

ZOO REFORESTATION SPONSORSHIP

Submitted to:
Curraghs Wildlife Park

January 2022



**RED PANDA
NETWORK**

RPN is committed to the conservation of wild red pandas and their habitat through the education and empowerment of local communities.



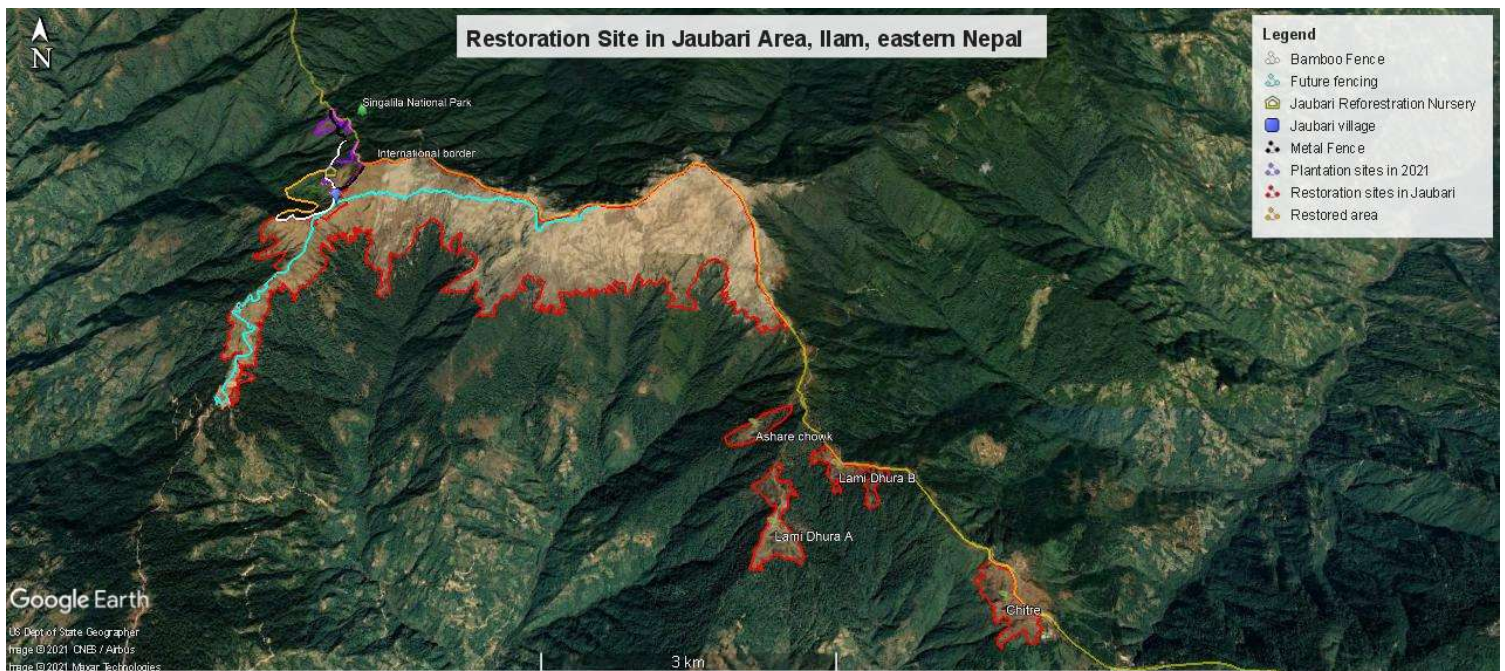
A wild red panda seen in eastern Nepal.

SUMMARY

The endangered red panda is experiencing tremendous habitat loss and fragmentation. As forests continue to be converted for agriculture and settlement, and degraded by unsustainable herding and resource harvest, the wild populations of this species will suffer from further decline. Red Panda Network (RPN) is working to alleviate the adverse effects of deforestation, but this threat requires a multi-tiered approach. Along with community-based red panda conservation and habitat protection programs, we are also prioritizing restoration initiatives in Nepal. RPN aims to reforest and restore historic habitats of red panda which are cleared and severely degraded to build biological corridors which will facilitate their movement not only in the habitat inside Nepal but also towards the protected areas of India. We work with the local communities including community forest users group of Nepal on forest restoration. We are currently working in 10 districts of Nepal and in each district we have one local partner organization to support our conservation efforts. For the protection of red panda habitat, we purchase private lands that are adjacent to a red panda habitat and its utilization is also hampering the quality of that nearby forest habitat. We employ reforestation programs in our purchased private lands and degraded forest habitat of community forests. Moreover, the community forest user groups are supported on reforestation activities by creating local forest conservation nurseries, distributing seedlings, involving them on planting trees, manuring and protection of planted trees which creates seasonal and permanent jobs for few local people.



Bamboo mesh strip fence installation at restoration site in Jaubari, Ilam, eastern Nepal.



Ongoing and proposed restoration sites in Jaubari area, Ilam, east Nepal.

AIM & OBJECTIVES

Aim

- RPN aims to maintain habitat contiguity in the fragmented and historic red panda habitat through the restoration. This will help in building a bio-bridge that connects the fragmented patches of red panda habitat in Nepal.

Objectives:

- Increase participation of local community in management and protection of red panda habitat outside protected areas.
- Reforest and restore degraded habitat through plantation of red panda food and shelter species, along with other high-value Non-Timber Forest Products (NTFPs) and other native tree species suitable for respective areas.



Seedlings of native species being grown in a local forest conservation nursery in eastern Nepal supported by RPN.

PROJECT DESCRIPTION

The red panda is listed as 'Endangered' in the IUCN Red List of Threatened Species and an Appendix I species in the CITES. The global red panda population has declined by 50% over the last 20 years; estimates have them at less than 10,000 and as few as 2,500 remaining in the wild.

Habitat loss is the primary threat to red pandas. Anthropogenic pressures from rapid human population growth and unsustainable living practices are causing the degradation and fragmentation of red panda habitat. As a tree-dwelling species, red pandas struggle to survive when forests are fragmented and populations become susceptible to genetic bottleneck. The common threats to the endangered species in the red panda habitat include free-grazing livestock, construction of rural roads through the core habitat, habitat fragmentation, habitat encroachment, human-wildlife conflict (mostly retaliatory killing), poaching and illegal wildlife trade, attack by free-roaming dogs, drying up of water sources, human disturbances during mating and breeding seasons of wildlife, lack of wildlife corridors, insufficient environmental awareness among local communities.

In Nepal, forests are disappearing. A total of 33,800 hectares of the nation's forest cover was lost between 2001 and 2016 (Shrestha S, Shrestha UB, Bawa K. 2018). Similarly, Nepal's red panda habitat is fragmented into 400 small forest patches that are mostly unprotected as community forests or private land.

Red pandas live in remote, high altitude, montane forests of Nepal. Here, there is a high rate of dependence on forest products to sustain daily life. Field studies conducted by RPN reveals deforestation rates at 3.2 percent along Eastern Nepal's Panchthar-Ilam-Taplejung (PIT) corridor—an important network of forests that contains approximately 25% of Nepal's red panda population.

The vast areas of land are barren and have been utilized as pasture land for years. This resulted in the severe degradation of the habitat quality of the area. The reforestation will not only protect habitat for red pandas but other sympatric species like Critically Endangered (CR) Chinese pangolin *Manis pentadactyla* and White-rumped Vulture *Gyps bengalensis*, Endangered (EN) musk deer *Moschus chrysogastor*, and Dhole *Cuon alpinus* along with many other threatened wild mammals and birds including Vulnerable (VU) Common leopard *Panthera pardus*, snow leopard *Panthera uncia*, Clouded leopard *Neofelis nebulosa*, Himalayan black bear *Ursus thibetanus*, and Himalayan serow *Capricornis thar*, Near threatened (NT) Asiatic golden cat *Catopuma temminckii*, Marbled cat *Pardofelis marmorata* ([recently recorded from the PIT corridor the first time in Nepal](#)), Himalayan goral *Naemorhedus goral*, Assam macaque *Macaca assamensis*, Himalayan tahr *Hemitragus jemlahicus*, and Satyr tragopan *Tragopan satyra*, and Least concern (LC) but nationally threatened Spotted linsang *Prionodon pardicolor*. With forest loss at such alarming rates in Nepal, restoration and reforestation activities are critical to the survival of this endangered species



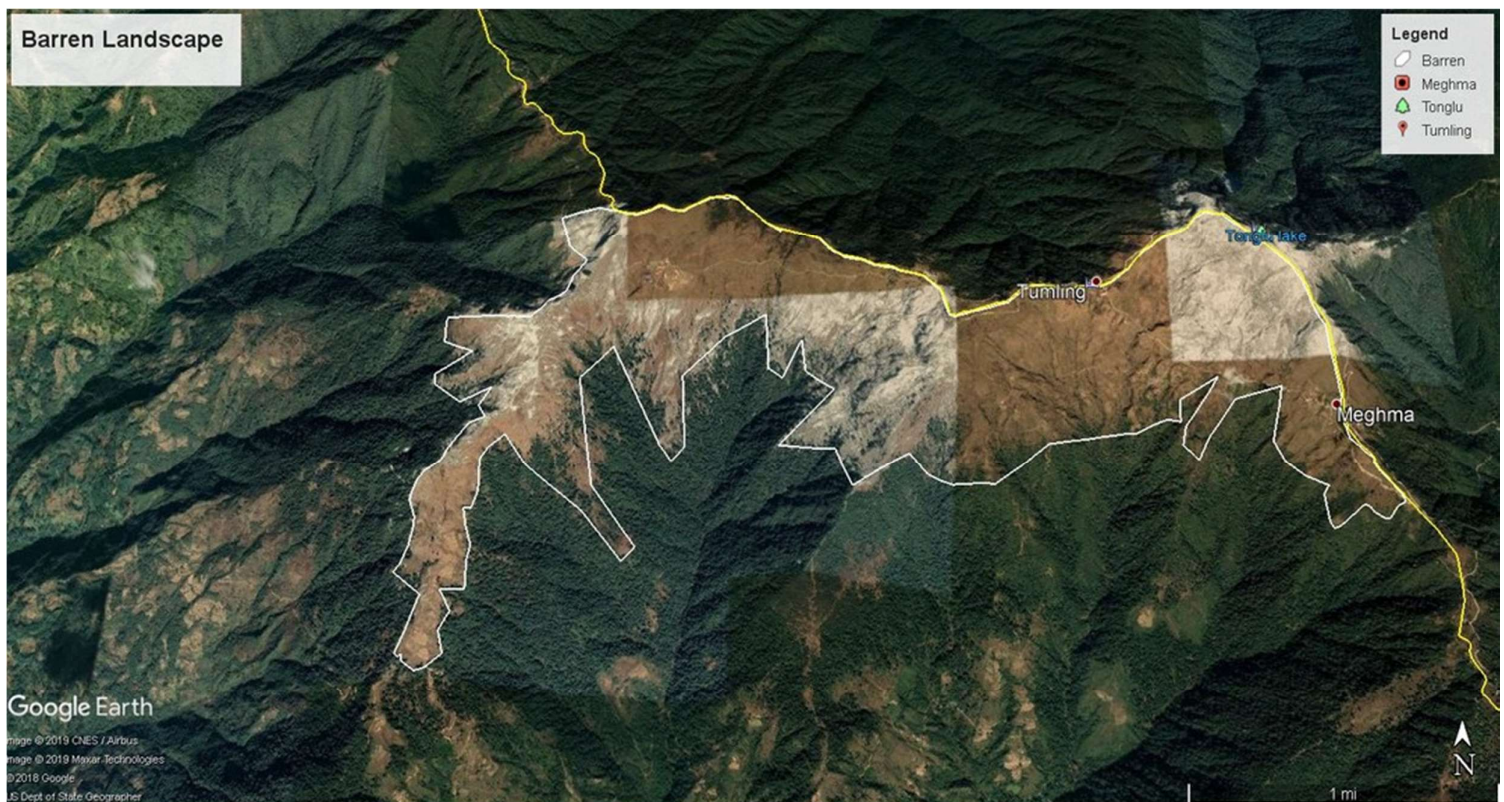
The bamboo mesh fence and a newly established restoration nursery in Ilam district, eastern Nepal.



Local people of eastern Nepal planting trees. The background area is recently reforested area.

PROCESS OF REFORESTATION

- Support local councils and community forest user groups to establish and run forest conservation nurseries. The nurseries will provide local job opportunities to local people and we emphasize women nursery guardians as they are very effective caretakers of plants.
- Support local partner NGO to purchase seedlings for planting. The income from their local nurseries will help them to continue their nurseries in the long-run.
- Plantation of native trees (red panda food and shelter species, and NTFPs) and other native species by mobilizing users of local community forest. Local people are also recruited to monitor the plantation sites and seasonally employed to manure, irrigate, and to create plastic ponds to conserve water for irrigation during dry seasons. This also creates green jobs locally.
- Installation of fencing to protect tree seedlings - we deploy both; bio-fencing and mesh wire fencing based on requirement of planting sites. The fencing of the planting site will be done before the planting season as fencing also promotes natural regeneration in the areas and they are very effective in protecting the planted seedlings from livestock.
- Regular monitoring of the reforested area with camera traps and other ecological monitoring.



This is a barren landscape (approximately 1,000 hectares) in Ilam district of eastern Nepal which disconnects two important wildlife habitat of Nepal and India.

Local stakeholders for the restoration campaign in Nepal

- Department of Forests and Soil Conservation, Ministry of Forests and Environment for mobilizing their respective units at field level.
- Division Forest Offices (DFO), Government of Nepal in respective districts to coordinate, support, supervise and facilitate forest conservation and mobilization of local community forest user groups. They also provide legal support where necessary as they are the authority to manage

and regulate forest conservation outside protected areas in Nepal. Currently, we work with ten DFOs in Nepal.

- Local councils - we support them to run forest conservation nurseries and also purchase produced seedlings for reforestation which helps to continue the nurseries creating jobs for local communities.
- Local partner NGOs in respective districts to support field implementation of our red panda conservation activities. Each NGO has a good reputation and rapport with local communities.
- Local community forest user committees at village level where they are responsible for protection, management and utilization of their forest resources under the jurisdiction of DFO.
- The local public schools where we run red panda conservation education through red panda roots and shoots groups and eco-clubs. We also mobilize students in tree planting activities as part of their educational activities to connect with nature.
- The local users of community forests from the respective villages in our project site. They are engaged in restoration activities from the planning to execution and protection of planting sites. We have built a good relationship and trust from them as the reforestation activities are creating local jobs for the community and they are also experiencing the impacts of reforestation activities in their village.

International stakeholders for the restoration campaign in Nepal

- Zoos and conservation foundations by providing tree planting grants
- Universities and research institutions

Cost for reforestation

(Current conversion rate, 1 USD=NPR 119 as of January 2022)

- USD 1,100/hectare for planting trees
- USD 2,825/km for bio-fencing to protect planted seedlings
- USD 3,200/hectare for private land purchase

SUSTAINABILITY

RPN's reforestation project will support the global movement for the protection and revival of ecosystems with UN Decade on Ecosystem Restoration 2021-2030. In the past, it supported government of Nepal's ambitious plan of planting 50 million trees in the fiscal year 2019-2020 as part of a nationwide campaign dubbed the "Year of Plantation."

The project also aligns with Nepal's five-year (2019-2023) *Red Panda Conservation Action Plan*. This is Nepal's first of such guidelines which provides a thorough framework for engaging local communities and strengthening coordination among conservation actors at national and international levels. The activities included in this proposal support *the plan's* habitat restoration objectives.

EVALUATION (How it will be tracked and measured)

Long-term monitoring of the area. RPN's red panda monitor known as Forest Guardians conduct long-term monitoring of red panda populations and habitat. We use camera traps to record mammalian species (including red panda) in the restoration sites and forest corridors. Data from pre-restoration (wildlife in the area, images of landscape, data on spring sheds, landslides, income of local

people, participation of marginalized groups, etc.) will be compared to post-restoration (survival rate, species diversity) which will allow us to measure the impact of the project.

Sustainable Livelihoods

The reforestation project will provide alternative and sustainable income opportunities for local families. We will obtain seedlings from the local nurseries in the region and the local community will be employed to carry out tree planting and fencing, as well as habitat monitoring, and protection after restoration activities are completed.

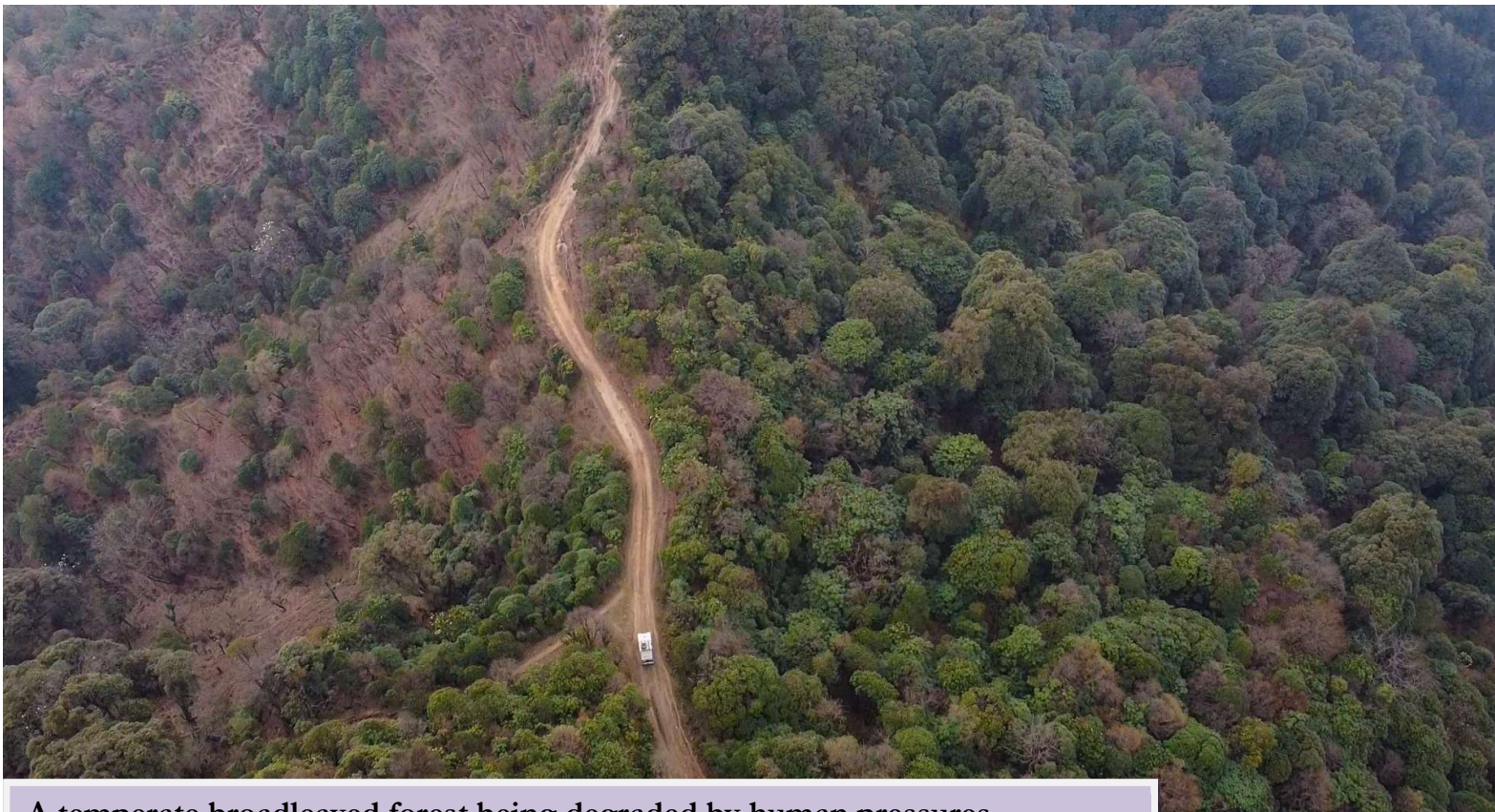


We build plastic water conservation ponds which provide water for irrigating planted saplings in the reforestation sites during dry season.

PAST OUTPUTS

- In 2021, reforested 90 hectares of area, planting 134,393 native tree species.
- Supported local forest conservation nurseries to grow 500,000 seedlings of native species and currently supporting to produce more than 2000,000 seedlings per year.

- Restored around 390 hectares of degraded red panda habitat in eastern Nepal and 60 hectares in western Nepal.
- Purchased 31 hectares of private land which are adjacent to red panda habitat and could be reforested and could be developed as a corridor.
- Restored and created more than 50 water holes for wildlife conservation.
- 10 community forest users group trained in community-based forest fire management and equipped with firefighting equipment and personal protective gears.
- More than 200 metal improved cook stoves are distributed to users of community forest for reduction of firewood consumption.
- Supporting local herders to manage their livestock to reduce impact on forest as they are free-range and improve their livelihoods.



A temperate broadleaved forest being degraded by human pressures.

Expected outputs from Curraghs Wildlife Park Grant:

- Will be reforested 5-hectares of degraded land in Ilam district by 2022.
- 8,000 native trees planted.
- Approximately 200 man-days of local jobs created.

Note: Please watch the restoration episode from RPN's Habre Guff-Gaff YouTube series [here](#).