



NAIP SUB-PROJECT
VALUE CHAIN ON VALUE ADDED
PRODUCTS DERIVED
FROM PROSOPIS JULIFLORA



AT A GLANCE

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Consortium Partner Institutes

National Food Products (India), Jodhpur, (Industrial partner)

Desert Environmental Conservation Association (DECO) (NGO partner)

Significant achievements

Cheaper concentrate feed: A very simple process technology was developed by utilizing *P. juliflora* pods mixing with other ground feed ingredients available locally viz., tumba (*Citrullus colocynthis*) seed cake, guar (*Cyamopsis tetragonoloba*) korma, til (*Sesamum indicum*) seed cake, wheat bran, maize grain, common salt and mineral mixture. Farmers readily accepted this process technology and it is very much possible at livestock owners' doorsteps.



Commercial Production & Marketing

Feeding trial was conducted with Lactating Tharparkar cattle. Twelve lactating Tharparkar cattle were randomly divided into 3 groups (T1, T2, and T3) of 4 each. T1 group cattle were maintained on standard palleted concentrate; T2 group on CAZRI developed concentrate and T3 group on concentrate mixture developed using *P. juliflora* pods. Concentrate mixtures of T2 and T3 groups were iso-nitrogenous and iso-caloric.



Experimentations for monthly body weight, analysis of milk Fat & SNF percentage, blood parameters, and production and reproduction status assessment of lactating Tharparkar cattle were carried out. There was no change in any parameter between the groups of cattle provided conventional feed concentrate and *P. juliflora* pod based concentrate. Milk yield of cattle fed on *Prosopis juliflora* pods containing concentrate mixture was increased significantly (by 25% over conventional feed), however the calving interval of this group was also extended. The extended calving period was compensated by milk production for longer period.

Multi-nutrient feed block: Guar seed meal is commonly used in multi-nutrient feed blocks. *P. juliflora* seed meal contained 2.77% minerals, 8.35% ether extracts, 44% crude protein and 44.9% total carbohydrates. These values are comparable with seed meal of guar. Therefore,



Marketing Through ATIC

multi-nutrient feed blocks were prepared by replacing guar meal by *P. juliflora* seed meal. Other contents of this block are tumba (*Citrullus colocynthis*) seed cake, molasses, urea, common salt, dolomite and vitamin-mineral mixture. This reduces the cost of multi-nutrient feed block in one hand and added to its nutritive value on the other.

Prosopis coffee: Technology for production of *Prosopis juliflora* based coffee has been perfected and industrial partner has started production on pilot scale to assess marketing feasibility. However, commercial production will be started after toxicity analysis results are received from NIN, Hyderabad.



Production Process Perfected,
Awaiting for Toxicity Analysis
Results from NIN, Hyderabad

Shade card to match the precised point for roasting of Prosopis pod powder for preparation of coffee: A shade card developed for roasting of *P. juliflora* pod flour for preparation of *Prosopis*

coffee. The initial coffee preparation was done by setting a temperature of 150° C for 6 hours in the oven. The process is modified by preheating the oven at 225° C for a maximum of 2 hours and then roasting *P. juliflora* powder. Based on the position of the trays in the oven, they achieved the end point any time between half an hours to two hours. The end point is used for developing the shade card. By this shade card one can easily roast *P. juliflora* powder precisely for coffee preparation.



Densification of *P. juliflora* pods through hydraulic press for better storage and easy transport by reduction of volume: The pods,

which have less amount of mesocarp (good source of sugar) was directly crushed/ground in the hammer mill. Ground pods were compressed for densification in the block making machine up to pressure 160 kg/cm² to make it as a block. The volume reduction was found more than 80 percent, which is very helpful for storage and transportation; and as well as enhancing the shelf life.



Formulation Standardized,
Marketed through ATIC

Establishment of pod collection and field training centre: Continuous motivation of primary stakeholders through field trainings regarding collection and grading of *Prosopis* pods resulted in establishment of pod collection and field training centre by the sole efforts of villagers in Lalpura village (Sanchore, Jalore).



Field Training & Pod Collection Centre at Lalpura

Voluntary partners: Four industries using *P. juliflora* in one way or other has been associated with us as a associate partner. Transtech Green Power Pvt. Ltd., Patwar Area, Kachela Bagasari, Tehsil-Sanchore, District-Jalore, Rajasthan; Abellon CleanEnergy Limited, 3rd Floor, Sangeeta Complex, Near Parimal Railway Crossing Ellisbridge, Ahmedabad, Gujarat; Sunrise International, 225-226-B, Road No 10-A, Nityanand Nagar, Queens Road, Jaipur, Rajasthan; Jodhpur Pashu Ahar, 2nd Phase, Basni, Jodhpur, Rajasthan.

Impact in terms of income and employment generation : The impact of the project implementation in target villages resulted in an average additional income of Rs. 1388/- per month of 60 households (4 groups of 15 households each) involved in project activities. A pod collection centre has been established by the farmers themselves in village Lalpura of Sanchore Tehsil (Jalore District). In addition to this increase in house hold income, the villagers of target villages gained employment in *P. juliflora* plantation and wood collection activities of our associate partner Transtech Green Power Pvt. Ltd., Patwar Area, Kachela Bagasari, Tehsil - Sanchore, District - Jalore, Rajasthan to the tune of 750 man days per month.

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