

***Prosopis juliflora* in Bundala National Park: Impact on floral diversity and potential of utilizing as an alternative energy source for industries in the region**

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Abstract

Prosopis juliflora has been introduced to Sri Lanka in early 1950 as a shady tree which can resist the dry salt conditions in semi-arid areas. At present it has become an invasive and threatened to the plant diversity of Bundala National Park and surrounding area. This study was carried out with the objectives of assessing the plant diversity in Bundala National park and distribution of *Prosopis juliflora* from coast towards the inland side of the Bundala National Park. Also, the secondary objective of the study is to assess the potential of using *P. juliflora* as a dry matter energy source for industries in the region. Three study sites were selected based on the preliminary survey; coastal site, inland site and control site. Three random sampling plots of 10m* 10m were laid out from each site with the total of nine plots. Diversity, evenness, dominance were calculated. Distribution of *Prosopis juliflora* was assessed by laying out three 50m* 5m belt transects from the coast of Bundala towards inland with a 50m distance among two plots. A survey was carried out subsequently with this study in order to figure out the potential of utilizing this invasive species as an alternative energy source for industries and for the community in the region. According to study results diversity and evenness depicts a minimum value for the coastal site where *P. juliflora* is dominant while higher values for other two sites. *P. juliflora* spreads fast towards the inland of the Bundala National Park while making adverse impacts towards native species such as *Salvadora persica*. Therefore, necessary control measures should be taken immediately. There are various uses from this invasive species such as fuel wood, timber, fodder and nutritional extractions from the seed pods. Results of the survey show likeliness of community and industry to use this species as an alternative energy source. However, inaccessibility to the Bundala National Park and rules and regulations is a major limitation for use this species.

Management system with a proper distribution channel of *P. Juliflora* fuel wood will be a good solution for both industries and environment. If this solution is implemented practically this problem can be solved within Sri Lanka in a sustainable manner.

Keywords: *Prosopis juliflora*, *Salvadora persica*, Bundala National Park