

### Portable Energy Efficient Wood Stove

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**Problem addressed:**

To meet their cooking energy needs, large numbers of households in the country’s poorer, rural areas use traditional chulha/ stoves, which consume firewood and other biomass as fuel. The fuel efficiency of traditional chulha’s is very very low and burning solid fuels indoors results in high levels of toxic pollutants, a major risk factor for lung cancer, and cardiovascular and respiratory disease.

**Product:**

Jayprakash’s innovative stove is a double-chambered efficient portable stove. It can use coconut shell or wood as a fuel. Innovator has improvised the stove by incorporating a secondary combustion chamber for burning the un-burnt bio mass and hydrocarbons coming out with the smokes/exhaust. As a result, the thermal efficiency of the stove has improved while the pollution has reduced.

There are two layers of ceramic materials having 2 inch gap between it. The outer wall also has two openings for air inlet and the inner wall has secondary holes that facilitate the burning of smoke that enhances the fuel efficiency. The air enters through the outer wall gets heated in the annular chamber, and it enters through the holes through the combustion chamber and hence provides full combustion.



**Technical Specifications**

- This stove is transportable and has high burning efficiency 37.6% against an efficiency of 17% with other stoves.
- Different kinds of fuel woods, bio mass can be used

**Key Competitive Advantage:**

- Very less smoke & and thereby reduced pollution
  - Very less harmful gases and thereby improved health impact
  - Good insulation. portable and easy to use, suitable for traditional cooking system
- Besides the portable wood stove, he also manufactures and sells “Community stoves” & “Domestic stoves.” Community stove is made of bricks, cement, clay, cast iron and can cook food up to 100 kg. Domestic stove is a miniature of the community stove. This stove is fixed on the



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|  | platform in the house and can cook food for household needs.  |
| <b>Time to deliver:</b>                        | 10-15 days  |
| <b>Price :</b>                                 | Portable Stove: Rs 4000 onwards (ex-factory price + packaging). The price does not include transportation costs, taxes, etc.  |
| <b>Achievements:</b>                           | Innovator has been awarded in Six Biennial Award Function of National Innovation Foundation and supported under MVIF scheme of NIF. The innovator won the Kerala State Energy Conservation Award 2008 constituted by 'Department of Power, Government of Kerala'. Totally (all three models), innovator has sold about 8000 units.                        |
| <b>IPR Status:</b>                             | Indian Patent Applied (No. 1582/CHE/2011)   |
| <b>BD website link:</b>                        | <a href="http://nif.org.in/innovation/portable-energy-efficient-wood-stove/611">http://nif.org.in/innovation/portable-energy-efficient-wood-stove/611</a>   |
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