# INVASIVE MANAGEMENT IN THE NILGIRI BIOSPHERE RESERVE

In 2023, Keystone Foundation received a grant through the program Reversing Environmental Degradation in Africa and Asia (REDAA). Using this grant, our aim is to build Indigenous People and Local Community (IPLC) capacity to manage their ecosystems with scientific assessment tools and conservation action through mapping, removal of invasive species and planting native species. Ecological and cultural services will be restored through traditional knowledge, establishing a socially just model of ecological restoration. This project focuses on multiple areas in the **Nilgiri Biosphere Reserve (NBR)**, including Begur in Wayanad, Kerala and Bikkapathi Mund in the Nilgiris, Tamil Nadu,.

## Begur

**ELEVATION**: 600-800 MASL
**FOREST TYPE:** MOIST DECIDUOUS
**INDIGENOUS COMMUNITIES:** PANIYA, KATTUNAICKAN, ADIYAR, KURUCHIYAR
**LAND USE:** AGRICULTURE (SPICES, PADDY, COFFEE)
**FOREST USE:** HONEY, MEDICINAL PLANTS, NTFP

**MAJOR INVASIVES:**
- *Senna spectabilis*
- *Lantana camara*
- *Chromolaena odorata*

### THREATS DUE TO INVASION

Livelihoods:
- Reduction of availability of NTFP
- Tourism has been affected due to the visibility of fewer species because of invasion

Culture:
- Reduction in tuber species--within specific Indigenous communities, tubers can only be prepared in the forest. Without tubers, and without space to prepare them, these cultural practices are threatened.
- Reduction in uncultivated foods, and medicinal plants

Wildlife:
- Reduction in herbivorous species affects prey base for major predators, resulting in human wildlife conflict
- Elephant corridor connectivity is disturbed; potential for human wildlife conflict
- Reduction in native plants

### STRATEGY FOR MANAGING INVASIVES

- S. spectabilis
  - Girdling trees
  - Felling and debarking tree stumps (experimental)
  - Uprooting seedlings
- L. camara/C. odorata
  - Uprooting
- Native species planting (following invasive removal)
  - Establish nursery with local plants

Women from the community debarking the tree stumps of *S. spectabilis*

**What are other effective methods of invasive management for the above species?**
**How have you seen communities in your landscape adapt to the presence of invasive species?**

## Bikkapathi Mund

**ELEVATION:** 1800-2200 MASL
**FOREST TYPE:** SHOLA GRASSLAND
**INDIGENOUS COMMUNITIES:** TODA
**LAND USE:** AGRICULTURE (TEA, VEGETABLES), GRAZING
**FOREST USE:** HONEY, MEDICINAL + CULTURALLY IMPORTANT PLANTS, NTFP

**MAJOR INVASIVES**
- *Ageratina adenophora*
- *Cestrum aurantiacum*
- *Acacia mearnsii*
- *Lantana camara*

### THREATS DUE TO INVASION

Livelihoods:
- Grasslands, which are integral for the Toda buffalo grazing, have decreased significantly. This has significantly reduces dairy production and less income.

Culture:
- Toda Buffaloes are sacred to Toda culture, and their decline has affected cultural practices.
- Reduction in the availability of forest plants used in rituals.

Wildlife:
- Conflict: Prey base (sambar deer + gaur) for tigers reduced due to grassland decline, leading to increased human wildlife interactions -- tigers attack Toda buffaloes grazing in forest.
- Reduction in native plants

A Toda man herding Toda buffloes

### STRATEGY FOR MANAGING INVASIVES

- A. mearnsii
  - Clear felling
  - Debarking/Girdling
  - Uprooting seedlings
- C. aurantiacum
  - Research to find out the effective removal method
- L. camara
  - Uprooting followed by native species planting
- A. adenophora
  - Uprooting

Invasives are being removed by a Toda community member


**SHARE YOUR THOUGHTS TO**
HARSHAVARDHINI@KEYSTONE-FOUNDATION.ORG
VISHNU@KEYSTONE-FOUNDATION.ORG


REVERSING ENVIRONMENTAL DEGRADATION REDAA IN AFRICA AND ASIA

Keystone A GROUP FOR ECO-DEVELOPMENT INITIATIVES