

## Using invasive *Prosopis* to improve livelihoods in Sri Lanka

*What to do with Prosopis is now a serious topic in parts of Sri Lanka, where it has invaded agricultural and grazing land, protected areas and National Parks. This policy brief is aimed at decision makers involved in issues of Prosopis or in developing forest products for improving rural livelihoods. The case of Prosopis epitomises the dilemma of what to do with such well-adapted but now invasive plants – treat them as a threats, or realise them as valuable resources?*

### Prosopis—a foe or friend?

There are many people who do not want this tree, and others who need resources in order to make a living. There are groups calling for the eradication or control of *Prosopis*, but there is now a new voice – one that says that we should use this tree, controlling its spread while helping to improve the livelihoods of those living near where it has spread.

Invasive species are now heralded as the second most important cause of reduction in biodiversity in the world, after habitat loss. They also cause significant economic impacts, especially on rural livelihoods. However, a large number of alien invasive plants were introduced in the past for perceived economic benefits, but have now spread out of control. The problem of *Prosopis* in Sri Lanka is typical.



### What is it and where did it come from?

*Prosopis* is known as Kalapu Andara or Lunu Andara in Sinhala. There are many *Prosopis* species, often confused, but collaboration between the University of Peradeniya, the Henry Doubleday Research Association (HDRA) and Coventry University in the UK since 2002 has identified the species in Sri Lanka as *Prosopis juliflora*. It is generally a thorny bush but may be a tall thornless tree, with long yellow flowers and longer straw-coloured beans or pods. Europeans introduced *Prosopis* from Central and South America around the world during the past 200 years, as they were seen to be very useful and drought resistant species. According to local records, *Prosopis* was introduced to Sri Lanka in 1880 by the British, following its introduction to India in 1877, but was not widely planted until the 1950s.



### Improving the value of weedy *Prosopis*

In other countries such as India *Prosopis juliflora* is used for charcoal, timber, fodder and food. Rural people can be shown how to make the most of *Prosopis*, benefiting economically while also reducing the plants' spread.

### An invasive weed, an unwanted guest

*Prosopis* is presently well established and naturalised in some parts of Sri Lanka, mainly Hambantota district in the southern province where it has spread towards the sea in brackish lagoons and also in Bundala National Park, and Puttlum district in the north central province, where it has colonised other habitats 20 km inland. In Sri Lanka during the past decade there has been increasing emphasis on alien invasive plants, and *Prosopis* is considered as one of the worst. It is rapidly encroaching on barren lands or poor soils where few other plants grow successfully owing to high soil salinity, low soil moisture or fertility.

People are reluctant to handle *Prosopis* because of its stout thorns and do not use it as firewood owing to the wide availability of other firewood sources. Some local people have said that it is affecting their livelihoods, reducing the amount of fodder for their animals by restricting access to natural grazing lands and that thorny branches cause damage to hands, hooves, feet and tyres, and block paths. Since it grows naturally, society still feels that *Prosopis* is a useless weed.

## What needs to be done?

Eradication of *Prosopis* is suggested from some quarters, but experience from around the world has shown that eradication is an ineffective and costly option. It is thus strongly recommended that to resolve the problem, more efforts are made to:

- Develop *Prosopis* as a valuable resource.
- Improve tree and stand management.
- Add value to tree products.
- Apply existing knowledge.
- Control through management and utilisation.
- Increase the supply of forest products to meet the ever increasing demand.

We must highlight the value of *Prosopis* where it is used in other nations; to educate and make local people aware of its uses. In many other countries where it has been introduced, it is a blessing for improving livelihoods. *Prosopis* is not a rich man's tree, but a poor man's resource which can greatly benefit rural livelihoods.

## The value and benefits of *Prosopis*

Elsewhere *Prosopis* wood is valued for its high quality firewood, producing premium charcoal, roundwood for construction, posts and poles, even sawn timber, pods for fodder and processing into human foods, flowers for bee forage, gums, tannins, fibres, biopesticides, mulches and medicines; and it is a tree legume, also enriching soil by fixing nitrogen, and is very tolerant to drought and salt (Pasiecznik et al., 2001; Perera et al., 2005). In Tamil Nadu, India, for example, its invasiveness and nitrogen-fixation are seen as assets, weedy stands being managed as extended tree fallows, supporting livelihoods directly as the principal source of charcoal. It also has the potential to provide much more, by adding value to tree products in similar sub-humid conditions as found in many parts of Sri Lanka.



For further information, contact: Prof. ANF Perera, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka. Tel: + 94 81 388 041/57, Fax: + 94 81 388041, Email: [nimalp@pdn.ac.lk](mailto:nimalp@pdn.ac.lk), Website: [www.pdn.ac.lk](http://www.pdn.ac.lk), or HDRA, Ryton Organic Gardens, Coventry CV8 3LG, UK. Email: [ove-enquiry@hdra.org.uk](mailto:ove-enquiry@hdra.org.uk), Website: [www.hdra.org.uk/international\\_programme](http://www.hdra.org.uk/international_programme). Photo credits: ANF Perera and NM Pasiecznik.

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Written by ANF Perera and NM Pasiecznik

## The future for *Prosopis*

So far, no initiative has been shown to put this plant, into better use. In Sri Lanka, the area covered by *Prosopis* is increasing, therefore, every effort must be taken to 'tame' this species and to put it into use to improve the livelihoods of the rural poor. It is thus essential that we begin to:

- View *Prosopis* in a positive rather than a destructive way, as a possible friend and not a foe.
- Increase awareness of its real value as a resource.
- Transfer knowledge on management and utilisation from its native range to Sri Lanka, drawing experience from successes around the world. Such has already been undertaken in India, including practical training programmes which could be adapted for local needs.



There are those who know its worth, and how to turn it into products of value. There are also those amongst us who are already using the tree to make a living. Let us call upon those who are using it now or who would have an interest in the use of the wood, fruit, honey, gums, fibres and medicines in the future. Together, we can share ideas and develop the best way for Sri Lankans to solve two problems at once – what to do with this unwanted guest, and how to obtain new raw materials for rural development.

Pasiecznik NM, Felker P, Harris PJC, Harsh LN, Cruz G, Tewari JC, Cadoret K and Maldonado LJ. 2001. The *Prosopis juliflora* - *Prosopis pallida* Complex: A Monograph. HDRA, Coventry, UK. 162pp. [http://hdra.org.uk/international\\_programme/ip\\_publications.htm](http://hdra.org.uk/international_programme/ip_publications.htm).

Perera ANF, Pasiecznik NM, Smith SJ, Harris PJC, Perera ERK and Premalal GC. 2005. Turning invasive *Prosopis* to improving livelihoods in Sri Lanka. Commonwealth Forestry Association World Congress. 28 February- 5 March 2005. Colombo, Sri Lanka.