Efficient stove using paddy husk as a fuel

Ashok Thakur
East Champaran, Bihar

Ashok Thakur (44), a blacksmith by profession, has developed a chulha, which uses paddy husk as a fuel. He has sold over 400 paddy husk stoves locally.

He lives with his wife and son, who is completing his graduation. His three daughters are married. Dropping out of school after class seven, he moved to work with his father in a factory but returned back soon to start his own workshop. He learnt all the skills of a blacksmith under guidance from his father. He started his work making and selling coal chulhas and wood dust chulhas. Meanwhile he also observed in his area that a large amount of paddy husk was discarded as an agricultural waste. He experimented with a common stove using wood dust as fuel and suitably modified it for paddy husk. The stove weighs about four kilograms and burns for an hour with one kilogram of paddy husk with a smokeless flame. This stove has undergone testing at IIT Guwahati and TERI University, New Delhi. The fuel combustion rate reported by IIT Guwahati for the stove was about 4.67 per cent. TERI University during tests found its thermal efficiency to be 23% in cold & hot start and 32% during simmering. NIF filed a patent (311/KOL/2011) in his name. Speaking about his stove, Ashok claims that this can even be safely used on a boat for cooking food. He wishes to scale up his production based on the growing demand and also experiment further.