

Controlling the spread of *Prosopis* in Ethiopia by its utilisation

Prosopis is now a serious topic in Ethiopia, especially in Afar and Dire-Dawa. It has invaded large areas of mostly grazing land in these regions and elsewhere, and is the national No. 1 invasive plant. This briefing paper is aimed at decision makers in Ethiopia involved in issues related to the problems of *Prosopis*.



Prosopis in Mjebolu village (Dire-dawa)

Prosopis has come to parts of Ethiopia like an uninvited guest, some even call it the devil tree. In the 25 years since it began to be planted, it has spread like a weed; thorny bushes causing trouble to rural people and their animals. Some call for eradicating *Prosopis*. Others make charcoal and support their families by selling it. What is the answer? Avoid problems of *Prosopis* spread by exploiting all its potential uses; neither blame nor exaggerate it, just utilise it as a resource.

Where did it come from?

Called in Ethiopia, 'Weyane/Dergi-Hara' (Afar), 'Biscuit' (Dire-Dawa), elsewhere; mesquite, algarrobo, *Prosopis*. They came originally from the Americas, there are many species, often confused, but work by the Ethiopian Agricultural Research Organisation (EARO) and the Henry Doubleday Research Association (HDRA) has confirmed that *Prosopis juliflora* is the one commonly found in the above regions of Ethiopia. Its first introduction is believed to have been in the late 1970s at Goro nursery, Dire-Dawa, possibly from India. In Afar, it may have been introduced possibly from Dire-Dawa or independently from Kenya or Sudan by foreigners working in the Middle Awash irrigation project in the late 1970s and early 1980s. *Prosopis* was planted over large areas until 1982, continued by the Food for Work Programme from 1986 to 1988. Some planting still continues, with *Prosopis* seedlings being grown for living fences and shade trees.

Why is *Prosopis* high on the development agenda?

Prosopis juliflora has been identified as Ethiopia's number one priority invasive weed. This assessment was made by EARO, working with other national and international organisations at the beginning of a new programme to deal with the problem of invasive plants in Africa. Many call for its eradication, but why, when it is also a very useful and valuable tree? We can control it by making more use of it, developing businesses and helping those who live in areas where it is found.

Introduced for its many uses

The English, French, Spanish and Portuguese introduced *Prosopis* around the world over the past 200 years as they were seen to be very useful and drought resistant species. In hot dry parts of the Americas, *Prosopis* are common, and are important for people providing many with much needed resources. The wood is an excellent fuel, the timber hard and comparable to the finest hardwoods. The sweet nutritious pods are relished by all livestock and are made into different foods and drinks. Honey from the many flowers is high quality, the gum is similar to gum arabic, bark and roots are rich in tannin, leaves can be used as mulch, reducing pests and weeds. Also, as a nitrogen-fixing tree it improves the land and can reclaim saline soils.

What helped *Prosopis* become an invader?

In areas of Ethiopia where *Prosopis* has invaded, the environment is very hot, with limited rainfall and saline soils. Few plants can thrive here, but these conditions are conducive for *Prosopis*. There are no natural enemies, pests or diseases. Also, the *Prosopis* trees introduced to Ethiopia are particularly bushy, thorny and weedy.



Prosopis thicket in a waterway (Dire-dawa)

The life style of the nomadic local people has helped, as the animals eat the pods and travel long distances, disseminating seeds to new areas through droppings. There is also little knowledge or experience on how to manage and utilise these trees, and there have been few policies or strategies in place for quick action.

What is being done?

Little effort has been made to control its spread so far, though cutting 10 cm below ground or applying used motor oil to stumps has been reported as an effective means to control its regeneration. In Afar, utilisation has been very limited. FARM Africa and the government are now working to promote its use, and some people have started to generate considerable income from charcoal. Still, the majority of people are hesitant to become involved in *Prosopis*-related businesses. There is more interest in Dire-Dawa, with many people beginning to make a living from *Prosopis*. Many other initiatives are also beginning, involving research centres, universities, national NGOs, small businesses, local and national government and foreign organisations as the issue becomes more widely known. What to do with the *Prosopis* problem is now high on the development agendas of the two regions.

What should be done?

It is clear that more could be done. There are thousands of hectares of *Prosopis*, and the area gets bigger every year. There are local herders, farmers and others who do not want this 'devil', and thousands of people who do want a 'saviour' to make a living.

There is a government looking to improve rural life without high expenditure. There is a virtually free resource in the areas invaded by *Prosopis*, and potentially much to be earned by its wise and equitable exploitation.

Ways to achieve this include empowering local people to exploit *Prosopis* trees as a resource, by:

- Organising local people into cooperatives.
- Accessing transport facilities for products.
- Supporting new enterprises financially, by loan or subsidy if necessary.
- Training on the different ways the tree can be utilised, new products, processing, markets.
- Strong extension work encouraging people to become involved in *Prosopis*-related business.

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This can be supported by effective and applied research. Some recommended topic areas include:

- Social and environmental impact of *Prosopis*.
- Assessing the different factors affecting spread.
- Designing small-scale machines to process pods, wood and other *Prosopis* products.
- Analysis of nutritional value of *Prosopis* pods and leaves, and improved mixtures for livestock feed.
- Cost benefit analysis of different management and processing operations.



Prosopis charcoal making (Afar region)

The next steps

But first and foremost, we should make the most of what we have. As a weedy invasion it is worse than valueless. As firewood and charcoal, or posts and poles it can provide a living. As animal feed or sawn timber it can support a small business. When value is added, incentive will be there to make more of it, helping to fuel rural development.

There is increasing interest and support from within Ethiopia and from abroad. This must be encouraged, and developed in a coordinated manner to maximise the impacts on livelihoods.