

Invasive weed *Prosopis juliflora* coal

A source of income to *Banni* inhabitants of Kachchh

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In recent years, Banni grassland in Kachchh, Gujarat, has been encroached by Prosopis juliflora weed that threaten the local environment and livelihood security of the inhabitants. However, this threats has turned to be a blessing as the locals begin to use it as coal. The study discuss the preparation process of the coal from the Prosopis juliflora tree in Banni grassland.

Keywords: Banni grassland, Coal, *Prosopis juliflora*, Livelihood security

PROSOPIS *juliflora* is a deep-rooted multi-stem shrub/tree species of fabaceae family and is native of South and Central America. *P. juliflora* is also known as Vilayati babul in Hindi and Gando baval in Gujarati. It is a very versatile plant growing profusely in very fertile to poor soils (stony and rocky soil) in semi-arid to arid regions. Introduction of *P. juliflora* in India has different stories but in the desert part of Rajasthan, this species was introduced by the king of Jodhpur to control desertification. Gradually, it permeated to neighboring states and now has infested almost every nook and corner of the country. Its ability to encroach and suppress the native vegetation in the introduced area has

earned pernicious invasive weed tag for *P. juliflora*. Banni, largest natural grassland of Asia situated in Kachchh district of Gujarat once known for its rich wildlife and biodiversity is now by and large completely infested by *P. juliflora* is a classic example of it. The cattle rearing are the main livelihood source for the inhabitants of Banni. Invasion of Banni grassland by *P. juliflora* not only destroyed rich biodiversity and productivity of the grassland, but also jeopardize the livelihood security of the inhabitants, which compelled the inhabitants of the area to devise alternative means viz., coal preparation from *P. juliflora* to earn some income. With passing time coal preparation from *P. juliflora* has remained a routine activity for

the inhabitants of Banni area and now has become a source of income for them. The preparation of coal from *P. juliflora* tree is a year-round activity in the area with peak in the winter season as it fetches better market price during that period as compared to the rest of year. On an average 100 kg raw material produces 50 kg marketable quality coal.

Steps involved in coal preparation and marketing are detailed here.

Wood collection

As such there are no criteria for selection of *P. juliflora* tree for coal preparation, however preference is always given to the new trees or its branches having good thickness over old matured plants or its part because



Fig. 1.a. Chopped pieces of *P. juliflora*



Fig. 1.b. Chopped pieces arranged in a dome-shaped heap



Fig. 1.c. Fired heap



Fig. 1.d. Collected coal



Fig. 1.e. Graded coal



Fig. 1.f. Packaged coal

coal prepared from newly developed trees/parts is considered better as it has better quality and fetches premium market price. The selected trees are felled down and separated into usable and not usable material as per their thickness. The trees/parts found suitable for coal making are further chopped into convenient size (1-2 meter) as shown in Fig. 1.a to f.

Heaping and burning

The chopped pieces of *P. juliflora* are further arranged in a dome-shaped heap. The heap is made of three layers; the centre and outer layer with straw material and middle with chopped pieces of *P. juliflora*. Once the heap is ready it is set on fire and covered with soil. The covering of heap with soil or mud encourages the slow-burning, which is needed for quality coal production. The fire remains active 3 to 5 days in the heap.

Grading, packaging and marketing

After completion of the burning, the heap is left untouched until complete cooling. The heap is opened upon completion of cooling and coal is collected and graded as per quality. The grading of the coal is done based on either its thickness or used raw material. The coal produced from the newly developed part of the *P. juliflora* having less thickness is considered higher quality coal as compared to coal produced from matured/old part having more thickness. After grading, coal is packed in jute bags, transported and sold. Based on buyer and quality of the coal, it fetches the market price of ₹ 7 to 12/kg.

SUMMARY

Banni is a World famous natural grassland known for its rich wildlife and biodiversity situated in Kachchh

district of Gujarat. The cattle rearing are the main livelihood source of the inhabitants of the area. In recent past, the encroachment of *Banni* grassland by *P. juliflora* has posed threats to the livelihood security of the inhabitants and has compelled them to ponder over some other alternative means namely coal preparation from *P. juliflora* tree for their livelihood. With passing time, coal preparation from *P. juliflora* tree has become a routine year-round activity for the locals which earn them some income. Besides income, it also provides employment opportunities for them. The coal is sold to local buyers @ of ₹ 7 to 12/kg.

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