



Lantana Camara (hereinafter referred to as Lantana) is a weed of South American origin that is considered to be one of the biggest threats to forest conservation. The Sathyamangalam Tiger Reserve and adjoining forest areas in Erode District have seen an extensive infestation of this weed. This has not only threatened the biodiversity of the region but has made certain regions impenetrable for elephants and tigers, causing them to enter into habitations leading to increasing cases of man and animal conflict.

A study conducted by the Shola Trust in November 2015 records that about 30% of the Hasanur Division, or 160 sq km (16046 hectares), is either 'dominated by Lantana' or 'Impenetrable' while only about 6.5% or 35 sq km is completely free of Lantana.

The urgency of this issue has also been taken cognizance by the Hon'ble High Court of Madras in WP (MD) Nos.7606 of 2017, 13763 of 2016 and 3633 of 2014 and W.P.Nos.15120 and 15124 of 2019, where it has constituted an expert committee for recommending measures for the management of Lantana.

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Design a charcoal briquette for using the woody part of Prosopis Juliflora

Right Now the people in that district and neighboring districts are heavily dependent on traditional labor in processing the “mad tree” for further applications.“Mad tree” is no longer seen as a foe but as a friend as many farmers’ livelihoods are dependent on it.

- Problem Statements:**
1. Model, a cutting device to safely and efficiently remove the Prosopis Juliflora tree (known as the mad tree).
 2. Domestic Application: Design a charcoal briquette for using the woody part of Prosopis Juliflora species as a fuel for domestic purposes like cooking. (Hint: Consider the fact that the briquette should be able to function under the messy conditions of powdered charcoal, water, and soil).
 3. Market Application: Design a method to prepare charcoal from the Prosopis Juliflora (charcoal production is already a huge market in southern districts in Tamil Nadu, evaluated at 1000 Crores).
 4. Agricultural Application: The charcoal then can be treated with organic materials and can be used as an effective fertilizer in red soil. Draw up a schematic to carry out this process and suggest tools to do them.
 5. Industry & Scientific Application: Design a system or subsystem of machine processes to prepare Activated Carbon (AC) by using the budding branches of Prosopis Juliflora species (locally known as Seemai Karuvelam) as the raw precursor.

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