



INVASIVE ALIEN LANTANA : A GLOBAL THREAT IN INDIAN PERSPECTIVE

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ABSTRACT: Invasive alien species (IAS) are a menace to forest ecosystems and pose global threat to natural biodiversity and native species in 21st century. *Lantana camara* Linn. is one of such invasive species that does not permit grasses, shrubs or any other plant to grow easily near its vicinity and also limits herbivore to graze in forest ecosystem. Many mechanical, biological and chemical control measures have been proposed over decades which are ineffectual in broad terms. *Lantana* form dense thickets after mechanical removal and progress more aggressively which have multitude of harmful effects on biodiversity. Uprooting mechanisms followed by burning degrades the soil quality and harms the native plant species as phenotypic plasticity and fire tolerant capability of *Lantana* gives it upper edge in becoming more disseminative. *Lantana* inflicts huge loss to biodiversity as they are threat to native species and has become a global peril resulting in economic and ecological loss. Major research studies focus on impact and uses but significant control measures have largely failed over many decades. Biological control measures have reported certain success but remain largely inadvertent. A significant research plan needs to be envisaged that can limit the ecological loss by the means of specific crop-competition method with a befitting response. Crop-competitive approach by introduction of native species can be one of the best eco-friendly approaches paired with mechanical control to control the invasiveness of *Lantana*.

Keywords: *Lantana camara*, Forest Invasive Species, Invasive Alien species, native-species, crop-competition

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INTRODUCTION

Plant spread for its origin place to varied geographical region is a natural phenomenon; the unwanted plants in farms were first categorized as weeds by the agricultural communities. During the 16th century some plants (aided by human colonizers) when introduced outside their natural limits, grew gregariously to occupy vast geographical areas, causing threat to native biodiversity. This phenomenon was described by the contrary ecologist as Invasion, and several studies were made to define the biology of invasion. Various definitions were proposed to define invasive species (listed below). It was soon identified as major threat to local biodiversity by biologist and ecologist throughout the world (Hiremath and Krishnan, 2016). Weeds have an extraordinary ability to establish themselves as they produce seeds in large quantities and in turn affect our rich and diverse flora. India has broad range of agro climatic zones and soil types. Climate factors play a role

in weed dispersion over the geographical ranges. There is no such geographical demarcation between weeds and plants, as weeds can flourish themselves according to the resource availability. In 1958, a British ecologist, Elton discussed about ecological explosions in his book referring about rapid increase of some organisms. Ecological invasions are said to happen slowly and follow a lag phase, establishing them over time scale before coming into the broad picture. Elton mentioned about ecological explosions as biological invasions, which is one of the prime threats to biological diversity. Geographical regions have gone through various evolutionary changes and naturalized species contribute to the biodiversity. However, some species accidentally get introduced to a region where it is termed as exotic, foreign, alien, non-indigenous or non-native.

The disease causes considerable losses and mortality of seedlings in the nursery. Therefore, keeping in view the losses caused by the disease to the crop, a