CURRENT STATUS OF RICE STRAW MANAGMENT IN CAMBODIA

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Introduction

- Rice is the main crop in Cambodia, Currently, Cambodia has produced of paddy rice with a total amount 13.89 million tons by 2024 (Source: GDA Annual Report 2024).
- After harvest, roughly 19 million tons of rice straw and husk are produced in Cambodia, of which 30% are burned in field before next cropping season (from April-June).
- The results showed that about 20-30% of the rice straw is collected and used **for cattle feed, mushroom production, and crop mulching** among others. Farmers keep burning in paddy field immediately after harvesting for next cropping season or keep to decompose in the field due to no market demand and application.
- Rice Straw is only organic material in significant quantities to most rice farmers, about 40% of the nitrogen (N), 30-35% of the phosphorus (P), 80-85% of the potassium (K) and 40-50% of the sulfur (S) taken up buy rice remains in vegetative plant part at crop maturity *(by A Doberman and T.H Fairhurst)*.

Major Crop residue (Biomass) in Cambodia 2023

Crops	Cultivated Areas (ha)	Production, tone	Estimated Biomass (tone)	Crops residues
Rice	3,549,353	12,467,459	19,020,123	Rice straw and Rice husk
Cassava	705,460	14,189,060	13,053,935	Plants and Leaves
Maize	277,180	1,512,970	1,815,564	Stalks and Corn cobs
Sugar Cane	43,375	1,840,330	4,975,707	Sugarcane bagasse and Leaves
Cashew nuts	472,946	494,953	371,215	Cashew shells
Coconuts	19,998	258,935	196,791	Husk and Shells
Total	**5,068,312**	**30,763,707**	**39,433,335**	

Current Rice Straw management

❑Manual collecting



Common rice straw keeping for animal feed



❑ Machine collecting

Current Rice Straw management (Cont.)

Rice Straw collecting for:

- Silage and feeds for animals,
- Cover and mulching for vegetable and fruits tree farms
- Mushroom cultivation
- Produce beat plastic
- Use for fuel biomass and
- Compost making.

Figure 38. Using rice straw as livestock feed

Current Rice Straw management (Cont.)

- **Rice straw burning to manage post-harvest residues for next crop cultivation.**

- **Rice straw incorporation to manage post-harvest residues for next crop cultivation.**

Rice Straw Management Practice of Selected ASEAN member (Vietnam, Cambodia, Thailand and Philippines)

Rice Straw Management	Vietnam	Cambodia	Thailand	Philippines
Paddy production	12M tons	12.5M tons	32M tons	15M tons
Area	4M ha	3.5M ha	12M ha	
Crop residues	24M tons (rice straw & stubble) *16M tons or 65-79% unused (burned in field)	19M tons (rice straw & husk)*30% burned in the field after harvesting	25.5M tons (rice straw) and 16.9M tons (rice stubble)	11.3M (rice straw) *22%
Current practice	• Mushroom cultivation • Animal feed • Package materials • Composting • Mulching • Burning • incorporation	• Mushroom cultivation • Animal feed • Fuel for biomass energy • Composting • Burning • incorporation	• Collecting of rice straw and compressing to bales for selling • Burning • Stubble incorporation	• Balanced fertilization • Mushroom cultivation • Animal feed • Composting • Burning

Rice Straw Management Challenges

- Rice straw burning has been identified to be contributing to concerns such as air pollution, harming public health, and accelerating climate change.
- Rice Straw Management is remaining issues for intensification of rice-cropping systems
- Widespread of burning of rice straw contributes significantly to hazardous levels of air pollution and posing severe health risk.
- Rice Straw burning during harvest period due to short turnaround time between crops;
- Limited labors, lack of technologies and facilities to collect and manage rice straw.
- Rice straw burning to manage post-harvest residues for next crop cultivation.
- Lack technologies and facilities to process and manage rice straw.

Conclusion and Recommendation

Widespread of burning of rice straw contributes significantly to hazardous levels of air pollution and posing severe health risk.

To reduce rice straw (crop residue burning) we need to:

- Develop policy framework and guidelines on crop burning reduction including reduction of rice straw burning
- Encourage the development and adoption of sustainable agriculture practices.
- Enhancing the skills and knowledge of farmers and stakeholders in rice straw management.
- Fostering research and technology innovation for crop residues/rice straw management.
- Scaling up initiatives of rice straw-based management practices such as rice straw-based compost under IRRI rice Eco Project.
- Encourage private sector to invest in rice straw processing to bio fertilizer, bioenergy, recycling materials and tools for daily use such as paper, paper bags, bottles, glasses…etc.

Thank Very Much for Attention!