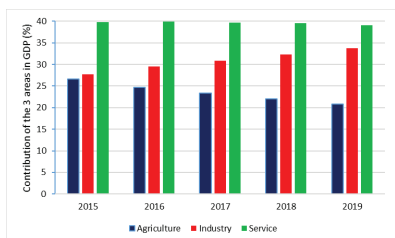


Production and Uses of Crop Residues in Cambodia: Rice Straw, Corn Stalk, Cassava Stem

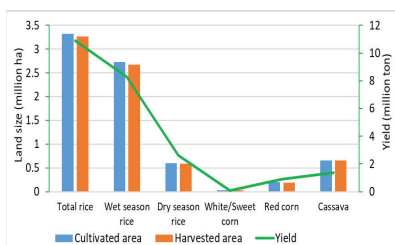
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INTRODUCTION

Cambodia is an agriculture country, mainly produces rice. Contribution of Agriculture in the national economy is in smaller proportion than other two sectors (industry and services) at about 20% vs. 33-40% in 2019. The increase or decrease of agriculture contribution depends on the growth of other two sectors (MAFF, 2020). In 2020, the contribution of agriculture is likely increasing as effect of COVID-19 epidemic, made the growth of other sectors declined.



Agriculture is a priority area of the royal government of Cambodia, has contributed about 20.8% to the gross domestic product (GDP) in 2019. Rice production has increased under the strong support of the Royal Government of Cambodia.



Rice straw is a residual byproduct of rice production at harvest. The total biomass of this residue depends on various factors such as varieties, soils and nutrient management and weather. The ratio of straw to paddy varies, ranging from 0.74–0.79 (Gummert et al., 2020)

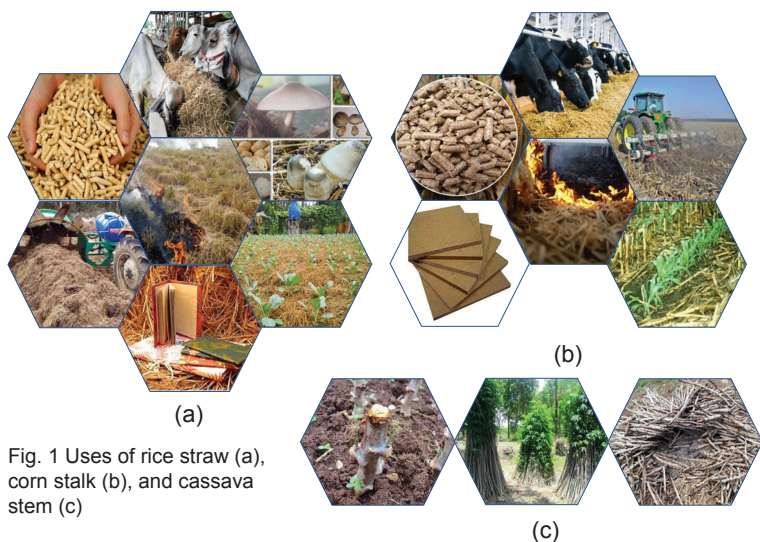


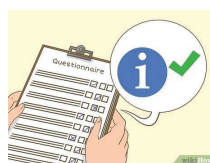
Fig. 1 Uses of rice straw (a), corn stalk (b), and cassava stem (c)

OBJECTIVE

This study aims to identify the availability and applications of these crop residues to provide information to interesting industry for further investment plan.

MATERIALS AND METHODS

The study was conducted through a prepared questionnaire field survey to interview stakeholders including farmers, service providers/collectors, users and local authorities in 6 representative provinces of Cambodia (KAMPONG CHAM, KAMPONG THOM, BATTAMBANG, KAMPONG CHHNANG, KAMPONG SPEU, and TAKEO).



RESULTS AND DISCUSSION

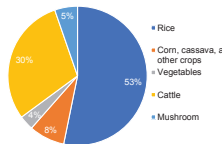


Fig. 2. Types of farming in the target areas

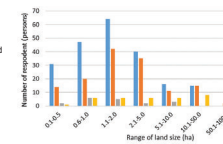


Fig. 3. Total land size for the 3 specific crops in the target areas

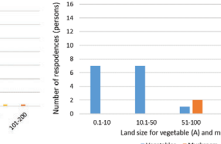


Fig. 4. Total land size for vegetables and mushroom production in the target areas

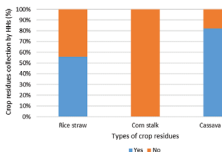


Fig. 5. Collection of crop residues by households

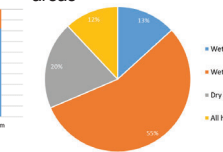


Fig. 6. Time to collect rice straw

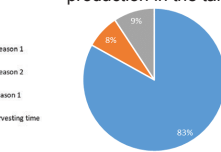


Fig. 7. Purpose of rice straw use

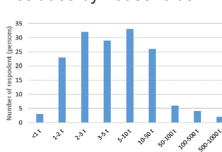


Fig. 8. Quantity of rice straw collection

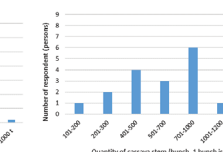


Fig. 9. Quantity of cassava stem collection

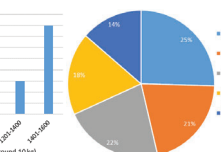


Fig. 10. Purpose of cassava stem use

CONCLUSIONS

The results showed that about 20-30% of the rice straw is collected and used for cattle feed, mushroom production, and 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. The cassava stem is used only for next seedling. For corn stalk, there is no any use at all.

ACKNOWLEDGEMENTS

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