature (IUCN). (2002). 2002 IUCN Red List of Threatened Species. IUCN. https://www.redlist.org

IUCN/SSC (2013). *Guidelines for reintroductions and other conservation translocations.* Gland Switz Camb UK IUCNSSC Re-Introd Spec Group, 57.

Jansson, I., Parsons, A. W., Singh, N. J., Faust, L., Kissui, B. M., Mjingo, E. E., Sandström, C. & Spong, G. (2024). Coexistence from a lion's perspective: Movements and habitat selection by African lions (Panthera leo) across a multi-use landscape. *PLoS One*, 19(10), e0311178. https://doi.org/10.1371/journal.pone.0311178

Jiang, Z., Yu, C., Feng, Z., Zhang, L., Xia, J., Ding, Y. & Lindsay, N. (2000). *Reintroduction and recovery of Père David's deer in China.* Wildlife Society Bulletin, 681-687.

Kansky, R. & Knight, A. T. (2014). Key factors driving attitudes towards large mammals in conflict with humans. *Biological Conservation*, 179, 93-105. https://doi.org/10.1016/j.biocon.2014.09.008

Kansky, R., Kidd, M. & Knight, A. T. (2014). Meta-analysis of attitudes toward damage-causing mammalian wildlife. *Conservation Biology*, 28(4), 924-938. https://doi.org/10.1111/cobi.12275

Karanth, K. K., & Ranganathan, P. (2018). Assessing human–wildlife interactions in a forest settlement in Sathyamangalam and Mudumalai Tiger Reserves. *Tropical Conservation Science*, 11, 1940082918802758. https://doi.org/10.1177/1940082918802758

Lamichhane, B. R., Persoon, G. A., Leirs, H., Poudel, S., Subedi, N., Pokheral, C. P., Bhattarai, S., Thapaliya, B. P. & De Iongh, H. H. (2018). Spatio-temporal patterns of attacks on human and economic losses from wildlife in Chitwan National Park, Nepal. *PLoS One*, 13(4), e0195373. https://doi.org/10.1371/journal.pone.0195373

LeFlore, E. G., Fuller, T. K., Tomeletso, M., Dimbindo, T. C., & Stein, A. B. (2020). Human dimensions of human–lion conflict: a pre-and post-assessment of a lion conservation programme in the Okavango Delta, Botswana. *Environmental Conservation*, 47(3), 182-189. https://doi.org/10.1017/S0376892920000120

Lindsey, P. A., Du Toit, J. T., & Mills, M. G. L. (2005). Attitudes of ranchers towards African wild dogs Lycaon pictus: conservation implications on private land. *Biological Conservation*, 125(1), 113-121. https://doi.org/10.1016/j.biocon.2005.03.015

Madden, F., & McQuinn, B. (2014). Conservation's blind spot: The case for conflict transformation in wildlife conservation. *Biological Conservation*, 178, 97-106. https://doi.org/10.1016/j.biocon.2014.07.015

Meadow, R., Reading, R. P., Phillips, M., Mehringer, M., & Miller, B. J. (2005). *The influence of persuasive arguments on public attitudes toward a proposed wolf restoration in the southern Rockies.* Wildlife Society Bulletin, 33(1), 154-163. https://doi.org/10.2193/0091-7648(2005)33[154:TIOPAO]2.0.CO;2

Miller, K. A., Bell, T. P., & Germano, J. M. (2014). Understanding publication bias in reintroduction biology by assessing translocations of New Zealand's herpetofauna. *Conservation Biology*, 28(4), 1045-1056. https://doi.org/10.1111/cobi.12254

Mondanaro, A., Castiglione, S., Melchionna, M., Di Febbraro, M., Vitagliano, G., Serio, C., Vero, V. A., Carotenuto, F. & Raia, P. (2017). Living with the elephant in the room: Top-down control in Eurasian large mammal diversity over the last 22 million years. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 485, 956-962. https://doi.org/10.1016/j.palaeo.2017.08.021

Nigam, P., Habib, B., Vishwakarma, R. & Joshi, A. K. (2019). *Annual report on monitoring reintroduced gaur (Bos gaurus gaurus) in Bandhavgarh Tiger Reserve, Madhya Pradesh, Phase II, extension.* Wildlife Institute of India, Dehradun, India.

Nigam, P., Sankar, K., Cooper, D., Carlisle, L. & Pabla, H. S. (2014). *Capture and translocation of gaur (Bos gaurus) in India*. In: Melletti, M. & Burton, J. (eds.). Ecology, evolution and behaviour of wild cattle. Cambridge University Press, Cambridge, United Kingdom, 393-402. https://doi.org/10.1017/CBO9781139568098.025

Nigam, P., Vishwakarma, R., Bhandari, B., Habib, B., Sen, S., Singh, S. K., Krishnamurthy, L., Dubey, A. K. & Chauhan, J. S. (2024a). *Revival of the gaur in Sanjay Tiger Reserve, Madhya Pradesh.* Technical Report No. 2024/19. Wildlife Institute of India, Dehradun, India.

Nigam, P., Vishwakarma, R., Gorati, A. K., Chandola, S., Nath, A., Habib, B., Mondol, S., Appavu, G. V. & Murthy, B. N. N. (2024b). *A pilot study on feasibility assessment of gaur for reintroduction in Nagarjunasagar Srisailam Tiger Reserve, Andhra Pradesh.* Technical Report No. 2024/20. Wildlife Institute of India, Dehradun, India.

Novak, B. J., Phelan, R., & Weber, M. (2021). U.S. conservation translocations: Over a century of intended consequences. *Conservation Science and Practice*, 3, e394. https://doi.org/10.1111/csp2.394

Nyhus, P. J. (2016). Human–wildlife conflict and coexistence. *Annual review of environment and resources*, 41(1), 143-171. https://doi.org/10.1146/annurev-environ-110615-085634

Ogra, M. & Badola, R. (2008). Compensating human–wildlife conflict in protected area communities: ground-level perspectives from Uttarakhand, India. *Human Ecology*, 36, 717-729. https://doi.org/10.1007/s10745-008-9189-y

Oldekop, J. A., Holmes, G., Harris, W. E., & Evans, K. L. (2016). A global assessment of the social and conservation outcomes of protected areas. *Conservation Biology*, 30(1), 133-141. https://doi.org/10.1111/cobi.12568

Owen-Smith, R. N. (1988). *Megaherbivores: the influence of very large body size on ecology.* Cambridge University Press. https://doi.org/10.1017/CBO9780511565441

Parker, C., Scott, S. & Geddes, A. (2019). *Snowball sampling*. SAGE research methods foundations.

Posit Team. (2024). RStudio: Integrated Development Environment for R (Version 2024.04 or newer) [Computer software]. Posit Software, PBC. http://www.posit.co/

Qureshi, Q., Jhala, Y. V., Yadav, S. P. & Mallick, A. (2023). *Status of tigers, co-predators and prey in India, 2022.* National Tiger Conservation Authority, Government of India, New Delhi, and Wildlife Institute of India, Dehradun.

Reading, R. P. & Kellert, S. R. (1993). Attitudes toward a proposed reintroduction of black-footed ferrets (*Mustela nigripes*). *Conservation Biology*, 7(3), 569-580. https://doi.org/10.1046/j.1523-1739.1993.07030569.x

Redpath, S. M., Bhatia, S. & Young, J. (2015). Tilting at wildlife: reconsidering human–wildlife conflict. *Oryx*, 49(2), 222-225. https://doi.org/10.1017/S0030605314000799

Redpath, S. M., Young, J., Evely, A., Adams, W. M., Sutherland, W. J., Whitehouse, A., Amar, A., Lamber, R. A. *et al.* (2013). Understanding and managing conservation conflicts. *Trends in ecology & evolution*, 28(2), 100-109. https://doi.org/10.1016/j.tree.2012.08.021

Ripple, W. J., Newsome, T. M., Wolf, C., Dirzo, R., Everatt, K. T., Galetti, M., Hayward, M. W., Kerley, G. I. H., Levi, T. *et al.* (2015). Collapse of the world's largest herbivores. *Science advances*, 1(4), e1400103. https://doi.org/10.1126/sciadv.1400103

Sakurai, R., Tsunoda, H., Enari, H., Siemer, W. F., Uehara, T., & Stedman, R. C. (2020). Factors affecting attitudes toward reintroduction of wolves in Japan. *Global Ecology and Conservation*, 22, e01036. https://doi.org/10.1016/j.gecco.2020.e01036

Sankar, K., Pabla, H. S., Patil, C. K., Nigam, P., Qureshi, Q., Navaneethan, B., Manjreakar, M. Virkar, P. S. & Mondal, K. (2013). Home range, habitat use and food habits of re-introduced gaur (*Bos gaurus gaurus*) in Bandhavgarh Tiger Reserve, Central India. *Tropical Conservation Science*, 6(1), 50-69. https://doi.org/10.1177/194008291300600108

Sankar, K., Qureshi, Q., Pasha, M. K. S. & Areendran, G. (2001). *Ecology of gaur (Bos gaurus) in Pench Tiger Reserve, Madhya Pradesh.* Final report, Wildlife Institute of India, Dehra Dun. pp. 1-124.

Seddon, P. J. & Armstrong, D. P. (2016). *Reintroduction and other conservation translocations: history and future developments. In: David S. Jachowski, D. S, Millspaugh, J. J., Angermeier, P. L. & Slotow, R. (eds.).* Reintroduction of fish and wildlife populations. University of California Press. pp. 7-28. https://doi.org/10.1525/9780520960381-004

Seddon, P. J., Armstrong, D. P. & Maloney, R. F. (2007). Developing the science of reintroduction biology. *Conservation biology*, 21(2), 303-312. https://doi.org/10.1525/9780520960381-004

Seddon, P. J., Griffiths, C. J., Soorae, P. S. & Armstrong, D. P. (2014). Reversing defaunation: restoring species in a changing world. *Science*, 345(6195), 406-412. https://doi.org/10.1126/science.1251818

Shapiro, S. S. & Wilk, M. B. (1965). An analysis of variance test for normality (complete samples). *Biometrika*, 52(3-4), 591-611. https://doi.org/10.1093/biomet/52.3-4.591

Slagle, K. M., Bruskotter, J. T. & Wilson, R. S. (2012). The role of affect in public support and opposition to wolf management. *Human Dimensions of Wildlife*, 17(1), 44-57. https://doi.org/10.1080/10871209.2012.633237

Soman, D. & Anitha, V. (2020). Community dependence on the natural resources of Parambikulam Tiger Reserve, Kerala, India. *Trees, Forests and People*, 2, 100014. https://doi.org/10.1016/j.tfp.2020.100014

Soorae, P. S. (ed.). (2018). *Global reintroduction perspectives, 2018: Case studies from around the globe*. IUCN-International Union for Conservation of Nature and Natural Resources.

Soorae, P. S. (Ed.). (2021). *Global conservation translocation perspectives, 2021: Case studies from around the globe*. IUCN SSC Conservation Translocation Specialist Group, Environment Agency & Calgary Zoo.

Talukdar, S. & Gupta, A. (2014). Medicinal plants used by the Bodo community of Chakrashila Wildlife Sanctuary, Assam, India. *Indian Journal of Applied Research*, 4(2). https://doi.org/10.15373/2249555X/FEB2014/13

Teixeira, C. P., De Azevedo, C. S., Mendl, M., Cipreste, C. F. & Young, R. J. (2007). Revisiting translocation and reintroduction programmes: the importance of considering stress. *Animal behaviour*, 73(1), 1-13. https://doi.org/10.1016/j.anbehav.2006.06.002

Vasudeva, V., Ramasamy, P., Pal, R. S., Behera, G., Karat, P. R. & Krishnamurthy, R. (2021). Factors influencing people's response toward tiger translocation in Satkosia Tiger Reserve, Eastern India. *Frontiers in Conservation Science*, 2, 664897. https://doi.org/10.3389/fcosc.2021.664897

Vodouhê, F. G., Coulibaly, O., Adégbidi, A. & Sinsin, B. (2010). Community perception of biodiversity conservation within protected areas in Benin. *Forest Policy and Economics*, 12(7), 505-512. https://doi.org/10.1016/j.forpol.2010.06.008

Williams, B. K., Nichols, J. D. & Conroy, M. J. (2002). *Analysis and management of animal populations.* Academic Press.

Yadav, S. P., Tiwari, V. R., Mallick, A., Garawad, R., Talukdar, G., Sultan, S., Ansari, N. A., Banerjee, K. & Das, A. (2023). *Management Effectiveness Evaluation of Tiger Reserves in India, Fifth Cycle, 2022*. Wildlife Institute of India, Dehradun and National Tiger Conservation Authority, Government of India.