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### Using bio fuel to run an irrigation pump for five acres

M. J. Prabu



The bio fuel powered water pump emits less smoke than a conventional one.

*Special Arrangement*

At a time when farmers in Tamil Nadu are facing a big problem in cultivation due to frequent load shedding, a farmer, Mr. C. Rajasekaran, from Vettaikaran Irruppu of Kilvelur taluk in Nagappattinam district does not seem to worry much.

The reason is not far to seek — he is using oil from Punnai (Tamil name) tree seeds (*Calophyllum inophyllum*) to operate his five hp motor pump for irrigating his five acres.

His garden, which was once considered to be unfit for any cultivation, since the soil became barren after the tsunami struck, is now home to nearly 35 different tree varieties. Mango, Guavas, Lime, Teak, Cashew, amla, tamarind, and jack are all flourishing well today in what was once considered a wasteland.

#### Well known

While the farmer says that he was able to turn the land fertile only through organic practices, he is well known in the region for propagating the usefulness of punnai seeds.

“If a farmer has two punnai trees on his land, he can reduce the diesel cost considerably. I run the motor for about five months using the oil during summer,” he says.

The tree grows well in coastal regions. Cattle or goats do not eat the leaves thus making it easier for a farmer to grow it. Capable of growing in any type of soil it can withstand heavy winds and produce seeds within five years after planting.

“A farmer can get four to 20 kg of seeds a year from a five year old tree. After 10 years, a tree will yield 10 - 60 kg in a year and the seed yield will be on the increase as the trees grow older. From my experience, a 25 year-old tree yields a minimum of 300 kg and a maximum of 500 kg of seeds,” says Mr. Rajasekaran.

The trees attract lot of honey bees and bats. While the bees help to pollinate the bats eat the fruits and the seeds scatter all over the area through their droppings.

#### Drying

“My daily job in the morning is to collect the seeds and dry them for a week, after which they are broken open to expose the kernel. The kernel is further dried for 10 days before oil extraction,” he adds.

From one kg of seed kernel about 750 to 800 ml of oil can be extracted and the cost of producing a litre of oil works out to Rs.10.

“I operate the pump only during summer, for about five months in a year to be precise and for that my requirement is 600 ml of oil for an hour every day. Previously while using diesel my requirement was 900 ml for the same duration of time.

In a year I am able to get 75 litres. The surplus oil is sold to other farmers at Rs. 42 a litre. After extracting the oil, the cake is used as manure for crops,” he explains.

### **No problem**

According to the farmer there is no rust formation in the engine and it emits little noise during operation. For the last four years he has been using this oil to run his motor and till date seems to have not faced any problem with the engine.

“I find there is no remarkable difference between a punnai oil and diesel run five Hp motor engine. Both pump 750ml of water in a minute. In fact the engine running on the oil emits less smoke unlike the diesel operated one,” he says.

Unlike casuarina or teak, punnai trees are not normally planted by farmers. The few trees found in some places have been growing there for years similar to the palm trees one finds on the rural roadside.

### **Benefits**

“But the benefits from the tree are quite remarkable in terms of bio energy. It is the job of the state Agriculture University and Government to popularise this tree among farmers and encourage them to plant it.

“If done, in two years or at most in another 10 years we might not face the same power problem we are facing now if all our farmers become aware about this tree he says,” with a smile.

Every day his farm draws several visitors who are eager to know more about the oil and its use for their machines.

For more details interested farmers can contact Mr. C. Rajasekaran, Kandaiyankaadu village, Vettaikaaranirruppu Panchayat, Kivalur Taluk, Nagappattinam District, Mobile: 97510 02370.

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