



### **National Award – Third**

### **Combi Tillage Implement**

Maharaj Singh Lodhi  
Raisen, Madhya Pradesh

Maharaj Singh Lodhi (32) had to leave studies after completing 10th standard due to poor economic condition of the family and join farming. However, he continued tinkering with farm machinery and over time was able to experiment and develop auger plough, modified submersible pump, and MB plough with the help of a local fabricator.

Maharaj Singh noticed that a conventional tractor mounted cultivator could not get proper depth on hard soil while carrying out tilling operation in his farm. To address this problem, in his first attempt itself, he developed an auger plough where five rotary augers were placed in place of cultivator tynes. They were powered by tractor PTO, however experiencing frequent

wear and tear, he further developed a modified MB plough and Combi-tillage implement.

The tractor mounted combined tillage (combi tillage) implement does primary tillage operations as well as secondary tillage operation together. It consists of a soil cutting tool (modified plough or cultivator tynes) and soil clods breaker cum levelling unit (tractor PTO powered auger shaft). The modification includes replacement of bar point share of MB plough by tractor PTO powered auger. It consumes 3 liters of diesel to cover up to 1.25 acres of land in 1 hour at a field efficiency of 79%. It requires draft force of around 560 kgf to attain depth of 18 to 21 cm and width of 2 m. The implement costs Rs 50,000.

