

# Rice Straw Management in Cambodia: Today's Practices and Tomorrow's Potential

*Closed-Loop Utilization of Rice Straw for Income Diversification  
through Oyster Mushroom Production*

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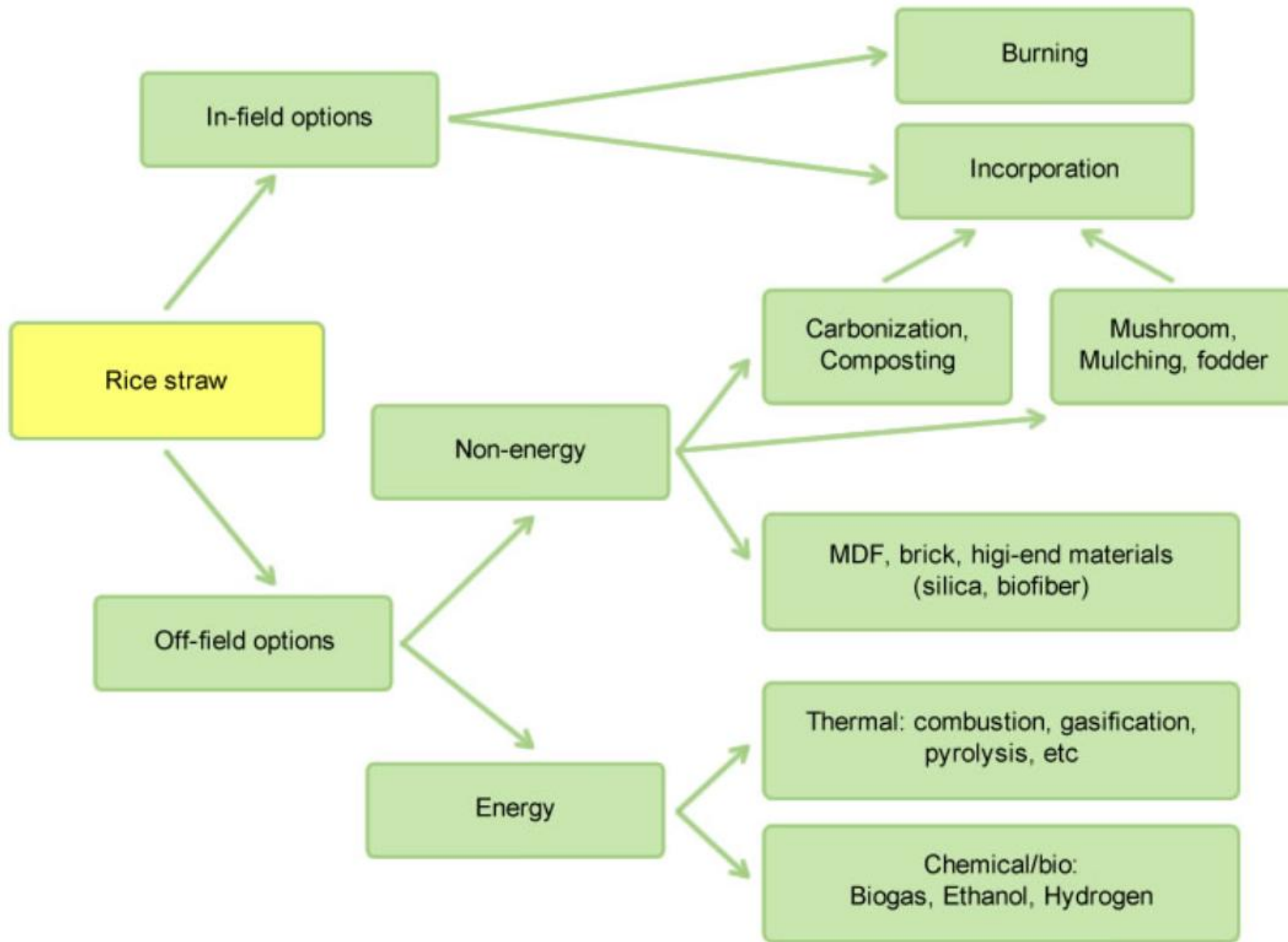
Novotel Hotel  
June 24th 2025



# Introduction: Rice Straw in Cambodia

- Rice is Cambodia's main crop, with over 3 million hectares cultivated annually.
- Approximately 10 million tons of rice straw are produced each year as a byproduct
- Around 3 million tons are openly burned, causing air pollution and health risks.
- Rice straw is often undervalued and poorly managed.
- Much of the remaining straw is left in the fields without proper management
- These practices contribute to higher GHG emissions and environmental degradation.
- Turning rice straw into **mushrooms** or **compost** transforms waste into profit.





Source: [knowledgebank.irri.org](http://knowledgebank.irri.org)

# 1. History

Started: 2013

Mushroom house: 84sqm

Production capacity: 5-20kg/day

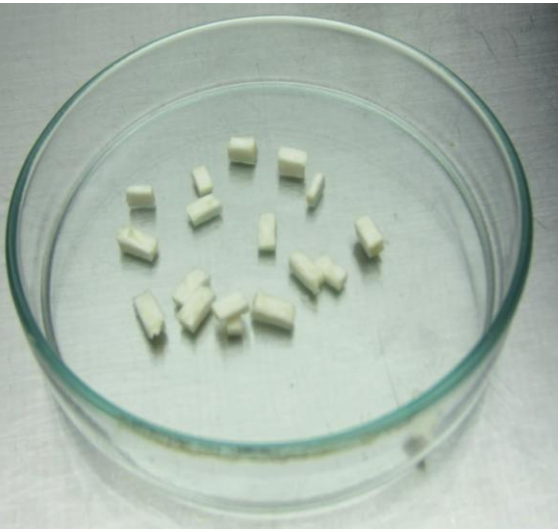
Straw used: 5-10tonne/year

Investment: 3000\$



# 2. Mushroom Spawn Cultivation

## *Self-produced Spawn*



TAIWAN



# Self-produced Spawn



# Straw Treatment



# Pre-composting



5-7 days



# Straw chopping



# Substrate Mixing



# Substrate Mixture

Saw Dust: 50-80%

**Rice Straw: 20-40%**

Rice bran: 3-5%

Corn power: 3-5%

Calcium Carbonate: 1%



# Bagging





# Pasteurization

Duration: 8-10h

T: 90-100°C



# Inoculation and incubation



# Mushroom bag hanging



# Mushroom Fruiting



# Mushroom Harvesting



# Marketing



# Current Scale

Produce: 4000-5000 mushroom bags per month

Yield: 30-60kg/day

Straw used: 40-50T/year

4 mushroom houses = 12000\$

Price: 1.25\$/kg minimum



# Challenging

- Competitive with cattle usage
- No straw balle service available locally
- Higher labor used for straw collection and transport
- Bulkiness, storage space
- Higher labor used for straw treatment, pre-compost and chopping
- Inconsistent Quality
- Seasonal Availability



"The mushroom is in a rush – straw ready, and it won't wait!"



# Biofertilizer



# Biofertilizer used



# Other uses of rice straw for mushroom production



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2013



☺ Please save some space for tomorrow afternoon snack ☺



# Thank you

## Q & A

