

VIKRAM SINGH RANA



Village : Nighdhu
 Contact Number : 9813125575, 8199964999, 8199955999
 Client Area : Rajasthan, Gujarat, Uttar Pradesh, Maharashtra
 Year of establishment : 2013
 Employment Generation : 75-100 man days per day
Message : Please avoid burning the paddy straw, which can earn you an additional income.

RAMNIWAS



Village : Nigdhu (Native City: Kurushetra, Haryana)
 Contact Number : 9896157519
 Client Area : Rajasthan, Gujarat
 Annual Business : 50,000 quintal
 Employment Generation : 60-80 man days per day
Message : Don't play with the health of peoples and environment.

JOGINDER, KAPTAN AND KRISHAN



Village : Patanpuri, Dholpura, Koyar
 Contact Number : 9306783851, 9996514300, 80599060752
 Client Area : Gujarat, Rajasthan
 Annual Business : 40,000-50,000 quintal
 Employment Generation : 30-40 man days per day
 Leftover crop residues after mechanized harvesting by Combine Harvester is converted to cardboard
Message : Make money from "parali"

SUBHASH CHOPRA



Village : Mohadi Jagir
 Contact Number : 9896188851
 Client Area : Rajasthan, Gujarat
 Annual Business : 50,000 quintal
 Employment Generation : 20-30 man days per day
Message : Save Environment, Save a cleaner environment for future generations

JUNAID



Village : Nilokheri (Native City: Shamli, Uttar Pradesh)
 Contact Number : 9759626897, 6398485966
 Client Area : Sardana, Meerut
 Annual Turnover : 35.0 Lakhs
 Employment Generation : 10-15 man days per day
Message : Keep the environment clean



Alternative uses of
 Rice Residue for
 Additional Income:
FARMER'S
Success Story

Raj Pal Meena | K Venkatesh | Sudheer Kumar | R K Sharma | Anuj Kumar | G P Singh



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Rice-Wheat is an important cropping system for South Asian countries and has been the harbinger of "green revolution" leading to self-sufficiency in food production.

In north western plains zone of India, harvesting of rice and wheat is done by combine harvester. As machines are being increasingly used which leaves huge amount of residue in the field and management of this residue is difficult within permissible time.

Consequently, to vacate the field for fast approaching wheat season, farmers are burning rice residue *in-situ* as the loose residue on soil surface interfere with tillage

and seeding operations.

Farm residues on burning subsequently generates gaseous pollutants like CO₂, CH₄, CO, N₂O, SO₂, etc and large amount of particulates in huge quantity leading to significant air pollution in the entire zone. Residue burning instantly generates as much as 13 tons of CO₂ ha⁻¹. It causes significant deterioration in air quality besides killing of countless beneficial soil *microflora* and *fauna*.

Rice residue may be used for a number of useful purposes such as livestock feed, fuel, livestock bedding, composting, for mushroom cultivation, mulching for orchards and vegetables and packaging material etc.

Alternative use of rice residue *In-situ* use Incorporation of Paddy Straw in Soil

Ex-situ use



Use of Crop Residue in Bio Thermal Power Plants



Fodder for Animals



Use of Crop Residue for Mushroom Cultivation



Use of Rice Residue as Bedding Material for Cattle



Use of Rice Residue in Paper Production



Farmers success story from "Mera Gaon Mera Gaurav" adopted villages

Turning residue into wealth

Few farmers in Karnal district of Haryana took the availability of vast amount of residue as an opportunity and started many rice residue based entrepreneurship at village level and setup straw collection points in their villages.

At these residue collection centres farmers can bring their harvested straw and sale at a cost of Rs. 150 to 200 per quintal. On an average around 50000 quintals of rice straw is collected at each centre and further transported to end users located in states like Rajasthan, Gujrat and UP for various uses. These straw collection centres started by these young farmers serve as employment providing centres to as many as 400 daily wagers everyday apart from providing additional income to farmers in return to their straw. Sale of residue can earn an additional income of Rs. 5000-7000/- per hectare to farmers and also avoids on-farm burning of residue thereby contributing greatly in tackling the air pollution problem.

The residue of basmati rice variety fetches a higher price of Rs. 500 per acre more compared to non-basmati straw.

The constraints faced by the young entrepreneurs running a paddy straw collection centre

The dry paddy straw is vulnerable to fire incidents and there is no fire brigade service nearby.

Non-availability of insurance facility for loss of

straw from natural calamities such as fire etc.

There is no facility of finance by banks to start such business while it requires initial investment to procure equipment's and machinery like, baler, straw chopping machines and tractor (trolleys) etc.

Benefits of starting rice residue collection centres

- Additional income of Rs. 5000-7000 per hectare to farmers.
- These seven straw collection centres in MGMG adopted villages are annually collecting thousands of tonnes of straw which was otherwise burnt on the fields and avoiding emission of poisonous gases and particulate matter into atmosphere thereby making environment cleaner.
- Diverting the straw to alternate uses by these collection centres provides raw material to many industries like dairy, power, paper, packaging, mushroom cultivation etc.
- Straw collection centres are generating employment to as many as 400 daily wagers everyday
- These young farmer entrepreneurs are acting as middle men between end users of straw and producers and earning sizable amount of profits as per the demand-supply mechanisms of market.

Looking at the win-win opportunity to the rice growing farmers, collection centres and ultimately the environment, government may encourage establishment of such straw collection centres across the whole rice growing states so that the challenges posed by burning of straw can be addressed effectively.

