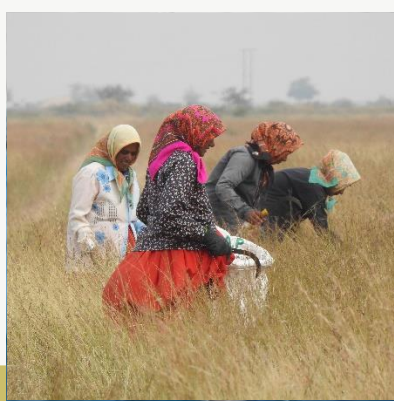


# Fostering Coexistence

Comprehensive Database of TCF's Landscape-Wide Initiatives for Mitigating Negative Human-Wildlife Interactions in India



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# Acknowledgement

We extend our sincerest gratitude to the state forest departments of Uttarakhand, Madhya Pradesh, Maharashtra, Gujarat, Assam and Manipur for their invaluable support and collaborative efforts throughout our endeavours to promote harmonious human-wildlife coexistence. Their unwavering dedication and cooperation have played a pivotal role in the resounding success of our initiatives.

We would also like to express our deep appreciation to our national and international funders, whose generous financial support has been instrumental in driving forward our diverse range of initiatives. Their philanthropic contributions have provided the necessary resources to implement impactful projects aimed at finding sustainable solutions to the pressing issue of negative interactions between humans and wildlife.

Finally, we extend our heartfelt thanks to the communities and individuals who have directly or indirectly contributed to our cause. Their active participation, understanding, and cooperation have been vital in fostering a harmonious coexistence between humans and wildlife, reinforcing the importance of collective responsibility in safeguarding our precious natural heritage.

We gratefully acknowledge and appreciate the collective efforts of all those who have supported and collaborated with us. Through our collective dedication, we have made significant strides in mitigating negative human-wildlife interactions and safeguarding the future for all.





# Executive Summary

Negative interactions between humans and wildlife is a significant challenge for conservation worldwide. As human populations expand and natural habitats are lost, the distance between communities and wildlife decreases, leading to more frequent negative encounters. These interactions can have dangerous consequences for both humans and animals, and can also have significant socio-economic impacts on local communities.

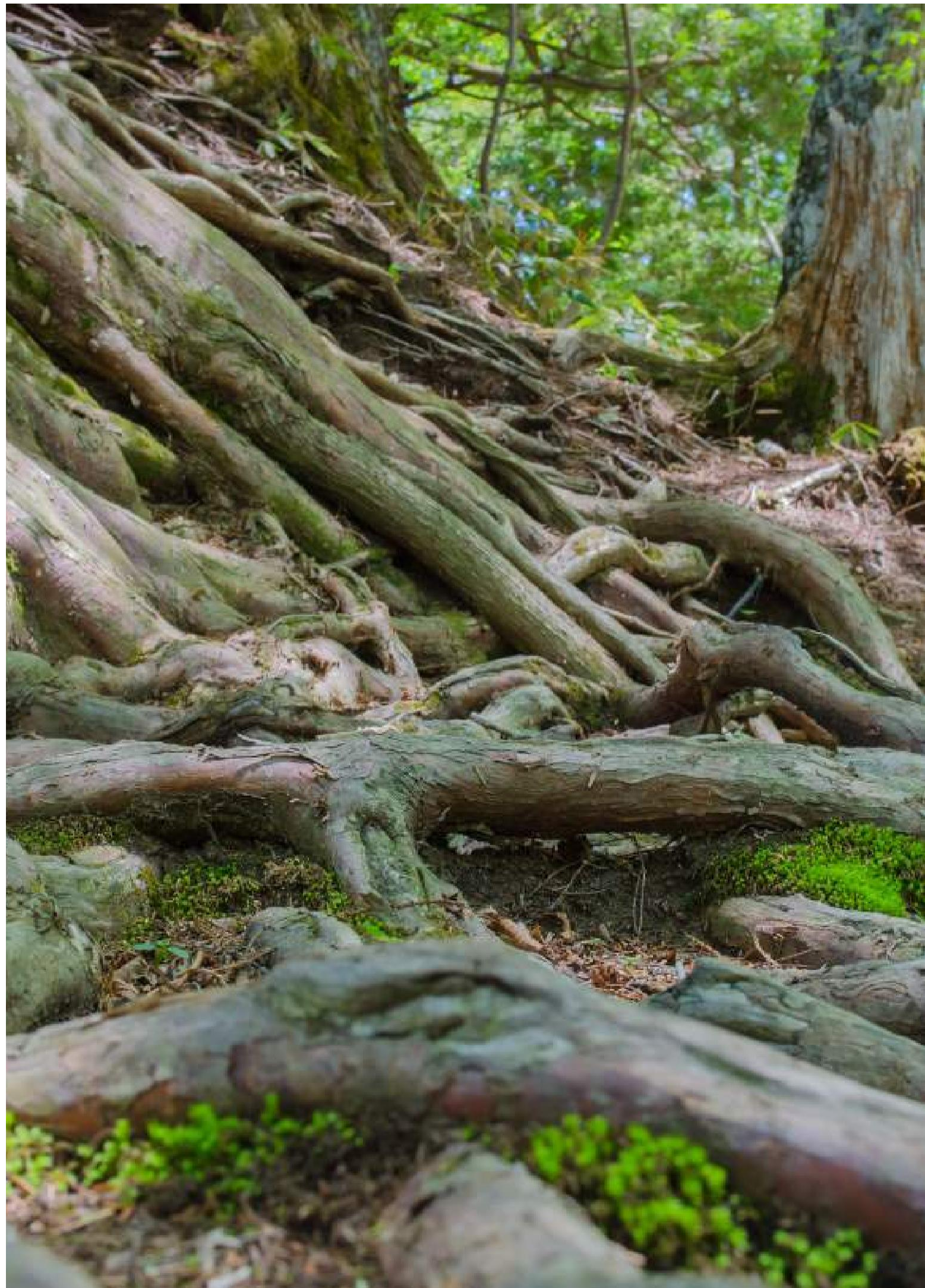
To address this challenge and encourage peaceful coexistence, The Corbett Foundation (TCF) has been implementing sustainable solutions for the past 30 years.

Our approach involves identifying the root causes of such interactions, determining critical areas for intervention, and implementing strategic measures. The goal is to promote harmonious relations between humans and wildlife while preserving India's natural heritage. By working together and engaging effectively, we envision a future where India's rich biodiversity thrives alongside thriving human communities.

This document provides a comprehensive overview of TCF's integrated approach to addressing the challenges of negative human-wildlife interactions in India. It outlines some of our key initiatives, such as the implementation of structural solutions such as solar fences and traditional watchtowers designed to empower forest department staff and local communities, as well as capacity building and equipment support enabling them to respond more effectively to negative human-wildlife interactions. This document also highlights the strong emphasis TCF places on providing livelihood support to local communities, offering alternative or additional sources of income to reduce dependency on resources that may attract wildlife. Furthermore, information about TCF's efforts in immunisation and disease prevention to minimise the risk of disease transmission between nature and humans is also included in this document.

Finally, this compilation emphasises the importance of collaborative efforts with local authorities and organisations in promoting harmonious coexistence, recognising the need for a coordinated approach.





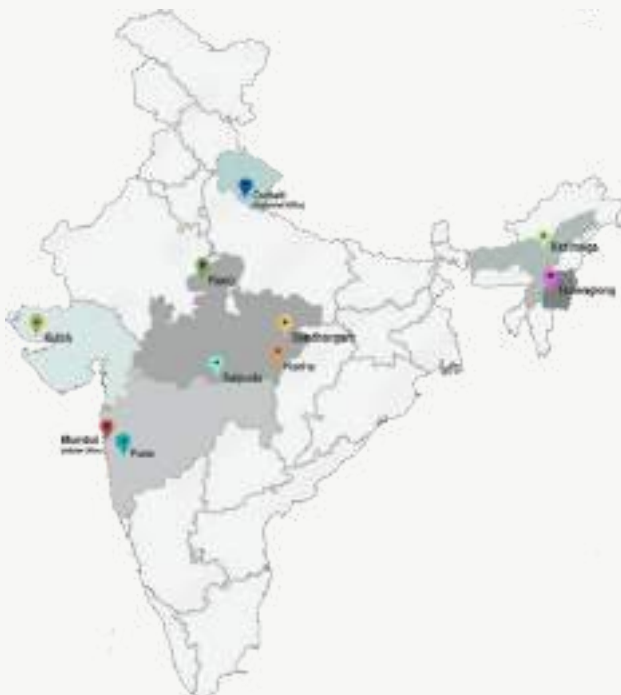
# About Us

The Corbett Foundation (TCF) is a charitable trust, non-profit, and nongovernmental organisation entirely devoted to wildlife conservation, actively engaging local communities. TCF has successfully demonstrated its interventions around important tiger conservation landscapes in Assam, Madhya Pradesh, Maharashtra, Manipur and Uttarakhand, and in semi-arid areas and grasslands of Gujarat, where it works towards the protection of Great Indian Bustard and Lesser Florican - both critically endangered species - and other threatened flora and fauna.

TCF adopts a 'holistic approach' to conservation which includes interventions in the areas of ecological research, biodiversity conservation, mitigation of negative human-wildlife interactions, habitat restoration, sustainable livelihoods, watershed development, sustainable rural development, human and veterinary health, policy and advocacy. TCF has implemented its programs in over 700+ villages and adopts a multi-pronged strategy to help in creating a future where wildlife and human beings live in harmony.

## Our on ground presence

The Corbett Foundation's reach extends to a wide network of communities across India, encompassing 709 villages spread across 24 districts in 6 states. In the Corbett Landscape, we are actively engaged with 350 villages situated in the Nainital, Pauri, Almora, and Amangarh districts of Uttarakhand. In the Kanha Landscape, our initiatives cover 50 villages in the Balaghat and Mandla Districts of Madhya Pradesh. For the Bandhavgarh and Sanjay Dubri Landscape, we work with 75 villages spanning Umariya, Mandla, Shahdol, Rewa, and Sidhi districts in Madhya Pradesh. We also work in 50 villages in the vicinity of Satpura Tiger Reserve and Kuno National Park in Madhya Pradesh. In the Kutch and Saurashtra Landscapes, we have a presence in 80 villages located in the Kutch, Morbi, Rajkot, and Bhavnagar districts of Gujarat. In the Kasiranga Landscape, we collaborate with 65 villages in the Golaghat, Nagaon, and Karbi Anglong districts of Assam. Additionally, we are involved with 18 villages in Tamenglong and None districts of Manipur and 81 villages in Pune, Thane, Palghar, and Sindhudurg districts of Maharashtra, situated within the Western Ghats region.





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# Introduction

India, renowned for its awe-inspiring landscapes and diverse ecosystems, holds a prominent position as one of the world's significant biodiversity hotspots. Spanning from the majestic Himalayas in the north to the expansive coastal plains and verdant tropical forests of the south, India boasts an exceptional assortment of plant and animal species that have engrossed naturalists and conservationists for centuries. The country's unparalleled biodiversity is exemplified by the presence of numerous endemic species exclusive to its territory that range from the Bengal tiger to the elusive snow leopard, from the graceful Indian peafowl to the iconic Asian elephant and greater one-horned rhinoceros.

However, this incredible biodiversity exists in a landscape also occupied by a large and growing human population. India is the second-most populous country on Earth, and the demands of its expanding population place immense pressure on the environment and wildlife habitats. As a result, the coexistence between humans and wildlife often gives rise to complex challenges and conflicts.

Negative Human-wildlife interaction has become a significant concern in India. As more forest lands are diverted for non-forest purposes, competition for resources intensifies, and encounters between people and wildlife become more frequent. These encounters often result in unfortunate consequences, such as crop and livestock depredation, property damage, and, also threats to the life of humans and wildlife. Negative interactions between humans and wildlife pose challenges to both the conservation of India's unique biodiversity and the well-being of local communities.

The delicate balance between conserving wildlife and addressing the needs of a growing population requires thoughtful and comprehensive strategies. Recognising the importance of both wildlife conservation and human livelihoods, TCF is dedicated to implementing sustainable solutions that promote coexistence and mitigate negative interactions between humans and wildlife.

In this document, we present TCF's integrated approach to address the challenges of negative human-wildlife interactions in India. By exploring the drivers of such interactions, identifying key areas of intervention, and outlining strategic measures, we aim to foster harmony between humans and wildlife while safeguarding India's incredible natural heritage. Through collaborative efforts and effective engagement, we aspire for a future where the rich biodiversity of India thrives alongside thriving human communities.



# Drivers of negative human wildlife interactions

Negative human-wildlife interactions in India are primarily driven by several interconnected factors. These include ongoing human population growth, rapid industrialisation, extensive infrastructure development, urbanisation, and the increased utilisation of natural resources. These processes necessitate changes in land use and exert significant pressures on both human and natural ecosystems.

The expansion of human activities leads to the encroachment and alteration of natural habitats, resulting in diminished space and quality of habitats for wildlife. The conversion of natural habitats for agricultural purposes, along with the construction of settlements and infrastructure, further reduces the available habitat for wildlife species. These habitat modifications often disrupt ecological corridors, impeding the movement of certain species and fragmenting their populations.

Another contributing factor is the introduction of invasive species, which can disrupt ecosystems and alter the balance of predator-prey relationships. The presence of these invasive species, combined with reduced habitat space, leads to an increased frequency of wildlife venturing into human-dominated landscapes. Consequently, the heightened proximity between humans and wildlife significantly escalates the likelihood of human-wildlife encounters. These encounters pose risks to both humans and animals, resulting in the loss of human lives, injuries to people, livestock depredation, and damage to property and crops.

It is important to recognise that negative interactions between humans and wildlife often involve species that are pivotal to ecosystem functioning, such as keystone and umbrella species. The removal of individuals from these species due to such interactions disrupts the ecological balance and ecosystem services, which are fundamental to human well-being and sustainable livelihoods.

Addressing negative human-wildlife interactions thus requires a holistic approach that focuses on habitat conservation, land-use planning, community engagement, and the development of effective mitigation strategies. By promoting coexistence between humans and wildlife, we can strive towards sustainable development while preserving the rich biodiversity of India.



# Initiatives for mitigating negative human-wildlife interactions

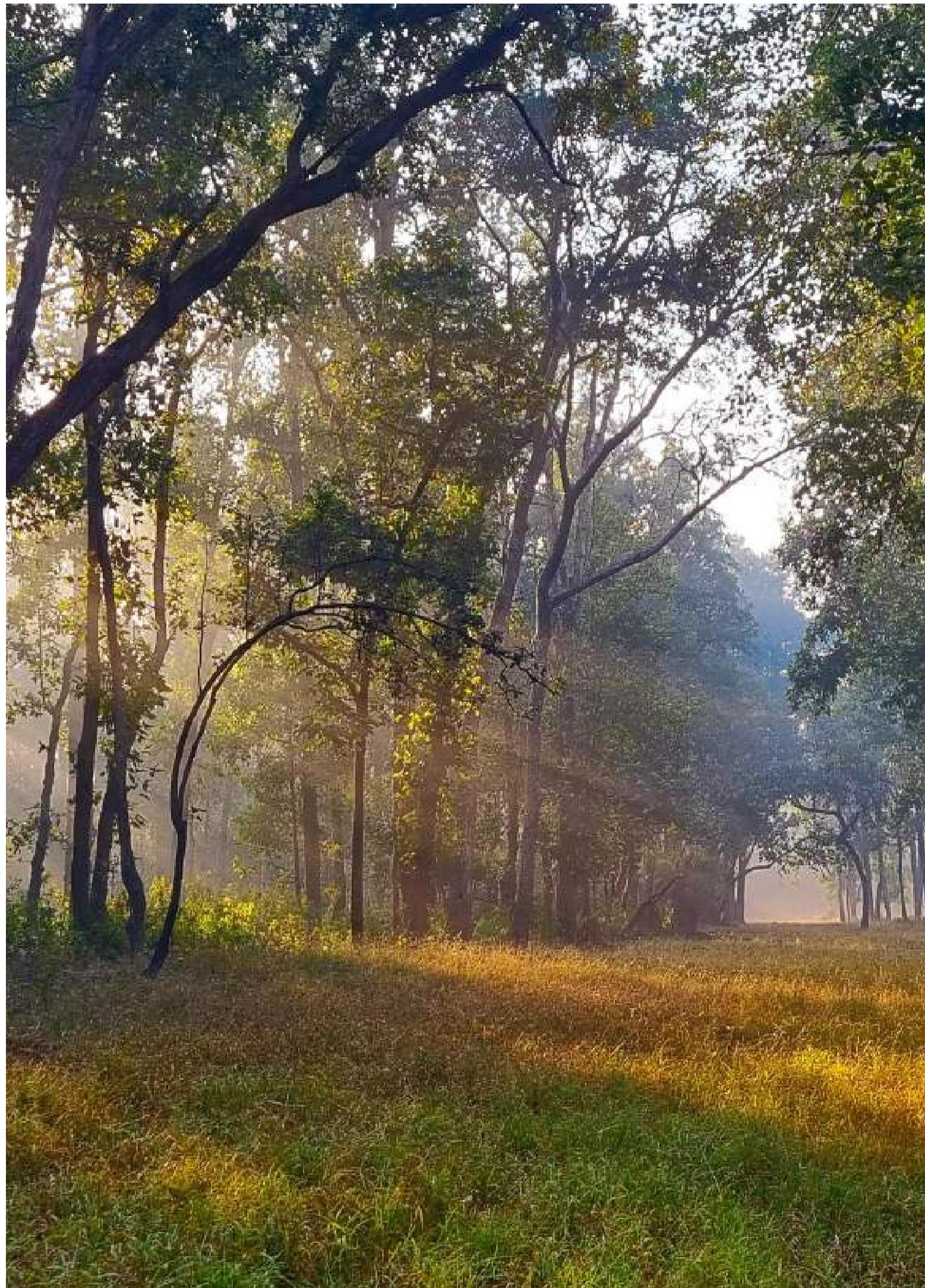
The Corbett Foundation recognises the critical importance of addressing and managing negative human-wildlife interactions as a central element of our operations in diverse landscapes. With human populations on the rise and forested areas diminishing, the inevitable increase in interactions between people and wildlife demands the implementation of effective management strategies to ensure the well-being of both parties involved. These interactions often result in economic losses for local communities, including crop damage and livestock predation, which can perpetuate poverty and foster resentment toward wildlife. To address these complex challenges, TCF employs a comprehensive and multifaceted approach.


Our approach encompasses several key initiatives, including habitat management and restoration efforts such as forest and grassland restoration, as well as the removal of invasive species. We also utilise various fencing and deterrent strategies, including open well fencing and solar fencing, to prevent negative interactions. Moreover, TCF actively engages with local communities through programs aimed at protecting livestock, reducing anthropogenic pressures, promoting community empowerment, and conducting extensive awareness campaigns. To holistically mitigate negative interactions, we provide technological solutions to empower forest department staff and local communities in responding to and mitigating negative human-wildlife interactions.

In addition, TCF offers crucial livelihood support to local communities, providing alternative or supplementary income sources to offset potential losses and prevent future interactions. Furthermore, our initiatives include immunisation and disease prevention measures designed to minimise the risk of disease transmission between wildlife and humans. TCF also conducts training and capacity-building programs to raise awareness and equip stakeholders with the necessary skills for the effective management of negative human-wildlife interactions.

Details of some of our most successful initiatives are provided in this document.







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Before



**BSDC  
490 HA,  
300,800  
SAPLINGS**

After



# 1. Habitat Management & Restoration

Habitat management and restoration are pivotal tools in the multifaceted approach to mitigating negative human-wildlife interaction. Natural habitats of countless wildlife species are shrinking or becoming fragmented due to unprecedented levels of urbanisation, industrialisation, and agricultural expansion which often become the underlying causes of negative wildlife interactions. Habitat management and restoration therefore play a critical role in addressing the root causes of HWCs. These strategies are not only ecologically significant but also socioeconomically valuable, as they promote a sustainable and peaceful cohabitation of humans and the diverse wildlife that share their habitats.

Habitat management involves the active manipulation of ecosystems to optimize conditions for wildlife. This can include measures such as controlled burns to rejuvenate grasslands, reforestation projects, and the removal of invasive species that disrupt native habitats. The goal is to ensure that the available habitats can support the needs of wildlife populations, reducing the anthropogenic pressure due to human settlements in search of resources. Properly managed habitats can provide the essential food, water, and shelter required by wildlife, thereby decreasing their need to venture into areas inhabited by humans.

Habitat restoration, on the other hand, focuses on reviving degraded or damaged ecosystems to their natural state. Often, this means reclaiming areas that have been altered by human activities like agriculture and open grazing. By restoring these ecosystems, we not only provide vital spaces for wildlife to thrive but also reduce the potential for conflicts with human activities. Restored habitats can act as buffers, creating natural barriers between human settlements and wildlife territories.

With this context, TCF has been effectively engaged in various landscapes to protect and restore habitats that are crucial for both wildlife and humans. Through a combination of scientific research, community engagement, and hands-on conservation work, TCF has successfully implemented projects that safeguard critical ecosystems.

TCF's initiatives encompass a wide range of strategies, including reforestation efforts to restore degraded forests in central India, grasslands restoration for bustard conservation in Kutch region as well as removal of invasive species from the Corbett landscape for promoting sustainable land use practices and contributing to the overall health and resilience of ecosystems, which is essential for the long-term survival of countless species endemic to the region.

In the subsequent sections, we will delve deeper into specific initiatives undertaken by TCF in the realm of habitat management and restoration, showcasing tangible impact of our work on reducing negative interactions between humans and wildlife and fostering a more sustainable coexistence between humans and the natural world.



- **Forest restoration in central India**

Open and free grazing practices for cattle pose various challenges, including increased instances of negative interactions between humans and wildlife, hindered forest regeneration, resource competition with wild herbivores, elevated disease transmission risks, and increased interactions between humans and wildlife. In recognition of these issues, The Corbett Foundation (TCF) has implemented multifaceted community-led forest restoration activities across the Kanha landscape, Bandhavgarh Sanjay Dubri Corridor, and the Corbett Landscape. By involving local communities in the restoration efforts, TCF is encouraging the harvesting of local grasses and promoting the adoption of stall-feeding techniques, which is expected to not lead to forest restoration but also reduce the likelihood of large carnivore attacks on cattle, mitigating situations of close, negative human-wildlife interactions. Free-grazing cattle are more vulnerable to such attacks, which can lead to negative interactions between local communities and wildlife.

To restore degraded forest lands, TCF identifies suitable sites and undertakes meticulous removal of invasive weeds. Large-scale plantation activities follow, with the land protected by chain-linked fencing to prevent free livestock grazing and unauthorised entry. These plantation sites are regularly monitored and maintained by dedicated local community members. In some areas, specific patches of land are deliberately left unplanted to allow for the growth of local grasses, which can be sustainably harvested for stall-feeding livestock. This approach not only aids in forest restoration but also has the potential to reduce negative human-wildlife interactions in surrounding villages.



Lantana removed from project site



Plantations by local communities



Dam construction - April 2022



Water reservoir in January 2023



Installation of fence in North Shahdol

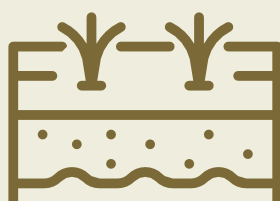


Sustainable harvest and use of grass



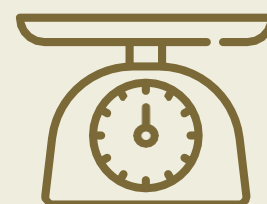
950 ha

of degraded forest land successfully  
eco restored in three crucial tiger  
landscapes of India



300,000

saplings of various indigenous tree  
and bamboo species planted to  
recreate the habitat for tigers and  
their prey species.



3000 Kg

of lantana and other invasive  
weeds were removed from project  
sites before eco-restoration



## • Restoring Habitats for the Bustards in Kutch

Anthropogenic activities and intensive agriculture have significantly altered Earth's environment, impacting land use, climate change, and food production. In India itself, over 20 million ha of biodiverse grasslands have been converted to cropland, causing a decline in species like the Great Indian Bustard. Critical grassland ecosystems are disregarded as wastelands, compromising biodiversity and livelihoods. Invasion by species like *Prosopis juliflora* worsens the situation.

To address these issues in Abdasa tehsil of Kutch, Gujarat, which serves as the habitat for various threatened species such as the Great Indian Bustard, Lesser Florican, Wolf, Caracal, Desert Fox, Hedgehogs, Chinkara, and more, TCF has successfully restored around 52 acres of *Prosopis juliflora*-infested community grazing land. This restoration project aimed to engage the local villagers of Kanakpar village in the scientific management of the grassland and train them in 'controlled and rotational grazing systems'. With the full participation of the villagers, the invasive *P. juliflora* were removed, local grass species were sown or broadcasted, and predator-proof fencing was installed to protect the area. Over five years, this restoration effort transformed the land into a safe grassland habitat for local biodiversity. The harvested grass now serves as fodder for livestock, reducing pressure on the remaining natural grassland patches nearby. The restored area has proven to be productive, yielding an average of 1,500 kg of grass per hectare annually. Biodiversity assessments conducted over a one-year period revealed the presence of approximately 70 bird species, 60 insect species, eight reptile species, and seven mammal species within the restored area. The restoration of degraded grasslands not only contributes to the conservation of local biodiversity but also presents an opportunity for the ecological rejuvenation of Kutch. With continued support from stakeholders, TCF aims to expand these restoration efforts to larger areas, further enhancing biodiversity conservation and promoting sustainable land management practices. This work was sponsored by Bombay Gau Rakshak Trust, The Habitats Trust and The Dharamsi Morarji Chemical Company Limited.



The Critically Endangered Lesser Florican



The Critically Endangered Great Indian Bustard



Restored grasslands post monsoon's 2021



Restored grasslands in dry season



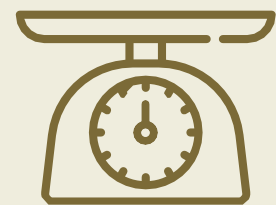
52 ha

of Prosopis-infested community grazing land successfully restored with native grasses



145+

species of local biodiversity including birds, insects, snakes and mammals benefitted



72000 Kg

of good quality fodder for livestock harvested for stall feeding annually



### • Lantana Removal in the Corbett Landscape

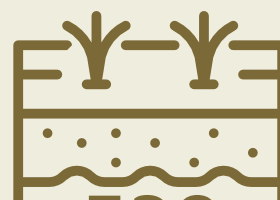
The Corbett landscape is intertwined with the lives of rural villagers who heavily rely on the nearby forests for essential resources such as fuelwood, fodder, and timber. However, this dependence has raised concerns about sustainable forest management and the degradation of wildlife habitats due to unclear levels of resource extraction and the spread of invasive weed species. To tackle these challenges, a plantation-based approach has been initiated by TCF, with a major focus on the eradication of invasive weeds and the establishment carefully managed plantation sites that nurture fodder and fuelwood tree species.

About six acres of weed-infested degraded landscape owned by the local villagers, spread across the North and South zones of the Corbett Tiger Reserve, were replenished during the period from March 2022 to March 2023 through replantation activities. A total of 430 saplings of indigenous plant species, such as Sheesham (*Dalbergia sissoo*), Jamun (*Syzygium cumini*), Bheemal (*Grewia optiva*), Sehtut (*Morus alba*), Goolar (*Ficus racemosa*), Kachnar (*Bauhinia variegata*), Siris (*Albizia lebbeck*) and Bamboo were planted at Muniyajal and Gajrijal planation sites of the North Zone while 100 saplings were planted in the Amgadi plantation site of the South Zone. TCF continues to maintain these sites by replanting in the areas where the saplings planted earlier failed to grow. Replantation activity is carried out every year depending on the damage rate to saplings at the sites.



6 acres

of weed-infested degraded landscape owned by the local villagers, spread across the North and South zones of the Corbett Tiger Reserve replenished



530

saplings of various indigenous tree and bamboo species planted to recreate the habitat for tigers and their prey species.



## 2. Fencing & Physical Barriers

Fencing and physical barriers are indispensable tools in the comprehensive toolkit of strategies employed to mitigate negative interactions between humans and wildlife. Fencing and physical barriers, through their ability to delineate boundaries and control access, play a pivotal role in reducing the incidence of HWCs and fostering coexistence.

The importance of fencing and physical barriers in HWC mitigation is rooted in their capacity to create spatial separation between human activities and wildlife territories. Wildlife species, driven by instinctual behaviors, often traverse landscapes in search of food, water, and shelter. This natural movement can bring them into close proximity to human settlements, where negative interactions may arise due to competition for resources, crop damage, or threats to human safety. Fences and barriers are designed to interrupt these patterns by establishing clear boundaries that prevent or limit wildlife from entering human-inhabited areas.

One of the most prevalent forms of wildlife fencing is solar electrified fencing, which uses a mild electric shock to deter animals from crossing a designated perimeter. This humane and effective method is often employed to safeguard agricultural crops, protect livestock from predators, and prevent large mammals, such as elephants, from raiding villages or farms. It not only safeguards human property but also reduces the need for lethal measures to control problem animals.

Physical barriers, on the other hand, encompass a broader range of structures that act as obstacles to wildlife movement. These include walls, trenches, and chain wired fences. Physical barriers are particularly valuable in preventing wildlife from accessing human habited areas which can be dangerous both for animals and humans.

The effectiveness of fencing and physical barriers in HWC mitigation is contingent upon thoughtful design and deployment. Collaborative efforts between conservation organizations, local communities, and wildlife experts are essential to ensure that these measures strike a balance between protecting human interests and maintaining ecological integrity. It is crucial to consider the specific needs and behaviors of the target wildlife species, as well as the socio-economic context of the affected communities, to devise solutions that are both effective and sustainable.

In this regard, TCF has been at the forefront of initiatives that leverage fencing and physical barriers as part of our holistic approach to HWC mitigation. TCF recognizes that the success of such interventions lies in their adaptability to diverse landscapes and species, and their ability to harmonize the needs of both humans and wildlife.

TCF's initiatives in fencing and physical barrier deployment are characterized by a multifaceted approach. We collaborate closely with local communities to identify HWC hotspots and design solutions that are culturally sensitive and sustainable. For instance, in regions where crop raiding by elephants is a common issue, TCF has worked alongside farmers to implement electrified fencing systems that deter elephants from entering agricultural areas. These fences are designed to minimize harm to both elephants and humans while protecting vital crops.

In the sections that follow, we will delve deeper into TCF's specific initiatives in fencing and physical barrier deployment, highlighting their innovative solutions and the tangible positive impacts on both human livelihoods and wildlife conservation. These initiatives exemplify the essential role that fencing and physical barriers play in mitigating human-wildlife conflicts and promoting a harmonious coexistence between humans and the natural world.



- **Open well fencing**

The Bandhavgarh landscape in Madhya Pradesh has hundreds of open wells, initially dug by villagers for agricultural purposes. However, many of these wells have been abandoned and now pose significant risks to wildlife, as they are located in close proximity to the forest. Recognising the potential dangers these wells present to wild mammals. Instances of tigers, leopards, deer, and bears falling into open wells in various regions of India, such as Madhya Pradesh and Maharashtra, underscore the critical need for proactive measures.

The Corbett Foundation (TCF) has undertaken a crucial initiative to cover and secure these wells. TCF is actively working towards eliminating the risk of mishaps and ensuring the safety of wildlife. Since 2014, TCF has successfully covered over 1,120 open wells within and around the Bandhavgarh Tiger Reserve and North Shahdol Forest Division. In the year 2021-22 alone, a total of 160 open wells were safely enclosed within the reserve. TCF's collaboration with Bandhavgarh Tiger Reserve authorities has proven invaluable in identifying these wells, including those situated in the core zone of the reserve. Through this initiative, TCF aims to mitigate the risks and hazards faced by wildlife in these areas. This initiative is vital for ensuring the well-being and uninterrupted existence of our country's diverse wildlife.



Fenced well in Khohri village



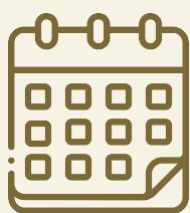
Fenced well in Hirauli Village



Fenced well in Neushi Village

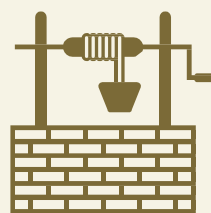


Fenced well in Gobaratal village



9 years

of collaboration with state forest department for identification and fencing of open wells



1120 wells

successfully fenced in and Bandhavgarh Tiger Reserve between 2014 and 2023



- **Chain-linked fence, Corbett**

Tigers, a keystone species, are territorial and need large tracts of natural forests with sufficient prey for their survival. Over the years, there has been a consistent increase in the tiger population both within the CTR and in the larger Western Terai-Arc landscape. CTR, with more than 231 tigers, has the highest tiger density in the natural habitat and also serves as a source population for the entire Western Terai-Arc landscape. An increase in tiger populations has also resulted in an increased frequency of negative interactions between humans and wildlife. Therefore, long-term conservation planning in the landscape requires the protection of both species and crucial corridors in human-dominated landscapes outside the CTR. This can only be possible with the active support of local communities in conservation initiatives. However, on the other hand, it is only the local community that has been surviving amid the threats of various types of conflicts due to the increase in the number of tigers, elephants, leopards, and other herbivore species. Loss of livestock or crop damage by wildlife is affecting the remaining economic options for already stressed communities, which is making it difficult for them to sustain their families.

In order to prevent crop damage caused by wild animals, TCF, using chain-linked fence has done successful experiment towards the mitigation of crop damage by wild animals in the fringe villages where there is no elephant movement. Wild boars, various deer species, and rhesus macaques have been identified as major species causing crop depredation in fringe areas. Based on the outcomes of previous experiments and suggestions from villagers, chain-linked fences have proven to be the best possible option for areas where there are no elephants. So far, TCF has provided or assisted 7 villages in the north zone of the CTR by installing chain-linked fences, benefiting 580 beneficiaries. Looking at the success of the intervention, villagers from the neighbouring villages have also arranged funds from various government schemes and installed chain-linked fence in their respective villages as well.



7 villages

covered under the chain-linked fences initiative for mitigation negative human wildlife interactions



580

beneficiaries benefitted in the north zone of the CTR by the installation of chain-linked fence



- **Solar fencing in Kaziranga**

Negative Human-elephant interactions is a persistent challenge in the state of Assam, with frequent encounters between communities and elephants resulting in significant loss of lives, property, and livelihoods. However, the implementation of solar fences has emerged as a promising solution to mitigate such interactions, promoting coexistence between humans and elephants while ensuring the safety and well-being of both. Solar fences provide an effective deterrent against elephant intrusions, minimising the risk of encounters between humans and these majestic animals. These fences consist of multiple strands of electrified wire powered by solar energy, creating a physical barrier that discourages elephants from entering human settlements or crop fields.

TCF has installed solar fences over a stretch of 29 km outskirts of Kaziranga National Park and Nagaon Forest Division to prevent 2000 acres of farms from being raided by elephants. By creating a clear boundary between human habitats and elephant habitats, these fences effectively reduce crop depredation, safeguard human lives, and prevent elephant casualties due to retaliatory measures taken by affected communities. Under this intervention, about 1800 households are directly and indirectly benefitted. The presence of a physical barrier also allows for early detection of elephant movement, enabling timely interventions by forest department officials and wildlife conservationists. Over the past three seasons, the solar fences have provided nearly 100% crop protection, ensuring that farmers can cultivate their lands without the constant fear of elephant intrusions and devastating crop losses. This accomplishment has had a positive impact on the livelihoods of the local communities, preserving their agricultural productivity and fostering economic stability.



Installation of Solar fences



Project banner, Kaziranga



Training of community members for fence maintenance

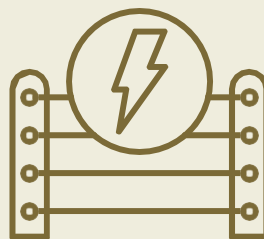


Project team in Kaziranga



2000 acres

of farmland protected from crop depredation by wild elephants



29 km

of solar powered fences installed to mitigate crop depredation



100%

crop protection since the installation of fences



### 3. Livestock Protection

Forest-dwelling rural communities in India heavily depend on animal husbandry for their livelihood, primarily for agricultural or dairy purposes. These communities rely on cattle for plowing fields, transporting goods, and producing dairy products that sustain their families. Given the central role of cattle in their lives, the well-being of these animals significantly influences the local economy and the overall quality of life for these communities.

Moreover, in the regions where The Corbett Foundation (TCF) operates, cattle often graze in the adjacent forests, as pastureland can be limited. This practice places additional stress on the forest ecosystem, leading to increased grazing pressure, degradation of the forest, and a decline in soil quality. Such environmental degradation not only threatens the delicate balance between humans and wildlife but also raises the risk of disease transmission from livestock to the native wildlife population.

To address these multifaceted challenges, TCF has launched a series of initiatives. These programs include providing veterinary support through camps in various reserves, offering round-the-clock assistance, including livestock immunization, and supplying interim relief in cases of livestock depredation. Additionally, to mitigate the potential for close encounters and attacks by wild carnivores and to improve the quality of livestock fodder, TCF has introduced the Stall Feeding Initiative. Furthermore, TCF is actively working on the transformation of traditional cattle sheds into predator-proof cattle shelters. The following section provides more in-depth details on each of these initiatives and their impact on the local communities and the surrounding forest ecosystem.





## • Livestock immunisation

Forest-dwelling rural communities in India heavily rely on animal husbandry for their livelihood, whether it be for agricultural purposes or dairy production. Since many cattle in the areas where The Corbett Foundation (TCF) operates serve as draft animals, their well-being directly impacts the local economy. Moreover, since cattle are often grazed in forests, the grazing pressure on the forest increases but degrades forest and soil quality, increasing the risk of not only negative interactions between humans and wildlife but also of disease transmission from livestock to wildlife.

To address this challenge, TCF has been implementing an elaborate program under which a team of veterinary experts, paravets, and Livestock Inspectors regularly conduct veterinary camps in various reserves. They provide round-the-clock assistance, ensuring that locals adopt healthy and sustainable cattle-rearing practices, maintain disease-free animals, and promote productivity. Annually, TCF treats nearly two lakh livestock for various ailments, including worm infections, mastitis, indigestion, pneumonia, infertility, and reproductive problems. Moreover, to prevent the transmission of diseases to wildlife, TCF also conducts regular vaccinations for cattle in and around protected forests. In collaboration with forest divisions and veterinary departments, TCF has vaccinated a substantial number of livestock against diseases like Black Quarter, Foot and Mouth Disease (FMD), and Hemorrhagic Septicaemia.

Additionally, TCF also has an active collaboration with the University of Edinburgh Royal (Dick) School of Veterinary Studies on a "Healthy Cattle, Healthy People" project. This initiative aims to raise awareness and educate forest-dwelling communities in and around Kanha Tiger Reserve about good cattle management and animal husbandry practices. Through participatory education techniques, community members and veterinary professionals discuss various animal health issues, prioritise them, and find effective solutions. Workshops and consultation meetings have been held to address common livestock diseases and provide practical treatment solutions.



Cattle Vaccination accros landscapes



LIVESTOCK PROTECTION



200,000

animals vaccinated and treated annually



## ● Interim Relief Scheme

Since 1998, TCF in collaboration with WWF-India and with the support from other partners has been implementing the Interim Relief Scheme (IRS) that compensates villagers who have lost their large carnivores to reduce community antagonism towards wildlife and prevent revenge killing in and around the tiger reserve of Corbett in Uttarakhand. This is India's longest-running and most effective large cats conservation program being implemented by non-governmental organizations. This scheme was also implemented in Kanha Tiger Reserve, Madhya Pradesh from 2016-2022.

IRS provides immediate ex-gratia financial assistance in addition to the compensation that the villagers would receive from the forest department. Over the years, it has proven to be an effective conservation strategy and has certainly helped in protecting large cats from the wrath and retribution of the aggrieved communities. The IRS has transformed the community antagonism into their whole-hearted support for TCF's long-term wildlife conservation goals. Since 1998, around 18,000+ livestock depredation cases from the Corbett and Kanha landscapes have been paid the interim ex-gratia amount under the IRS. Despite the high intensity of livestock depredation by large cats in these tiger reserves, no signs of retribution against the predators have been recorded in the history of the IRS program.

Interactions with local communities during the kill inspection have helped in generating awareness about wildlife conservation and thus seeking their active participation in conservation endeavours. It can be said with significant conviction that as an outcome of the Interim Relief Scheme, many tigers and leopards have survived retribution by aggrieved villagers.



©TCF/WWF INDIA

Camera trap image of tiger at kill site



©TCF/WWF INDIA

Camera trap image of leopard visiting kill site



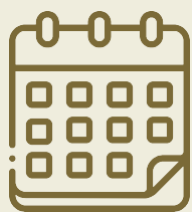
©TCF/WWF INDIA

Payment of compensation amount



©TCF/WWF INDIA

Payment of compensation amount



25 years

of project implementation. India's longest running large cats conservation program being implemented by NGOs



18,000+

cases of cattle depredation in Corbett and Kanha landscapes have been paid the interim ex-gratia amount under the IRS



0

instances of retaliatory killing of predators recorded in the history of the IRS program



### ♦ **Stall Feeding Initiative: Fodder Cultivation in Privately-Owned Farmland**

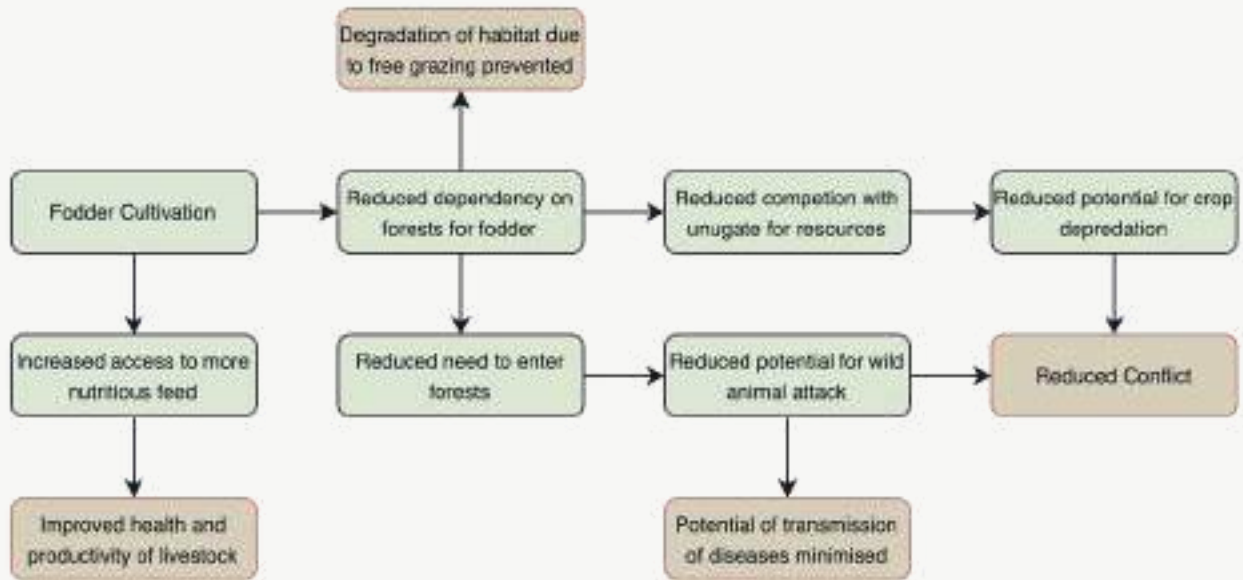
Under the Satpuda Landscape Tiger Partnership, TCF has initiated a stall-feeding project in Baherakhar village within the buffer zone of the Kanha Tiger Reserve. This pioneering initiative aims to explore stall-feeding practices for the first time in Kanha.

Approximately 10 acres of privately-owned farmland have been dedicated to growing fodder. The villagers of Baherakhar successfully harvested around four tons of green fodder in 2021 and 2022, providing nutritious feed for over 200 livestock. Through TCF's veterinary care program, these animals receive enhanced care and attention. The project has yielded positive results, with reduced grazing time, improved animal health, and increased milk yield reported by the beneficiaries. TCF has also provided ten high milk yield cows to 10 farmers of the same village to help them with an alternate livelihood and offers treatment for animals injured in encounters with tigers and leopards. This comprehensive approach benefits not only the livestock but also alleviates grazing pressure on forests, indirectly reducing the potential for negative interactions between humans and wildlife. By embracing this innovative livestock management strategy, local communities have the opportunity to contribute to community-based nature conservation and drive a paradigm shift in sustainable practices.

By means of the stall-feeding initiative, TCF is striving to

- ♦ Minimise transmission of diseases
- ♦ Reduce predation by tigers & leopards
- ♦ Prevent degradation of habitat due to free grazing
- ♦ Improve health and productivity of livestock

## How does it work?



Farmer with high milk yield cow provided by TCF



Fodder harvesting



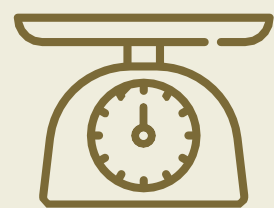
15 acres

privately-owned farmland dedicated for fodder cultivation



300

livestock benefitted under this project till March 2023



65,000 Kg

of green fodder successfully harvested between 2021 and 2023



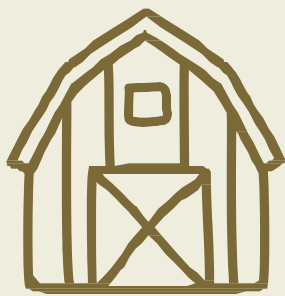
### ♦ Predator proof cattle sheds- Kaziranga

In forest fringe villages, the construction of cattle sheds often relies on locally sourced wood. These wooden structures require frequent reconstruction, leading to increased visits to deep forest areas where the risk of tiger and large carnivore attacks is high. Additionally, the traditional wooden cattle sheds have experienced high rates of cattle depredation as leopards and tigers easily enter through gaps in the structure, exacerbating negative interactions between humans and wildlife.

To address these challenges, TCF has undertaken various initiatives in different landscapes, actively enhancing traditional cattle sheds in local communities and transforming them into predator-proof structures. This involves replacing wooden structures with bamboo posts by securing gaps at the bottom and substituting branches with chain-linked fences. To date, TCF has successfully modified 200 livestock sheds in Kaziranga, with ongoing renovations in progress. The adoption of chain-linked fencing has significantly reduced the heavy reliance on forest trees. Notably, no incidents of livestock killings have been reported within the modified cattle shed fences.

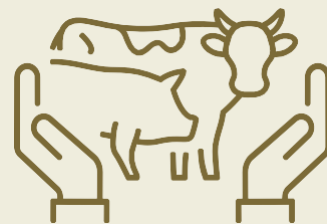


LIVESTOCK PROTECTION



320

traditional cattle sheds modified in  
Kaziranga



0

instances of livestock depredation  
in modified cattlesheds



## 4. Reducing Anthropogenic Pressures

Anthropogenic pressures often cause increased negative interactions between humans and wildlife as they fundamentally alter natural ecosystems and compel animals to adapt by venturing into human dominated landscapes. Habitat destruction and fragmentation stemming from urbanization and agriculture leave animals with diminished territory, often forcing them into close proximity with human settlements. Further, over-exploitation of natural resources and unsustainable practices further deplete naturally occurring resources leading animals to target livestock or forage within human areas. Climate change, exacerbated by human activities, exacerbates food scarcity and altered weather patterns, pushing animals towards human territories. Irresponsible waste management, unsustainable land use, NTFP collection and invasive species introductions contribute to unintentional attraction, while pollution contaminates habitats and water sources. Addressing these anthropogenic pressures is therefore paramount in curbing conflicts and facilitating harmonious coexistence between humans and wildlife, allowing for the preservation of our planet's diverse ecosystems.

The Corbett Foundation addresses these challenges through a range of initiatives. The following section provides detail on these initiatives including the promotion energy-efficient cookstoves, installation of iron haystack poles, cattle shed modifications, sustainable non-timber forest product (NTFP) collection, alternate livelihoods, and the Agriculture ARC Project, for reducing negative human-wildlife interactions and fostering coexistence. These initiatives not only serve as an inspiring example of proactive conservation but also highlight the need for broader efforts to mitigate anthropogenic pressures, allowing humans and wildlife to coexist harmoniously in our shared ecosystems.





### ♦ Energy Efficient Cookstoves

The collection and use of firewood as the primary cooking fuel for communities near forest areas pose significant challenges and contribute to negative human-wildlife interactions. This practice not only exposes women, who bear the responsibility of cooking, to health risks from the smoke but also puts their lives in danger as they venture into natural habitats for firewood. Additionally, the competition for limited resources intensifies as a family of five members consumes about 3 tonnes of firewood in one year. With more firewood collected, the crucial food and shelter sources for wildlife get depleted. Firewood collection inadvertently attracts wildlife, resulting in instances of crop raiding, livestock predation, and threats to human safety. Furthermore, it leads to habitat degradation and fragmentation, pushing wildlife closer to human communities. To address these underlying causes of negative interactions between humans and wildlife and prioritise the well-being and safety of both communities and wildlife, TCF has provided energy-efficient, smokeless, portable cookstoves to households, schools, and forest camps in Kanha, Bandhavgarh, Sindhudurg, Tamenglong and Tansa landscapes. A total of 884 cookstoves were distributed to 827 households, 30 schools, and 27 forest camps in the Kanha Tiger Reserve, 3,400 cookstoves in the Tansa Wildlife Sanctuary, 799 units in Sindhudurg, 50 units in Tamenglong and 280 units in Kaluabah, Mardari, Gadawah, Gohadi, and Pathari villages in Bandhavgarh.

These cookstoves are contributing to sustainable livelihoods, improved health, and reduced risks associated with human-wildlife interactions, ultimately fostering harmonious coexistence. The intervention has yielded positive outcomes, with a pre and post-assessment revealing a more than 50% reduction in fuel wood consumption. Community members have expressed satisfaction with the cookstoves, as they provide a safe and clean source of energy while significantly reducing the burden of firewood collection and saving women valuable time. Villagers have reported fewer visits to the forest for fuel wood, reduced smoke emissions, and a decrease in household illnesses among those regularly using the energy-efficient cookstoves.



Project Beneficiary in Kanha Tiger Reserve



Project Beneficiary in Sindhudurg district



Project Beneficiary in Tansa Wildlife Sanctuary

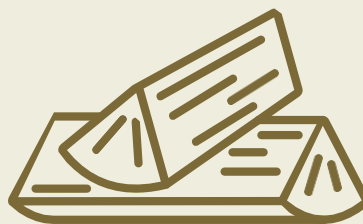


Project Beneficiary in Tamenglong



5413

cookstoves distributed to households, schools, and forest camps in 5 landscapes



wood from  
120500

trees prevented from consumption as firewood.



40%

reduction in smoke emission as compared to traditional cookstoves



### ♦ Iron haystack poles

In rural communities, the construction of haystacks is an age-old practice for the storage of wheat and paddy straws. Unfortunately, this traditional method involves using a Sal tree trunk as a central pole to stack the straw bundles. The use of tree trunks for this purpose leads to deforestation and adversely impacts the natural habitat of wild animals, potentially increasing negative interactions between humans and wildlife. To promote sustainable and eco-friendly haystack construction, TCF has provided community members with durable iron poles as an alternative.

These iron poles serve as sturdy and long-lasting central supports for stacking straw bundles during haystack construction. By replacing tree trunks with iron poles, the permanent removal of trees from the forest is prevented, and any potential close encounter with wild animals is prevented. Moreover, these iron poles have been found to be more durable and resistant to wear and tear, ensuring a longer lifespan and reducing the need for frequent replacements.



450

iron poles provided and installed for the purpose of making traditional haystacks



16

eleven beneficiary villages covered in the north zone of the Corbett Tiger Reserve.

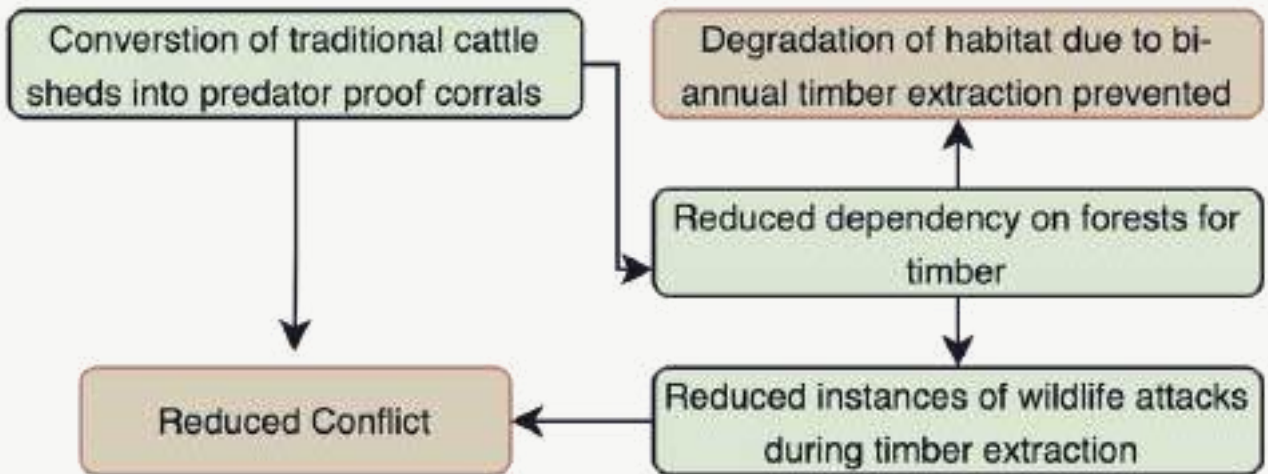


### • Cattle Shed Modification - Bandhavgarh

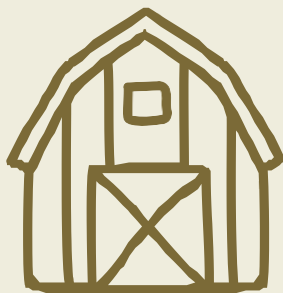
In the outskirts of forest villages, the construction of cattle sheds often relies on locally sourced wood. Although the gathering of dry wood is permissible, the use of large trees, such as the Sal (*Shorea robusta*), for constructing backyard and cattle shed enclosures presents a significant challenge. These wooden structures require frequent rebuilding, exacerbating deforestation and placing additional stress on forest resources.

In response to these issues, TCF has initiated a range of programs across diverse landscapes, actively improving traditional cattle sheds in local communities and converting them into durable, wire-linked permanent structures. This transformation involves the replacement of wooden components with robust 7-foot cement poles, of which 5 feet are above the ground, and the substitution of branches with chain-linked fences. As of now, TCF has successfully upgraded 320 cattle sheds in the Bandhavgarh region, with ongoing renovations in progress.

The adoption of chain-linked fencing has markedly reduced the heavy reliance on forest trees, resulting in an estimated conservation of approximately 1,200 mature Sal trees in the seven villages where TCF is actively engaged in Bandhavgarh.



Before and after cattle shed modification intervention



320

traditional cattle sheds modified in Kaziranga and Bandhavgarh



1500

mature trees which would be cut for the construction of traditional cattle sheds conserved



0

instances of livestock depredation in modified cattlesheds



### • Sustainable NTFP Collection

Non-timber forest products (NTFPs), also known as secondary forest products, are valuable resources obtained from forests. Unlike timber, NTFPs provide a continuous flow of returns, as they are available throughout the year rather than intermittently during the rotation period. Research indicates that approximately 80% of the population in developing countries relies on NTFPs to meet their health and nutritional needs. These products also offer employment opportunities, particularly during the lean agriculture season, benefiting local communities. Tribals, in particular, derive a significant portion (20-40%) of their annual income from minor forest produce, which requires a considerable investment of their time. NTFPs play a crucial role in meeting the needs of tribal, rural, and forest-dependent communities, including food and nutrition. However, the collection of NTFPs can be a risky task, as it often involves communities venturing deep into forests where unfortunate wildlife encounters are possible. Additionally, while NTFP collection around protected areas is permitted, it is essential to ensure sustainable practices that do not cause significant adverse impacts on the forests and prevents human-wildlife negative interaction.

To address these challenges, The Corbett Foundation (TCF) has engaged with villagers living near Kanha Tiger Reserve to enhance their capacity for sustainable NTFP collection. TCF conducts training sessions and workshops that focus on specific techniques. For example, villagers from Sareipatera were provided training on the collection of mahua flowers on a green net to prevent them from getting soiled, enabling the flowers to be sold in the market for making treacle and other mahua products. TCF has also established market linkages for the sale of these flowers to ensure the economic viability of the initiative for the communities. The training also encompassed various other NTFPs, such as the careful harvest of tendu leaves to ensure only the leaves are collected without damaging the branches and the setting up of bee boxes to prevent traditional unsustainable methods of honey collection, amongst others.



Sustainable honey collection



Bee boxes set up for sustainable honey collection



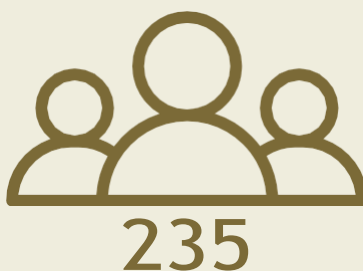
Mahua flowers collected for sale



Trainings for sustainable NTFP collection



5 sustainable NTFP collection models



235 local people trained for various NTFP related activities



Rs. 80,000

profit earned by project beneficiaries after just the first set of trainings



### ♦ Alternate livelihoods

Provision of alternative livelihoods to communities living in and around forested areas is a valuable strategy for mitigating negative interactions between humans and wildlife. These interactions often result from competition for resources, increased pressures and changes in habitat use, and the inherent challenges of coexistence, leading to severe consequences for both human communities and wildlife. Alternative livelihood programs, such as sustainable agriculture, NTFP based small businesses and cottage industries, aim to reduce communities' reliance on harmful practices leading to deterioration of wildlife habitats. By offering income opportunities, these programs alleviate poverty within these communities, fostering a positive attitude toward wildlife and promoting local support for conservation efforts. Educational components in these initiatives further enhance awareness of wildlife conservation and the importance of coexistence. Economic diversification is an additional benefit, making communities more resilient to environmental and economic shocks while improving overall well-being. Nonetheless, successful implementation necessitates cultural sensitivity and long-term commitment, which are at the core of all programs TCF implements across various landscapes. TCF believes that alternative livelihoods hold the promise of fostering coexistence between humans and wildlife and for supporting conservation goals and enhancing the well-being of communities living near wildlife habitats.

Some alternative livelihood initiatives implemented and supported by TCF include:

- ♦ Poultry Farming in Maharashtra and Corbett Landscape
- ♦ Spice processing units
- ♦ Sustainable Bee Keeping
- ♦ Handicrafts support
- ♦ Sustainable NTFP Collections
- ♦ Plant Nursery
- ♦ Support for enhancing dairy businesses
- ♦ Vermicomposting
- ♦ Eco tourism (homestays)
- ♦ Nature guides





### ♦ Agriculture arc project - Kutch

Most bird species are insectivorous, especially during their breeding season, and hence they are adversely impacted by the intensification and modernization of agriculture, particularly those inhabiting agro- pastoral ecosystems. To address this issue and for the long- term conservation of biodiversity associated with farmlands, it is vital to involve farmers in conservation activities. TCF's 'Wildlife-Friendly Agriculture Arc (WFAA) program was one such initiative, which started with a single farmer and expanded to ten farmers located in the priority areas of Great Indian Bustard (GIB) in Kutch. This work was implemented with the financial support received from The Habitats Trusts Strategic Partnership Grant (2021-2022). These farmers adopted a pesticide-free approach to crop cultivation, with TCF providing them with

- ♦ quality seeds at reasonable rates than market value
- ♦ bio-pesticides that offer effective pest control without harming the overall biodiversity.

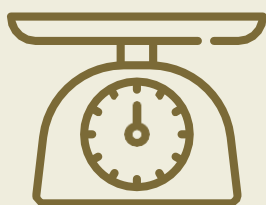
This approach reduces the financial burden on farmers and enables them to market their yield at higher prices, as the produce is cultivated without harmful pesticides. During the year 2021 - 22 , when Abdasa received moderate rain, ten farmers could cultivate 6000 kg of groundnuts. In this program, the 100 % amount received from the sale of crops is directly given to the farmers. The biodiversity assessment of these farms confirmed the presence of ~ 50 species of insects, 59 species of birds and 5 species of reptiles during the groundnut cropping season, i.e. August-December 2021 .

With future financial support, TCF further plans to expand this activity and support more farmers by providing quality crop seeds and biopesticides to facilitate the implementation of sustainable agricultural practices. Additionally, TCF has undertaken the responsibility of evaluating the impact of this conservation-focused agricultural model on local biodiversity



10

ten farmers located in the priority areas of Great Indian Bustard (GIB) in Kutch engaged in this project



6000 Kg

groundnuts cultivated without harmful pesticides with 100% profits given to farmers



~50

Confirmed the presence of ~50 species of insects, 59 species of birds and 5 species of reptiles during the groundnut cropping season



# 5. Community Empowerment

Empowering local communities holds paramount importance for wildlife conservation and the mitigation of human-wildlife conflicts. By involving members from communities living in forested areas, the sustainability of conservation initiatives is enhanced due to the communities vested interest in protecting nearby wildlife habitats, which, in turn, fosters enduring support for these efforts. Moreover, local communities often possess invaluable traditional knowledge about wildlife behavior, migration patterns, and habitat requirements, offering essential insights for effective wildlife population management. Engagement with communities also generates economic opportunities through ecotourism and employment, thereby incentivizing the protection of wildlife and their habitats as vital sources of livelihood. This empowerment extends to mitigating conflicts stemming from crop damage, livestock predation, and threats to human safety, facilitating coexistence through knowledge and tools. Additionally, community involvement provides an opportunity for conservation education and enhancing policy relevance, preserving cultural and spiritual connections to local wildlife, and promoting social equity by ensuring that communities benefit from these conservation endeavors. Communities when engaged effectively through mutually beneficial initiatives become invaluable allies in monitoring and enforcing wildlife protection measures, thereby increasing the effectiveness of anti-poaching and law enforcement efforts. Ultimately, the involvement of local communities fosters shared responsibility and ensures the long-term sustainability of wildlife and the well-being of those who share their habitats.

TCF strongly believes that an empowered, healthy community can add immense value for achieving conservation goals and objectives. Therefore across all our projects and initiatives across all landscapes that we operate in have a large focus on empowering local communities through a number of initiatives. These range across livelihood programs as detailed in the previous section to skills development workshops and health camps to provide holistic support.





### ♦ Skills development

The relationship between humans and wildlife is extremely complex especially in areas where communities reside in close proximity to diverse and often endangered animal species. Given the escalating anthropogenic pressures on ecosystems and the resulting conflicts, the need to reduce potential negative interactions between humans and wildlife is therefore very pressing. In landscapes, where the boundaries between human and wildlife territories blur, skill development within local communities holds the key to addressing these conflicts. By empowering individuals with skills and capacities not only can we enable them to diversify their incomes but also foster conservation awareness and create a transformative path to coexistence.

TCF adopts a multifaceted approach where we develop need based strategies to provide trainings and support for empowering different segments of the communities in various landscapes.

By investing in skill development for local communities, we don't just address the immediate challenges of human-wildlife conflict; but aim towards achieving a long term, holistic conservation and sustainable coexistence. These initiatives empower communities to become stewards of their natural surroundings, instilling a sense of pride, responsibility, and ownership.

Furthermore, skill development initiatives offer communities the opportunity to diversify their income sources, reducing their dependency on activities that often lead to conflicts with wildlife. This economic diversification not only contributes to poverty alleviation but also strengthens the economic resilience of these communities. As they become less reliant on harmful activities like over-hunting, resource extraction, and habitat destruction, the pressure on local ecosystems is relieved, resulting in long-term benefits for wildlife conservation.



Need assessment through community consultations

Organise members into groups as per interests

Identify resource persons & conduct skill development programs

Provide support and follow ups for effective use of skills for income generation

#### Skills for small-scale businesses operations

- Production or Crafting Skills
- Entrepreneurial Skill
- Budgeting and financial planning
- Sales and negotiation skills
- Supply chain and Inventory management
- Networking for business expansion

#### Skills for nature guides

- Effective interpretation skills
- Waste management in natural habitats' fringe areas
- Art of bird watching
- Communication skills (self-presentation and self-esteem)
- Snake awareness and rescue
- Intelligence gathering
- First aid

#### Skills for generating employment in youth

- Electricians
- Beauticians



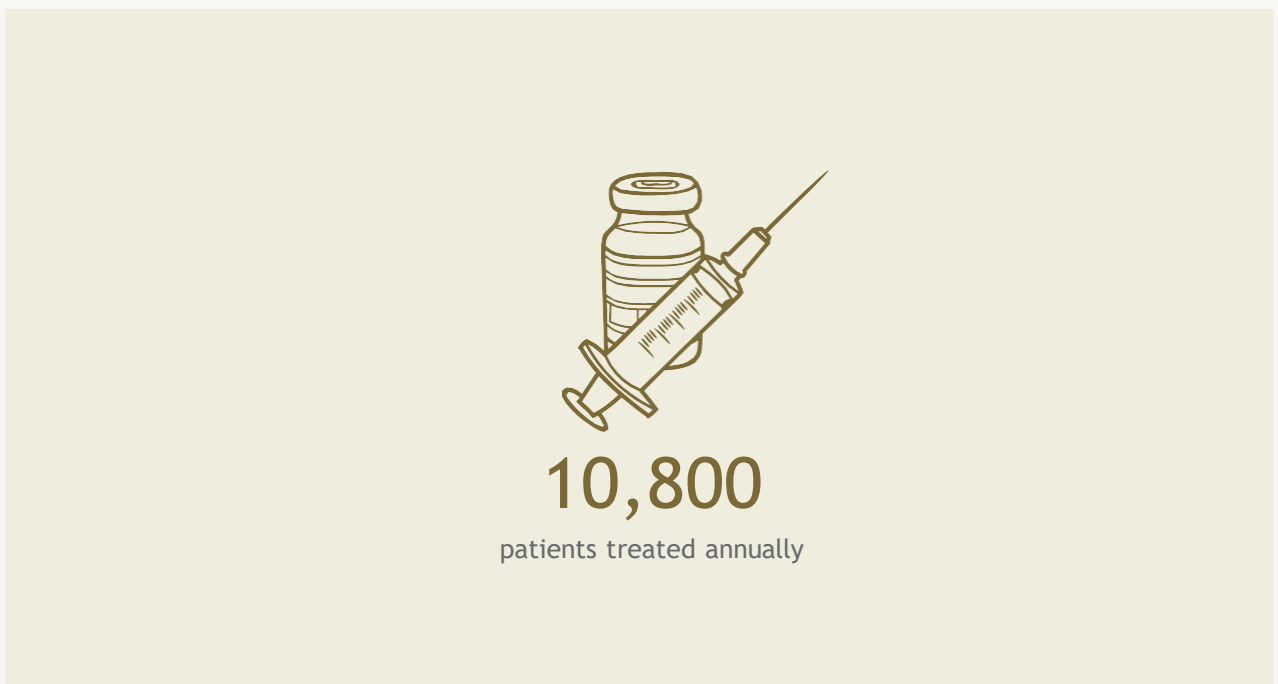
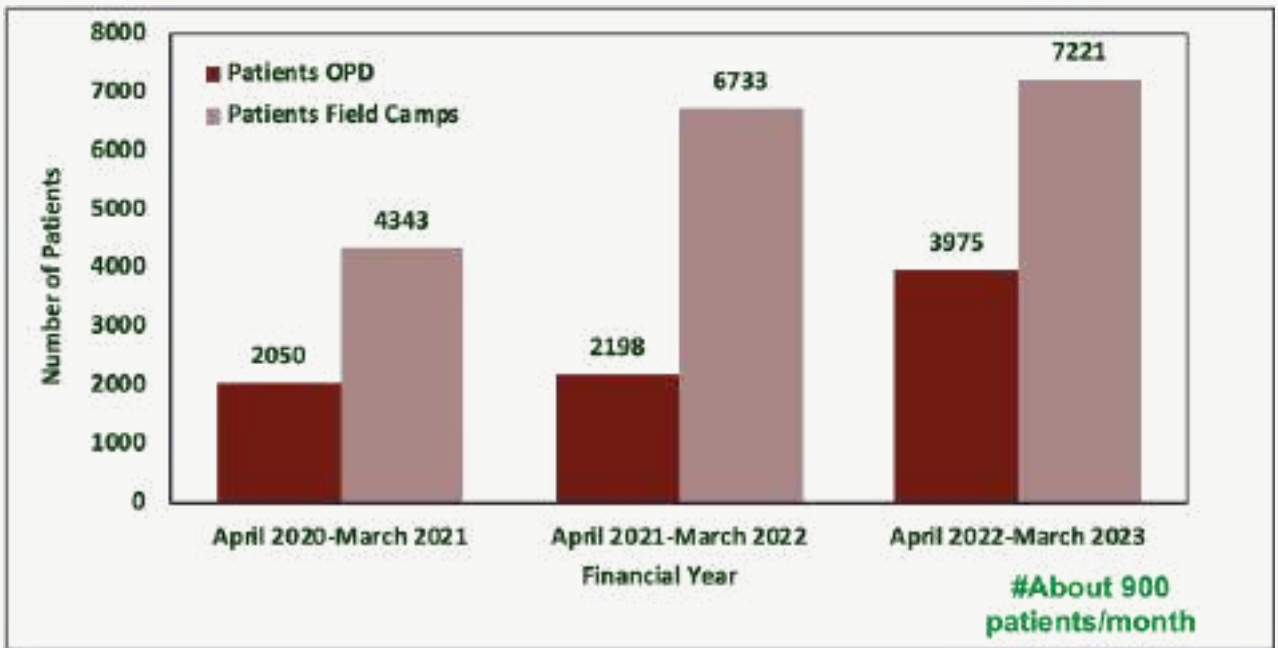
### ♦ Rural Medical Outreach program

Rural and forest-dependent communities and wildlife share common natural ecosystems, and this often gives rise to conflict situations. The health and wellbeing of local communities are directly linked to their willingness to participate in wildlife conservation efforts aimed at maintaining healthy ecosystems.

TCF has a multipronged strategy to help create a harmonious co-existence between wildlife and humans. TCF believes that only a healthy community can contribute to a healthy environment. Considering this, the Rural Medical Outreach program (RMOP) was launched in 1995, aiming to provide primary health checkup facilities along with provisions for health and hygiene awareness and a first aid training program in schools and villages in remote forest fringe areas of the Corbett landscape. RMOP has been instrumental in achieving a balance between prevention of diseases through regular awareness activities and remedial measures through consistent and regular treatment facilities. The program has achieved significant success in reducing the cases of communicable and non-communicable diseases by providing timely access to medical care. RMOP has also helped create a strong healthcare system in the villages, ensuring that people have access to quality healthcare services.

RMOP has proven to be an essential program in the Corbett landscape because, in the fringe villages located in the buffer region of the CTR, even basic medical treatment is often not easily available to these communities at these locations. RMOP has helped to bridge this gap by providing much-needed medical care to these communities and ensuring they have access to quality healthcare. It has also enabled the communities to become more self-sufficient and empowered, as they now have access to medical care for their families.

RMOP has reduced the burden of medical expenses on these communities, allowing them to use their resources on other development projects. It has also improved the physical and mental health of the people and enabled them to lead better lives. This has had a positive impact on the community's overall economic and social development. The program has also improved access to healthcare, which has reduced the number of health-related deaths and illnesses in the area.





## 6. Awareness & Sensitisation

The role of sensitization and awareness among local communities is pivotal in mitigating negative human-wildlife interactions. By fostering an understanding of the challenges and complexities associated with coexisting with wildlife, communities can be empowered to actively participate in conservation efforts and adopt practices that promote harmonious coexistence. Sensitization initiatives play a crucial role in educating communities about the behaviour, needs, and ecological importance of wildlife. They help dispel myths, misconceptions, and fear, promoting a more informed perspective. When individuals are aware of the value of wildlife and the benefits it brings to ecosystems and their own livelihoods, they are more likely to engage in proactive conservation measures.

TCF, in its commitment to mitigating negative human-wildlife interactions, routinely undertakes various activities with local communities, including women and children, to raise awareness and promote a culture of coexistence. Through extensive educational programs, we strive to empower community members with knowledge about wildlife behaviour, conservation principles, and the significance of preserving natural ecosystems. These programs are designed to reach individuals of all ages, with a particular emphasis on engaging women and children as catalysts for change within their communities. Moreover, we organize events on globally and nationally recognized days of importance, such as World Wildlife Day, Earth Day, and International Tiger Day. They serve as powerful opportunities to rally community members and stakeholders, creating a collective sense of purpose and urgency in addressing negative human-wildlife interactions. Through interactive activities, workshops, and awareness campaigns, these events generate enthusiasm and inspire individuals to contribute to conservation goals actively.





### ♦ Amur falcon conservation, Manipur

The conservation of Amur falcons in Manipur holds immense significance due to the state's crucial role in the annual migration of these birds. Amur falcons, being small migratory raptors, cover thousands of kilometers from their breeding grounds in Siberia to their wintering grounds in Southern Africa. Manipur serves as a vital stopover site for these falcons during their migration. However, the past has witnessed concerns regarding the rampant hunting and trapping of Amur falcons in Manipur, driven by the demand for their meat and feathers. This harmful practice posed a severe threat to the falcon population, raising urgent conservation issues. To address these challenges, TCF has concentrated awareness and sensitisation projects aimed at safeguarding and preserving the Amur falcons in Manipur. These activities involve collaboration among governmental bodies, local communities, and wildlife conservation organizations, working together to protect the species and its habitat.

Broad activities implemented to raise awareness and mitigate potentially negative interactions include:

- ♦ **Awareness Campaigns:** A number of awareness campaigns and education programs have been organized to emphasize the ecological importance of Amur falcons and the imperative need for their protection. These initiatives specifically targeted local communities, schools, and other stakeholders, with a primary focus on conserving these migratory birds. As a result, more than 50,000 people have been directly reached through these campaigns, while thousands of others have been reached to through social and print media platforms.
- ♦ **Community Engagement:** Local communities are actively engaged in conservation activities aimed at protecting Amur falcons. In particular, outreach initiatives are undertaken to connect with local hunters and explore alternative livelihood options for them. Eco-tourism and sustainable beekeeping are among the alternative opportunities provided with the aim of alleviating hunting pressures on the falcons and fostering a sustainable coexistence between human communities and wildlife.
- ♦ **Legal Protection:** The implementation and enforcement of laws and regulations to prohibit the hunting, trapping, and trade of Amur falcons are crucial in the past for the protection of these magnificent birds. Therefore TCF conducts capacity-building workshops and training sessions for the frontline staff of the forest department emphasising the provisions of the Wildlife Protection Act, 1972, with the objective of enhancing legal protection for the falcons. By bolstering the knowledge and skills of the frontline staff, we aim to strengthen conservation efforts and reinforce the importance of safeguarding these migratory raptors within the region.
- ♦ **Monitoring and Research:** TCF contributed to WII's regular monitoring and research on Amur falcons to gather data on their population trends, migration routes, and habitat requirements by lending support and improving coordination with the local forest department and people. This information helps formulate effective conservation strategies and identify key areas for protection.
- ♦ **Habitat Conservation:** Restoring and protecting suitable habitats for Amur falcons in Manipur has been a key focus for TCF. Activities like plantation on degraded jhum sites and promoting eco stoves have contributed to preserving habitats for the falcons. These efforts aim to safeguard forested areas, wetlands, and other vital habitats that offer food and roosting sites for the falcons during their stopover.





### ♦ Cheetah project, Kuno: Strengthening Community Resilience for Cheetahs conservation

Community development initiatives play a crucial role in facilitating wildlife conservation by fostering a sense of ownership and active participation among local communities. By addressing the needs and aspirations of the communities living in and around wildlife habitats, these initiatives create a positive environment that supports conservation efforts. The villages surrounding Kuno predominantly consist of Sahariya and Moghiya tribes, who have traditionally relied on hunting wild animals for sustenance. Unfortunately, this traditional hunting has resulted in wildlife poaching and participation in the illegal wildlife trade. The underlying cause of this behaviour can be attributed to the lack of sufficient livelihood opportunities, a matter of grave concern. Therefore, to initiate engagement with the communities in the region where cheetahs are soon to start traversing, in November 2022, TCF deployed a team with the objective of addressing the conservation challenges and fostering a harmonious coexistence between the reintroduced cheetahs and the local communities.

Since November, TCF distributed solar home light systems to 48 families in Ranipura, Katila, and Mohan Ki Pataari villages in the vicinity of Kuno National Park and conducted education and awareness programs in 47 additional villages. These programs aim to educate the communities about the importance of preserving forests and the crucial role that wildlife plays in ensuring the long-term survival of these ecosystems, which ultimately impacts human well-being. Alongside conservation-focused sessions, TCF also conducts awareness programs on the significance of education, encouraging villagers to prioritise their children's education. Moreover, TCF has also raised awareness about government schemes such as the cattle kill compensation scheme, which allows cattle owners to receive compensation from the forest department in cases where wild carnivores have attacked or killed their livestock. By promoting knowledge about these schemes, our aim is to shift people's perceptions regarding negative human-wildlife interactions and prevent instances of retaliatory killing or carcass poisoning.



Tribal family with solar lighting



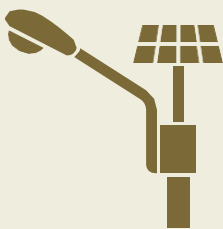
Handing over of solar home light solution



Awareness workshop with local children



Livestock depredation case verification



48

tribal families provided solar home lighting system



1500

villagers impacted through trainings and awareness programs for cheetah conservation



41

cattle owners provided cattle depredation compensation through government schemes



## 7. Wildlife Monitoring

Wildlife monitoring and enhanced visibility using traditional structures and street lights are essential tools in the mitigation of negative interactions between humans and wildlife. By providing early detection and awareness of wildlife presence, these systems enable residents to take necessary precautions, reducing the chances of accidental encounters, particularly at night. Illuminated areas also discourage wildlife from entering, thereby minimizing property damage and fostering a sense of coexistence between humans and animals. This enhanced visibility can lead to changes in animal behaviour, promoting safer interactions.

TCF provides region and species specific support for wildlife monitoring through a number of channels apart from technical assistance for patrolling. In Kaziranga we have supported the modification of traditional watch towers that allow community members to monitor elephant movement from a safe distance while in Corbett we have strategically placed solar street lights. Additionally, we have provided equipment support to forest departments across all landscapes to support effective monitoring of wildlife movement with a larger goal of mitigating potential negative interactions.

The following section provides details on some of these initiatives.





### ♦ Understanding Power line-induced Bird Mortalities in Kutch

During COP26 in Glasgow, Scotland, India committed production of 500 GW of energy from Renewable Sources by 2030. It is surely going to help in climate change, but at what cost is the significant question? In COP-CMS13 in Gandhinagar, India where the Great Indian Bustard was the ‘mascot’ of the COP, India committed to its conservation and showed its preparation to mitigate power lines to reduce bird collision, especially in GIB areas. These two commitments contradict each other, as the development of Renewable Energy projects are being targeted on the Open Natural Ecosystems, sadly identified as ‘wastelands’, a prime and possibly last habitats of bustards and many other threatened species. The majority of these areas are home to various habitat- specialist species. Such huge expansion in RE projects will simultaneously increase the network of power lines, considered as one of the linear infrastructures and responsible for killing ~1 lakh birds of more than 40 species annually in Thar desert alone. As per an estimate, power lines are responsible for killing 12-64 million birds in the US and 6-230 million birds in Canada annually, and for the bustards, it is one of the biggest threats, serving as the last nail in the coffin. In the last decade, TCF has observed so many bird mortalities due to bird collisions with power lines. A collaborative short-term study by WII and TCF carried out in nearly half of the Abdasa taluka has revealed that ~22,000 birds die annually due to power line collisions.

To understand this issue in Abdasa, especially from the perspective of Bustard conservation, and come up with a mitigation plan, TCF identified two of the most risky power lines located in the prime habitat of birds. A total of three km length of these lines were marked with four types of different Bird Flight Diverters (BFD). A detailed scientific and comparative study is being carried out to check the efficacy of these BFDs on bird collisions with power lines. The primary observations revealed that ~33,000 birds belonging to ~160 species crossed these lines. Considering the bird mortalities observed during this ongoing study, it appears that the BFDs may not be a long-term solution to mitigate bird collision with power lines, as their persistence is a doubtful matter. The outcome of this ongoing study will reveal imperative information to mitigate the threats associated with such linear infrastructure.

Types of Bird Flight Diverters



Carcasses found under the powerlines





### ♦ Tongi Project

The local community residing along the boundaries of Kaziranga Tiger Reserve in Assam faces significant crop losses and property damage due to elephants raiding their fields. To address this issue, TCF works with the local communities and strategically places traditional structures called tongis, equipped with powerful torchlights, in paddy fields to deter elephants and minimize crop losses.

The key objective of this project is to maintain distance and discourage harmful practices such as using sharp objects or fireballs that could endanger the elephants. For the implementation of the project, TCF provides galvanized iron sheets and other materials for setting up the tongis, while villagers contribute bamboo and labour for construction and maintenance. Each tongi is equipped with a powerful torchlight to drive away approaching elephants from a distance safely. TCF emphasizes the setup of bigger tongis involving 5-6 different families so that crop guarding can be done in rotation. Thus, each person gets sufficient physical and mental rest during the cropping season. Moreover, the community has the flexibility to relocate the tongis in consultation with the TCF team for better crop protection in different seasons.

In addition to setting up these structures, TCF regularly holds village-level meetings to monitor and assess the program's effectiveness. Over the past five years, approximately 300 tongis have been constructed across 28 villages, benefiting over 1,500 families. This initiative successfully protects crops valued at around INR 5.7 crores (~USD 695,000) spread over 1,300 hectares. By implementing these measures, TCF fosters coexistence between the local community and elephants while significantly reducing crop losses and promoting the welfare of these magnificent animals.



Illustration of a traditional watch tower 'tongi'



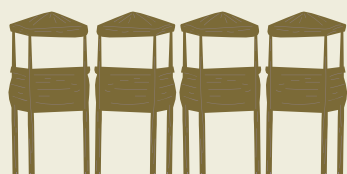
Community beneficiaries of the Tongi project

### BENEFICIARY TESTIMONY



*In the past, when we farmed, we used fire and sharp weapons to scare away elephants, but it caused more damage. We faced challenges not only with elephants but also with tigers, rhinos, buffaloes, deer, and wild pigs from national parks. The Corbett Foundation approached us during this time. They taught us about coexisting with elephants and provided aluminum sheets and flashlights to deter them. They advised us to form groups and take turns guarding our farmland. Initially skeptical, we observed the elephants without shouting and used the flashlight when they approached. Now, elephants are no longer a problem. If we remain vigilant, our crops are safe. Other farmers in the area have resumed farming. Inspired, I started growing strawberries, investing around three lakhs. I have faith in elephants, and thanks to The Corbett Foundation's guidance, I believe I can protect my crop.*

- Eunis Ali, Farmer - Kaziranga Landscape



300

tongis successfully constructed in 28 villages



1500

families benefitted from the project. All the farmers in the vicinity have started farming again.



crops worth

5.7cr

from over 1,300 hectares of farmland protected from depredation in the past five years. (INR 5.7 Cr ≈ USD 695,000)



### ◆ Capacity Building programs

Apart from the existing challenges in biodiversity conservation, such as habitat degradation and fragmentation, the increase in wildlife poaching poses a serious threat to the survival of wildlife in their natural habitats. The main focus of TCF is to safeguard flagship species by empowering frontline field workers of the forest department in the various landscapes we operate in. The primary aim of the capacity-building training is to equip forest department personnel with the most current knowledge, skills, and techniques required to effectively manage and protect forests and wildlife. This includes training on combating poaching and illegal wildlife trade, improving law enforcement, identifying migratory waterfowl, and other relevant topics.

TCF regularly conducts capacity- building training programs for the field personnel of various forest divisions. Through these initiatives, TCF aims to enhance the ability of forest department staff to implement conservation strategies and initiatives more effectively. By improving their understanding of ecological principles and best conservation practices, they can better safeguard the biodiversity and natural resources within their jurisdiction. Furthermore, these training programs help forest department officials learn about modern forest management techniques and monitoring systems. Specialized training also focuses on enabling forest department staff to enforce relevant laws and regulations related to forestry and wildlife, ensuring that illegal activities like poaching, illegal logging, and encroachments are adequately addressed. These programs provide opportunities for participants to collaborate and network with experts, NGOs, researchers, and other stakeholders, fostering valuable partnerships and knowledge exchanges.





### ♦ Equipment support to FD

Efficient wildlife conservation and mitigation of negative human-wildlife interactions rely on well-equipped and empowered frontline personnel from the Forest Department. The Corbett Foundation is dedicated to providing comprehensive training, resources, and assistance to these personnel across diverse landscapes. Our aim is to empower them with the necessary equipment, knowledge, and skills to effectively address the challenges associated with mitigating negative human-wildlife interactions. Through capacity-building initiatives, we enhance their understanding of conservation principles, advanced techniques, and emerging technologies, enabling informed decision-making and effective implementation of conservation strategies. Additionally, we offer support in the form of equipment and infrastructure to improve their monitoring and response capabilities.

Over the last three decades, the state forest departments have been one of TCFs most important collaborators and stakeholders. By providing tools such as GPS devices, binoculars, camera traps, tracking systems, anti-poaching camps, solar charging plates, points and solar lights, amongst others, we aim to support their work in accurately monitoring wildlife movements and collecting data to inform conservation strategies. Additionally, materials such as first-aid kits, head torches, wooden/plastic sticks, water storage tanks, seasonal jackets, tents, blankets, bags, and shoes allow them to be safe, healthy and better prepared to respond to issues for wildlife conservation and mitigation of negative human-wildlife interactions. By providing such support, TCF boosts the morale and professional development of forest department staff, empowering them to perform their duties effectively and stay abreast of new challenges. TCF values and appreciates forest department staff at the frontline of conservation and are dedicated to continuing to support them in the future,



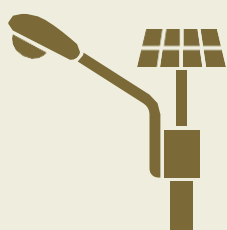


### ♦ Solar streetlights

One of the contributing factors to negative interactions between humans and wildlife is poor visibility during night time especially in remote, off the grid forest fringe villages. Wild animals often inadvertently enter human settlements in search of food, water, or shelter, leading to potential property damage and even attacks on humans and livestock. Conversely, due to the lack of effective lighting, sudden presence of wildlife often leads to retaliatory actions against the animals. Solar street lighting offers an effective and eco-friendly solution to address this issue. As solar street lighting does not require an external power supply, it is suitable for remote areas or regions with unreliable electricity access.

TCF has installed solar lights in strategic locations across various landscapes as an effective conservation strategy.

By illuminating human settlements and pathways at night by means of solar street lights, TCF aims to improve visibility and create a safer environment for both humans and wildlife. The presence of these lights acts as a deterrent for wild animals, discouraging them from venturing into the village areas. And better visibility enables villagers to detect the presence of these animals at a distance, giving them valuable time to take necessary precautions and avoid unfortunate incidents.



200+

solar street lights installed 5 priority landscapes



6000

community members benefitted from solar street lights.

# HARELA

## Plantation Programme

Healthy Environment

Bio-Fencing

Economic Benefits

the Com



# 7. Other pilots

## Bio-fencing in Corbett

In July 2023, TCF distributed a total of 856 saplings of Kagzi lemon to the villagers Devipura, Balyuti, Pipalkhet, Khani, Simli, and Riyad villages in the Kotabagh block in the Kumaon region of Uttarakhand to celebrate the festival of Harela. The festival is dedicated to the worship of nature and is associated with agriculture and farming and marks the beginning of the monsoon season and the sowing of seeds for the upcoming agricultural cycle. We anticipate that these saplings not only have the potential to enhance the villagers' economy but also serve as a protective barrier, known as a bio fence, against wild animals, thereby preventing crop damage caused by them.

## Solar Home Lights in Kuno

Since November 2022, TCF has actively engaged with the residents of approximately 50 villages surrounding Kuno National Park (KNP) with the objective of tackling negative interactions between humans and wildlife and raising awareness about the cheetahs. One pivotal initiative involves the distribution of solar home lighting systems to 48 families across Ranipura, Katila, and Mohan Ki Pataari village. The residents of these villages had no access to electricity and relied on firewood for lighting in the dark. Due to the close vicinity to the Kuno National Park, it was crucial to provide lighting solution for not only the benefit of the villagers but also for monitoring Cheetah movement through the villages. Beyond domestic use, these lights play a crucial role in tracking wildlife activities, enhancing safety, and transforming aspects like education, healthcare, and overall quality of life for villagers.





# Way Forward

Building upon the successful interventions demonstrated by The Corbett Foundation (TCF) over the past three decades, we remain steadfast in our commitment to creating a future where people and wild animals can live together without conflict. Moving forward, we aim to continue to implement targeted interventions across our existing landscapes while also expanding our efforts to newer regions.

One of our key priorities is strengthening the existing interventions that have proven to be successful. We understand the importance of maintaining and enhancing these initiatives, ensuring their sustainability and effectiveness. Through rigorous monitoring and evaluation, we will continue to refine and adapt our approaches to maximize their impact.

Moreover, collaboration and partnerships play a vital role in our strategy. We firmly believe that working together with different stakeholders is essential for long-term success in mitigating negative interactions between humans and wildlife. Therefore, by leveraging these partnerships we look forward to combining resources, share knowledge, and implement comprehensive strategies that address the complex challenges associated with coexistence

Further, empowerment of communities will remain central to all our work in every region we work. TCF places a strong emphasis on community engagement, enabling active involvement in decision-making processes, conservation planning, and the implementation of effective mitigation measures. By fostering a sense of ownership and shared responsibility, we aim to continue to co-create sustainable solutions that resonate with local communities and ensure their active participation.

Lastly, research and monitoring form the bedrock of evidence-based decision-making. TCF is committed to investing in research initiatives that delve into wildlife behavior, understand socio-economic dynamics, and evaluate the effectiveness of interventions. This empirical knowledge will not only empower TCF to refine our strategies but also contribute towards the larger space of conservation science in India ensuring long-term success in mitigating negative human-wildlife interactions by all the organisations, institutions and agencies involved.

TCF stands resolute in its commitment to mitigating negative human-wildlife interactions and promoting harmonious coexistence.

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