

From Invasive to Incentives

Creating Entrepreneurship Opportunities for Restoration & Adaptive Management of Invasive Alien Species (IAS)



India is home to 8% of the world's biodiversity. Services associated with India's biodiversity is valued at USD 1.7 trillion per year from forests alone.

Lantana camara is one of the ten most invasive species in the world and is a major threat to global biodiversity & livelihood security. It has spread over **13 million hectares (MHa)** in India, and impacts nearly 100 million forest dependent communities. Thus degrading India's natural assets – its forests and land which are critical to meet the climate pledges.

Lantana camara spreads rapidly, diminishes native tree species, hampers collection of Non-Timber Forest Produce (NTFPs), degrades pastures, increases risk of wildfire and restricts movement of wildlife.



Pre-eradication and post-eradication pictures from Bhanpur Kheda in Mandla district, Madhya Pradesh. Photo courtesy: Manohar Pawar/FES

To curb the proliferation of *Lantana camara*, and hence land degradation, requires innovative, scalable, and collaborative efforts. Efforts to eliminate *Lantana camara* the conventional way – through physical removal or crafts have limited scalability.

It takes a **USD 1.3 million investment to restore 5000 hectare** of *Lantana camara* infested lands. To restore **13 MHa of such lands would cost us USD 3.47 billion**. To address this issue, AREST will work in collaboration with the Center for Social and Environment Innovation (CSEI) and ecologists at ATREE and FES to ideate and co-create ways to provide end-to-end solutions, from removal to restoration, for adaptive management of *Lantana camara* outside of protected areas.

Reduce the cost of removal

by trying multiple removal methods & improving efficiency of the process.

Make restoration of *Lantana camara* economically viable by experimenting at several sites to arrive at a one of its kind typology and guidebook on the best possible practices for its removal.

Identify institutional structures

most viable for supporting end-to-end solutions removal to restoration.

Increase the value of

***Lantana camara* use** by exploring its value & supply chain, including storage, processing & transportation. We will also identify local uses of the removed biomass to support the local economy and for job creation.



Lantana camara bio-brick prototyping

Lantana camara particle board



Women participation in restoration activities of lantana invaded lands. Photo by Dhvani Lalai

For this purpose, we are analysing supply & market feasibility & conducting business pilots for multiple use cases of *Lantana camara*. We aim to test, experiment & demonstrate multiple used cases of using the removed lantana biomass by adopting an enterprise- based approach. These include Wood Polymer Composites (WPCs)- a *Lantana camara* crete, *Lantana camara* particle boards and re-modelling of gasifier technology for utilizing *Lantana camara* biomass.

We will test restoration models outside of protected areas.

With a combination of community engagement models from FES and ATREE's enterprise-based approach for restoration of *Lantana camara* invaded landscapes, we are testing cost-effective nature-based carbon capture techniques. Such solutions will "mine" *Lantana camara* and prepare landscapes for restoration, enable livelihood generation and monitor carbon sequestration, biodiversity and ecosystem change to improve ecosystem management and conservation planning.

Thus, Scaling-up Restoration Over 10-years Using an Entrepreneurship Approach