

# *Prosopis juliflora* (vilayati babul) in the drylands of India: develop this valuable resource – don't eradicate it

*A briefing paper for the Government of India, state governments and concerned ministries*

## *Prosopis juliflora* – the tree of the poor

The '*Prosopis* debate' has become an important topic of discussion and policy in India during recent years, due primarily to *Prosopis juliflora* becoming an aggressive weed in several states. Invasion of grasslands, protected forests and nature reserves has alarmed ecologists. Invasion of irrigation channels and arable land has affected the agricultural community, and landowners and large, commercial farmers have seen their income threatened. These groups have put pressure on state governments, which have responded by asking forestry departments to stop further planting of *P. juliflora* and begin eradication programmes, notably in Gujarat, Rajasthan, Haryana and Tamil Nadu.

However, *Prosopis* is also playing a vital role in sustaining the livelihoods of the rural poor, including the landless, small farmers and artisans - the least vocal groups of society. These groups want a means to increase the value of this tree, not eradication. In rural areas, *P. juliflora* is often the only source of fuel, small roundwood and dry season fodder, and provides the *only* income for many families. One farmer said 'if you remove all the *Prosopis*, now where are we to get the fuel to cook our rotis in the evening?'

## What value has this *Prosopis* tree?

Larger branches and trunks yield a high quality timber, comparable in colour, finish and physical attributes to Indian rosewood and other commercial hardwoods. While also used for posts and poles, the wood, called 'wooden anthracite' in some areas, is almost unsurpassable as a fuel. Fruit pods are high in sugar and protein and are a rich food source for man and beast. *Prosopis* honey is of the highest quality and exudate gum is comparable to gum arabic. *Prosopis* products have added value if processed, such as a 30-fold increase by turning firewood to finished timber, and even more if manufactured into furniture.

Photo: Pruning *Prosopis* in Bhuj, Gujarat

But vilayati babul is a foreigner, native to a region from Mexico to Peru. Here, the people have developed local economies based on this tree and its products. They use the timber and the pods are stored year-round for fodder and are an important item of trade. Pods are also made



Photo: Pruning *Prosopis* in Bhuj, Gujarat

into flour and a highly nutritious syrup for family use or sale in local markets. Honey is made and gums are collected for sale. But why not in India? The tree has been introduced, but the 'indigenous knowledge' surrounding its use has not. In the same way, the neem tree was introduced into West Africa, where little use is made of it – and there are calls for its eradication as a useless tree!

## Getting the message across

A DFID-funded project collated *Prosopis* knowledge into a scientific monograph and database. An international workshop was held in CAZRI<sup>1</sup>, Jodhpur, in 1998, where experts from Argentina, Mexico and Peru exhibited *Prosopis* products and shared their experience with national researchers. This led to the publication of '*Prosopis juliflora* (vilayati babul) – a Technical Manual', also translated into Hindi, which was used as the basis for a series of training courses on 'Management and utilisation of *Prosopis juliflora*', held in May 2001 in Bhuj, Jodhpur and Mettupalayam. The following policy recommendations were collated from the views of participants of these courses, including foresters, farmers and NGOs and private business representatives.

## Ways forward – possible steps to a better use of *Prosopis juliflora* in India

### National level co-ordination required

- Establish an All India Coordinated Research Project on *Prosopis juliflora*.
- Form national, regional and local *Prosopis* committees to discuss the issues, including all stakeholders; farmers, Forest Officers, elected village representatives, ministers, private entrepreneurs, NGOs, research institutes, etc., starting with a national seminar.
- Further support the '*Prosopis* society (of India)', established at CAZRI<sup>1</sup> in 1993.

### Promote the collection of data on the spread and present use of *P. juliflora* in all states of India

- Record the area under *Prosopis juliflora*, available from village accounts and Annual Seasons and Crop Reports.
- Detail the quantities of charcoal exported from state to state, derived from 'certificate of origin' issued by State Forest Departments and also for pods and other tree products.

### Governments should promote the use of *Prosopis* tree products



Above : Sawmilling in Tamil Nadu

- State Governments to purchase *Prosopis* pod flour as subsidised livestock fodder in drought; *Prosopis* is cheaper and more nutritious than the alternatives, and is locally available thus stimulating rural economy and employment generation.
- Joint management of roadside trees, Forestry Department paying villagers day rates to thin, single and prune, generating employment and training villagers.
- Encourage State Forestry Departments and State Forest Development Corporations (SFDC) to promote and market *Prosopis* tree products, and establish a SFDC for Rajasthan.
- Establish independent funds for credit for commercial processing, as lending institutions appear unwilling to provide credit to *Prosopis*-based business.
- Promote assured markets for *Prosopis* products through government intervention, positive 'press' and pressure on private enterprise to establish industries for tree product processing.
- Guarantee a market price for an initial period to stimulate management, production and processing of new products such as *Prosopis* timber or pods.
- Promote farmers cooperatives to increase the collective bargaining power among producers.

### Promoting the use of *Prosopis* by extension: The role of SAUs<sup>2</sup>, ICAR<sup>3</sup> and ICFRE<sup>4</sup> institutes



Above : Raising improved *Prosopis*

- Education in the villages, especially of women and illiterates, on the value of *Prosopis* tree products should become an integral part of all rural extension activities.
- Organise training courses in all districts where *Prosopis* is common.
- Demonstrate cheap, simple improved kilns for charcoal production and small scale pod processors, and *Prosopis* for furniture making.
- Establish demonstration farms or model *Prosopis* villages, either on state land or with the support of progressive farmers to implement and demonstrate management and utilisation.
- Promote the Technical Manual, and translate and distribute Gujarati and Tamil language versions.
- Concentrate research into identified key areas, and coordinate activities avoiding replication.

#### Developing a national, integrated research programme on management and utilisation of *P. juliflora*.

- Fast-growing thornless *Prosopis* developed through tree improvement programmes and seed production areas established, and quality seeds and seedlings supplied to farmers.
- Silvicultural practices developed to obtain optimum rotation ages for maximising production.
- Cheap, simple improved kilns for charcoal production, small scale pod processors, and suitable saw-milling technologies for processing *Prosopis* wood for furniture making developed.
- Economic models for *Prosopis*-based systems, under different site/ market conditions, developed.

Notes: <sup>1</sup>CAZRI: Central Arid Zone Research Institute <sup>2</sup>SAUs: State Agricultural Universities

<sup>3</sup>ICAR: Indian Council of Agricultural Research <sup>4</sup>ICFRE: Indian Council for Forestry Research and Education.

**For more information:** HDRA, Coventry CV8 3LG, UK, [research@hdra.org.uk](mailto:research@hdra.org.uk). This policy brief was written by N Pasiiecznik, based on the project '*Prosopis juliflora* and related arboreal species: a monograph, database and extension manual'. It is an output from a research project funded by the United Kingdom Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID. (R7295) Forestry Research Programme.