



Turning invasive *garaanwa* (prosopis) trees into a new resource for feed, fuel and food security in Somaliland

Having already invaded more than half a million hectares in Somaliland, and five million hectares throughout the Greater Horn of Africa, *Prosopis juliflora* is now a priority issue in all countries in the region. Pastoralists see it as a menace, but some in government and civil society see its value as a resource, and are taking steps to realize the benefits. This brief is a call to international organizations to see the potential of prosopis and include in their rural development programmes.

What is *Prosopis* and where did it come from?

Garaanwa is a species of *Prosopis* tree from Central and South America, and which has been introduced around the world for its drought-tolerance, fuel, fodder and shade. In the USA and Mexico, prosopis are called *mesquite*, or *algarroba* in South America which is likely to have given rise to its other Somali name, *al-gharoub*. By far the most common species in Somaliland and introduced throughout Africa and Asia is *Prosopis juliflora*.

The first record of prosopis in what was then British Somaliland was by the forester VDH Dowson in Bulahar in the early 1950s, and within a decade it had also been introduced in Sheikh, Gaan Libah, Lafarug and Berbera. Widespread planting followed in the 1980s, by aid agencies responding to deforestation during and after the Ethio-Somali war and subsequent droughts.

From agro-pastoral potential, to invasive weed

Prosopis was introduced for its ability to survive harsh conditions more than any other tree. It tolerates drought, poor and salty soils, cutting and browsing, and produces fuel wood and pods relished by livestock. A miracle tree indeed, but it was not seen as such.



Prosopis invasions often begin around settlements and along roads

Livestock spread the seeds far and wide, and no-one knew the uses of this ‘unknown tree’ from an unknown land, later calling it *geed jinni*, or the devil tree. Unchecked, thickets can cover the ground entirely, preventing grazing and blocking paths and roads. Invaded farmland has been abandoned, wells dry up when surrounded by prosopis trees, and scratches from the thorns cause problems for people and livestock alike.

Now, it has invaded every region and almost every corner of Somaliland. In 2016, an FAO survey estimated that 550,000 hectares was covered in prosopis, and it was spreading fast. Research from South Africa has calculated that prosopis expands in area by 5-15% every year.

In other countries, same tree, same story, but an even bigger problem. In the region, there is thought to be at least a million hectares of prosopis in Ethiopia, the same in Sudan, more in Kenya, and large but unmeasured invasions elsewhere. And once established it is impossible to get rid of. In Texas, they have tried for more than a century with all sorts of machines and chemicals – and there is more prosopis now than ever before.



Invasive prosopis shrubs take over areas of native acacias

But prosopis is also a valuable resource

In the Americas where the tree comes from, native people learned the value of prosopis since the earliest times. The beans were an important staple food, being stored for use especially during the long dry seasons. They ground them into flour for making nutritious foods and drinks, sustainably managed their precious prosopis forests, and made use of every part of the tree. In North and South America, and increasingly where introduced, there are food, feed, fuel and timber business and whole industries based entirely on prosopis trees, providing a source of livelihoods for millions. And now this new knowledge is coming to Somaliland. But only a small start has been made, and much more needs to be done to introduce and spread the news that *garaanwa* is valuable.

New advances

In the past ten years, PENHA – the Pastoral and Environmental Network in the Horn of Africa, has been one of the leaders in awareness-raising on prosopis utilization in Somaliland, supported by associates in Ethiopia and Sudan, partnerships with IFAD and FAO, and especially by the Ministry of the Environment and Rural Development. In 2016, a training and demonstration initiative called the ‘prosopis roadshow’ came to the country, attracting huge interest, especially during the main event held in Hargeisa where government, UN and NGO representatives heard about, saw, felt and tasted prosopis products, with national television coverage.

Control by utilization is the key

Prosopis spread must be controlled, and the trees can provide valuable products for rural communities. But people think that the beans and thorns are poisonous and the tree can never be eradicated. Awareness-raising, demonstration and training are urgently needed and at all levels from pastoralists to policy makers.

The first need is to collect, dry and mill the pods, making high quality animal feed (and flour for food) – and most importantly – reducing the spread of prosopis at the same time. For each 25 kg sack of pods collected and milled, around 50,000 seeds are destroyed – or two million less prosopis plants for every tonne of pods milled. And prosopis pod flour is nutritionally equivalent to wheat or maize flour, and much sweeter.

The second need is to show how to earn money from clearing prosopis-invaded land, by converting the wood into charcoal for sale. And together, these two alone will see a significant impact on increasing rural incomes *and* decreasing prosopis invasion.



Training villagers to mill prosopis pods – but much more is needed

Managing prosopis trees and forests

Prosopis can be cleared from farmland. Ask Abokor Mohamed Abdi of Barwaago farm in Dinqal. He has developed a successful system of clearing and burning, replanting with fruit trees and sowing crops, while also making up to \$150 a week from selling prosopis charcoal. In farms and around homesteads, all seedlings need weeding, and thickets need thinning. But the best trees can also be pruned to upright trees, as is done in other countries, for shade, fruit and even for timber in the future.

New incomes from prosopis

The single biggest opportunity for developing new rural businesses in Somaliland is from the processing and sale of prosopis products. Charcoal will likely be the first ‘value chain’ to be readily exploited. But this could also be supported by changing government policies to promote prosopis charcoal over that made from native acacia, such as reducing taxes, and sourcing new markets.



A new income source - Prosopis charcoal for sale in Aw Barkhadle

The Tawfiq cooperative prosopis success story

PENHA had been working with communities in the villages of Ghedka-Dhenta, Dinqal and Aw Barkhadle for some years, and in 2014, helped them to form a single cooperative. Training was offered in business management, bookkeeping – and in the potential of prosopis products. But the community was very negative about this ‘devil tree’. However, they needed to clear land for farming, and began making prosopis charcoal in 2015. And only a year later, they are seeing how much new income is coming in. On visiting Nakal farm in Aw Barkhadle in June 2016, Tawfiq’s head of their new prosopis enterprise spoke of the success. “We have two teams of around 15 men who each make up to 200 sacks or a truckload a week, and which sells for \$1400. Imagine, from nothing to \$2800 every week. Prosopis is money!”

Feed security is food security

Making animal feed from milled prosopis pods also has huge potential, considering the country’s large livestock sector and its dependence on imported feedstuffs. But different hammer mills, processing technologies and feed mixes need to be introduced and demonstrated. Developing this value chain is likely to be driven by private sector investment, and attracting interest from entrepreneurs must be a priority.

Members of the Somaliland government and some NGOs have the vision to see this tree turned into a valuable resource for the benefit of rural people. They now need more support from private investors and international organizations, for the country to achieve its aims, and become a model for others to follow.