

# **Prosopis juliflora invasion: The impact on the social-ecological systems in the rural green spaces of Thiruvarur and Nagapattinam**

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## **ABSTRACT**

Prosopis juliflora (Karuvellam tree) is one of the most invasive alien species causing environmental and socio-ecological harm in India. Here the impact of Prosopis juliflora is spreading rapidly in the rangelands, croplands and in particularly threatening agro-pastoral livelihoods. Its ability to adapt in salinity lands, wide range of climatic conditions, creating allelopathic effect, having large seed bank in the soil environment, fast growing are the principal factors. This paper makes study on “Prosopis juliflora invasion: The impact on social-ecological systems in the rural green spaces of Thiruvarur and Nagapattinam districts, Tamil Nadu”. So we had conducted a primary survey in the Thiruvarur and Nagapattinam districts. These two districts have been selected for analyze because, Thiruvarur district people’s main work is agriculture and Nagapattinam district people’s main work is fishing and these districts are facing a huge impact of Prosopis juliflora. The collected data was on the basis of soil impact, allelopathic effects to the other plants and temperature changes and people’s socio-ecological impacts by that tree. This paper includes the three models for both districts, which are 1) Impacts on the soil 2) Impacts on the other plants 3) Impact on the temperature change by the invasive Prosopis juliflora (Karuvellam tree). These models do the important role in analyzing the results. And, rest of the impacts and benefits Karuvellam tree is explained by the bar charts. The results conclude, the invasive Prosopis juliflora plant had been affecting the agricultural practices, other plants to survive, temperature changes, socio-ecological issues in both districts and mainly the people are expecting to remove this tree from their districts. They are expecting the good environment without this Prosopis juliflora.

**Keywords:** Prosopis juliflora, Socio-ecological impact, Allelopathic effect, Rural green spaces, Temperature change, Primary survey, Thiruvarur, Nagapattinam.