



## Innovations in Agricultural Implements by Karthikeyan



At the time Sri Karthikeyan was working on Mahindra seat vans in his home town of Kumbakonam, a few farmers approached him for making small alterations to the existing conoweeder designed by the government. Even though he was not experienced in agriculture he learned quickly the problems faced by the farmers and thought of making alterations. The existing lathe operators in Kumbakonam were not interested in doing such work on agricultural implements. So he started working on the improvement of the existing cono weeder. This led to designing various implements in order to address the needs of local farmers.

The implements described here are:

1. Brick cutting machine
2. Weeding machine
3. Paddy sowing machine
4. Sugar cane chip cutting machine
5. Base cutter for sugar cane
6. Fertilizer applicator
7. Sugarcane sheath/old leaves (*sogai*) remover

Sri Karthikeyan  
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Age: 49  
Education: 10<sup>th</sup>  
standard,  
Diploma in Automobile  
Engineering, incomplete  
8 yrs bulldozer dealer -  
hydraulic mounting in  
heavy vehicles  
Hindustan Motors until  
1993 when father died,  
returned home  
Mahindra seat van  
internal decoration  
contractor - replaced  
iron metal with kalai  
sheet

### Brick cutting machine

Developed in 2006 for local brick kiln units in and around Kumbakonam. There are two models of this brick cutting machine: 24 stone model for Rs 25,000 and a 48 stone model priced at Rs 35,000. His machine enables one labourer to produce 3,000 cut bricks compared to 1,000 with the conventional method. Drying time is reduced by two days from 5 to 3 days with the use of the brick cutting machine. He has supplied 75 machines after featuring it in a show.

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### Weeding machine

This is for weeding wetland paddy and has unique wheels similar to a cage wheel. He has also patented this model. It is operated with a 1.5hp motor imported from China. He failed to obtain government approval for a contract to supply to farmers on a subsidy basis. The weeder can be used both on dry and wetlands by making a small adjustment to the weeder. This weeder is priced at Rs 29,000. But the government approved weeder costs Rs. 24,500 plus extra for fitting a dry land tool. 1 acre weeding can be completed within 2 to 2.5 hours with 2 to 2.5 litres petrol.



### Paddy sowing machine

This machine is exclusively for sowing seeds in the special paddy nursery where seedlings are grown by using polythene sheets instead of directly in the field. For planting he developed a trans-planter which costs Rs 3,000 to Rs 5,000 per machine, and 10 acres planting can be completed with the help of 3 labourers.



### Sugarcane chip cutting machine

Sri Karthikeyan has designed a sugarcane chip cutter where the buds alone are removed from the sett and used for growing seedlings in polythene bags. It costs Rs 3,500. He has so far supplied 100 to 150 machines to farmers.

**SRISTI SAMMAN**



**Base cutter**

Side shoots will grow from the main stem of sugarcane. By observing these phenomena he has designed a base cutter for sugarcane. He also experimenting with developing a base cutter for other crops such as gingelly so that more tillers will emerge from the plants.



## SRISTI SAMMAN



### **Fertilizer applicator**

Sri Karthikeyan has developed a fertilizer applicator for sugarcane, banana and sorghum. It enables about 20 gms of fertilizer to be placed in the root zone of the crop at a depth of 5 inches.

### **Sugarcane sheath/old leaves (*sogai*) remover**

In order to remove the old leaves from sugarcane he developed a mechanical instrument with a steel spring to strip the leaves. It costs Rs 250. So far he has supplied 100 sugarcane strippers to different farmers.



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