



Tree Oils India Ltd.
Energy ● Environment ● Ethics

**Mogudampally Village,
Zaheerabad Mandal,
Medak District-502 226
Andhra Pradesh, India
Phone: +61 432 444 849
Email: gs@treeoilsindia.com**

The Company:

Tree Oils India Limited (TOIL) was established in 2003 to produce biodiesel from non-edible tree based oils (feedstocks). As these feedstocks were not available in sufficient quantities and at reasonable price at the time, TOIL started with plantation activity. As there were no tested varieties of these tree species and knowledge of agronomy was limited, TOIL started an R&D farm to begin with.

Since then, TOIL has emerged as a biodiesel plantation technology company engaged in research and development non-edible oil-bearing trees such as *Pongamia*, *Jatropha* etc.

The existing sources such as palm, canola, soybean and coconut oils, used cooking oil and tallow are expensive and are not available in large quantities. Hence, non-edible oils from trees such as *Jatropha* and *Pongamia* are being developed as cost effective and sustainable feedstocks.

Pongamia and *Jatropha* could be cultivated in marginal areas, including desert, other than forests with lower rainfall and poor soils. They are being grown in Egypt and Saudi Arabia and survived well in Dubai. The biggest advantage of these trees is that there is no competition with agriculture and food production.

There is a concern that biodiesel from edible oils increases the cost of food around the world and forests are being cleared to grow them. Even otherwise, it is felt that the biodiesel crops compete with agriculture for land and water. Our approach of using non-edible oils produced by hard trees that are grown in non-agricultural and non-forest lands offers a solution to these issues.

Plants

Jatropha curcas is Latin American in origin and is closely related to Castor. It is a large shrub and can thrive in a number of climatic zones in arid and semi-arid tropical regions of the world. An easy to establish perennial, it can grow in areas of low rainfall of 250 mm per year and is drought tolerant.

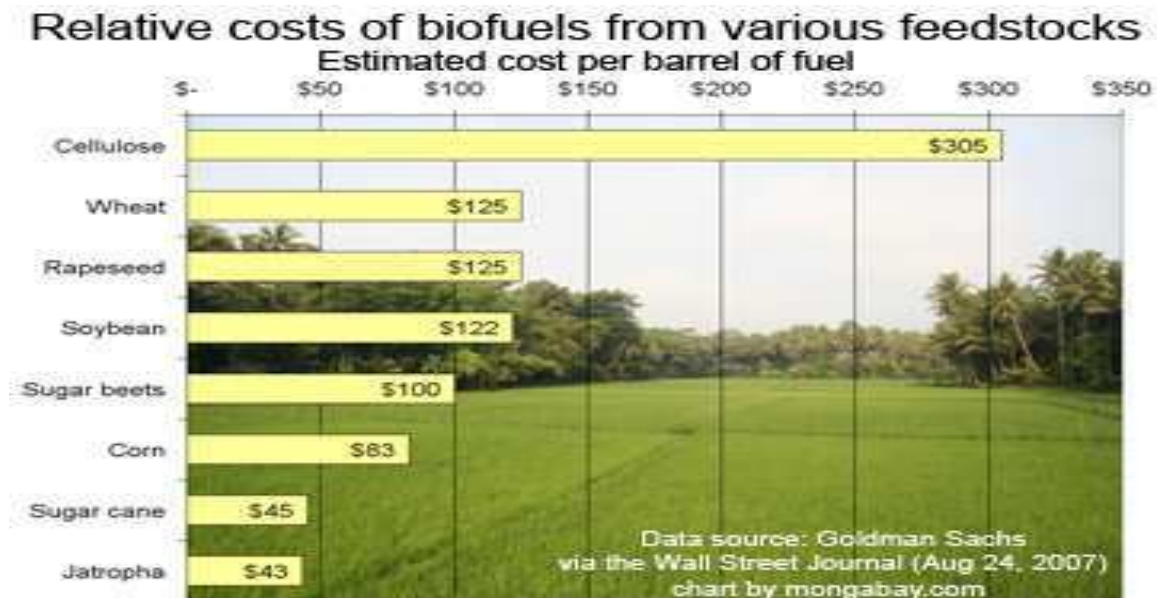


Pongamia pinnata is a native of India and grows in dry places far in the interior and up to an elevation of 1000 m. It is a hardy tree that mines water for its needs up to 10 metre depths without competing with other crops.



Advantage:

Jatropha and Pongamia have relative cost advantage as they are perennial trees that require minimum inputs. Goldman Sachs estimated that Jatropha was lowest in terms of cost of production.



People

The Company was promoted by Mr. Sreenivas Ghatty and his associates and is managed by the following team members.

Sreenivas Ghatty, Chief Executive Officer

Mr. Sreenivas Ghatty is a post graduate in Agriculture and was a corporate banker and project manager with exposure to credit appraisal, agri-business and energy cropping. He worked with multinational banks, including State Bank of India and Emirates Bank International, in India and Middle East Asia for eighteen years. He is the founder of Tree Oils India Limited and for the last five years, his focus has been on research and development of oil bearing trees, energy crops and contract farming. In his most recent assignment as Development Director – Energy Cropping for Australian Biodiesel Group, Mr. Sreenivas Ghatty worked to develop large scale Biodiesel Plantations and alternate energy crops in Australia.

Subhanu Sogal, Chief Operating Officer

Mr. Subhanu Sogal is a graduate in Agriculture with a post graduate qualification in Business Management. He has about 12 years of on- field experience in milk processing, irrigation equipments, rural marketing and hybrid seed production.

Satya Jella, Advisor

Dr Satya Narayana Jella is a doctorate in Agriculture. He has 16 years of research experience and completed six projects and published about 25 papers in various journals. He is presently working as Associate Professor in the Department of Entomology, Acharya N.G. Ranga Agricultural University, India.

Rajeshwar Rao, General Manager

Mr. Rajeshwar Rao is an Electronics Engineer with 30 years of experience in the IT Service, Support and Training fields. Project Planning and Implementation are his strengths and he was Country Support Manager for multinational IT Company in Middle East Asia. He manages the operations of the company at various project locations.

Satyavrat Sharma, Manager Operations

Dr Satyavrat Sharma is a Post graduate in Agronomy with 35 years of experience in farm development and management. He was with National Dairy Development Board as Senior Farm Manager where he developed farm for growing all fodder crops for fodder and seed production. He manages the farm and monitors the research and development activities.

Progress

In order to facilitate commercial production of Tree Based Oils on large scale, TOIL established 120 Acres of R&D centre in India in 2003.

The plantation consists of:

- 60 Acres of Pongamia (Indian Beech)
- 40 Acres of Jatropha (Physic Nut)
- 5 Acres of Moringa (Drumstick)
- 2 Acres of Azadirachta (Neem)
- 1 Acre of Sapindus (Soap nut)
- 1 Acre of Simarouba (Paradise)

TOIL also planted to conduct research:

- Madhuca (Mahua)
- Aleurites (Candle Nut)
- Sapium (Chinese Tallow)
- Calophyllum (Poon)

TOIL took up various soil and water conservation measures and has been using mostly biofertilisers and biopesticides to promote sustainable farming. Experiments are being conducted to find out the optimum set of inter crops and package of practices for them.

TOIL have also established nursery for Jatropha cuttings and Pongamia grafts and started Apiculture and Vermicompost activities. The focus was on developing an integrated Tree Based Oils Farming System to be adopted by the farmers under contract farming system in the next five years.

TOIL have been conducting trials to develop suitable silviculture practices with specific emphasis on evaluation of Jatropha selections, different doses of fertiliser applications, irrigation at different intervals and various types of pruning. Based on this research and the feedback obtained from our panel of advisors, meaningful conclusions on Jatropha and Pongamia are being drawn.

To intensify the research efforts, Tree Oils Development Centre (TODC) is being established.

High quality plantation material could be sourced from the company's nursery and the knowledge and expertise gained by TOIL could be modified to suit the local conditions in other locations.

Participation:

As technical partners to the project owners TOIL can

- Provide technical support and guidance in developing and maintaining Jatropha and Pongamia plantations.
- Guide in deciding on the choice of suitable species and agronomic practices depending on the agro climatic conditions.
- Supply high quality planting materials and provide guidance to set up nurseries at project locations.
- Train project personnel at their farm in India on all aspects of cultivation of Jatropha and Pongamia.
- Monitor the plantation activity at the project site and have regular presence on site.
- Provide services of advisors and experts to meet the project needs.
- Take up specific research projects to meet your needs, if required.

Projects:

TOIL worked with the following biodiesel manufacturing and feedstock management companies so far and assisted them in establishing Jatropha and Pongamia plantations:

- **BioMassive**, Sweden for their Jatropha plantation project in Tanzania
- **Global Green Energy**, Sydney, Australia for their Jatropha plantation project in Ghana
- **Global Tree Oils**, Singapore for their Jatropha plantation project in Thailand
- **Pacific Renewable Energy**, Brisbane, Australia for their Pongamia research and plantation project in Australia
- **Australian Biodiesel Group**, Sydney, Australia for their Jatropha plantation project in Solomon Islands

Future Plans:

TOIL intends to take up the following activities in future:

- Intensify research and develop IP for cultivation of Pongamia, Jatropha and other tree based oils, including high yielding varieties.
- Establish plantations in India and other countries on their own and through joint ventures.
- Execute turnkey projects for corporates or high net worth individuals to establish Jatropha and Pongamia plantations.
- Work with farmers, NGOs/SHGs to establish plantations and support them with technical inputs and buy back agreement.
- Conduct collaborative research on tree based oils and energy crops with companies who are planning to enter this activity by giving access to their five year old R&D farm.