

TAIWAN



Capacity Building for Sustainable and Low-carbon Rice  
Innovations in Southeast Asia (Cabin)

**Strategy on Rice Straw Management  
in Cambodia: Sustainable Rice Straw  
Management for Eco-Friendly Agriculture in Cambodia**

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# Key points

- **Trends in Agriculture**
- **Rice production and rice straw management status**
- **Gaps of rice straw management**
- **Research questions on rice straw management**
- **Strategies and roadmap activities on straw management activities in Cambodia 2024-2028**



# Trends in Agricultural Sector

Three major sectors in 2024: agriculture (16.6%), industry (41.8%), and services (35.6%).

Total economy:

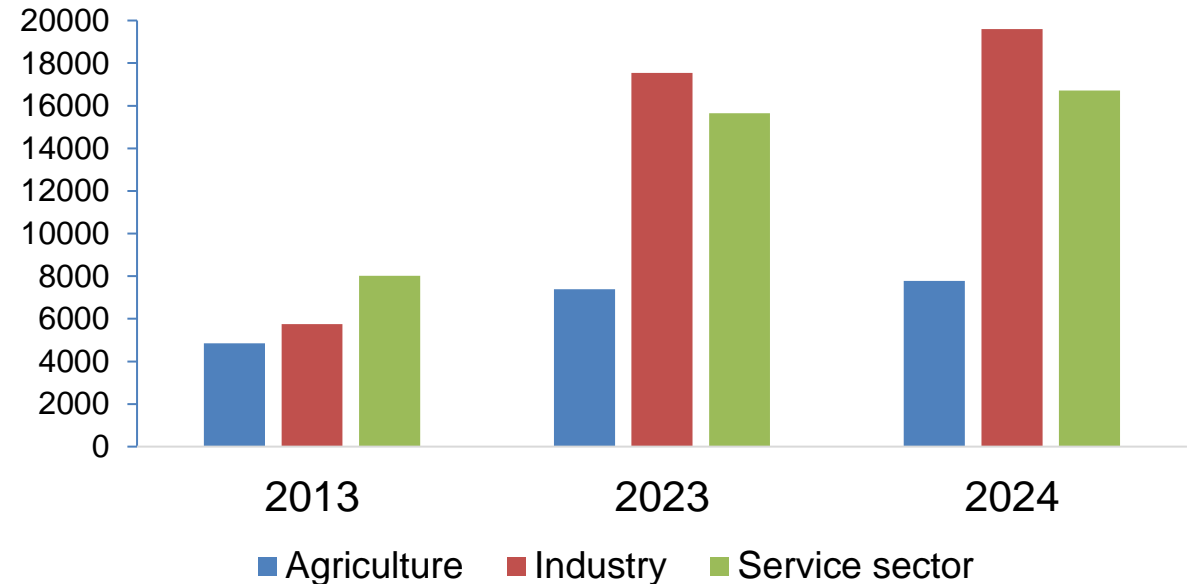
- 2013: ~19,840 million US\$
- 2023: ~43,290 million US\$
- 2024: ~49,960 million US\$

Agricultural contribution:

- 2013: ~4,740 million US\$ (24.4%)
- 2023: ~7,390 million US\$ (17.7%)
- 2024: ~7,780 million US\$ (16.%)

*Although agricultural value added has grown, the proportion of GDP has declined due to the growth in Industry and Service sectors.*

Value-added agricultural sector contributions to national economic growth in 2013, 2023, 2024 (million US\$ at current prices)

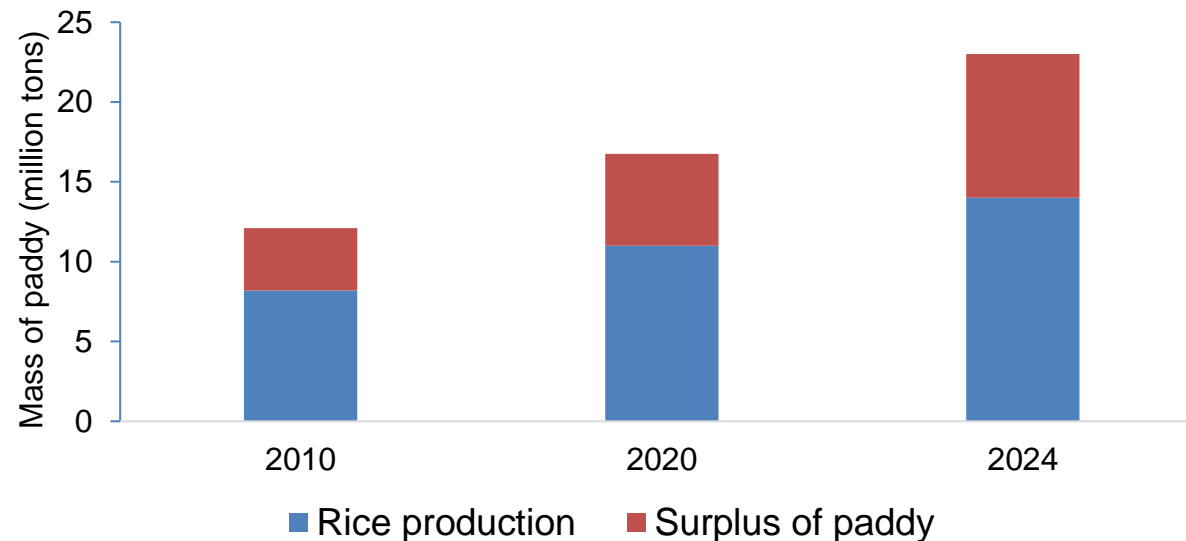


# Trends in Agricultural Sector

The average growth in paddy rice production has been approximately **3.1% per year**, increasing from about **8.2 million tons in 2010** to **11 million tons in 2020** and **14 million tons in 2024**.

The surplus of paddy has shown significant growth, rising from **3.9 million tons in 2010** to **5.75 million tons in 2020** and **appr. 9 million tons in 2024**.

Similarly, paddy rice yield increased from **2.970 t/ha in 2010** to **3.335 t/ha in 2019** (RGC, 2022).



# Rice production and rice straw management status




Area cultivated:  
3.553 million ha



Area harvested:  
3.498 million ha



Average yield:  
3.490 ton/ha

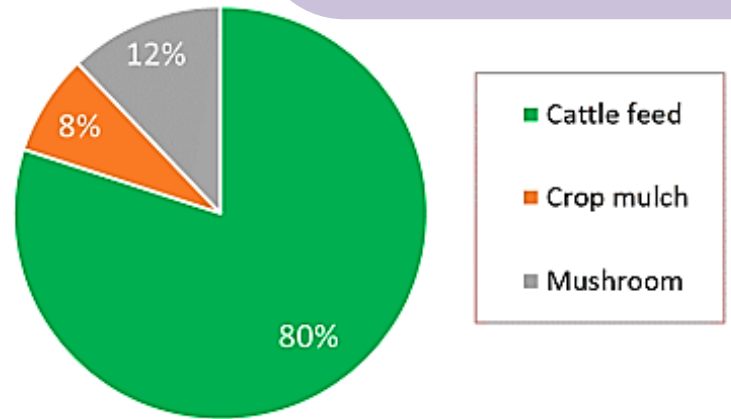


Straw-grain ratio:  
0.74



Cropping season: Rainy season and dry season.  
Some areas grow 3 rice cycles /year

Rice straw volume: ~10 million tons (~55% was collected and 45% was burned and left to natural degradation)



Source: MAFF, 2022; Gummert et al. 2020; Lorn et al. 2022; Theng et al. 2022



# Gaps of Rice Straw Management

The gaps of this waste or burning rice straw are as following:

- Farmers' lack of knowledge in value-adding of rice straw
- High labor cost in collecting rice straw
- Lack of rice straw storage
- High moisture content during the wet season
- Lack of market demand
- Burning is an easy and fastest way to dispose straw in the field during land preparation at immediate next cropping season.

# Research Questions on Rice Straw Management

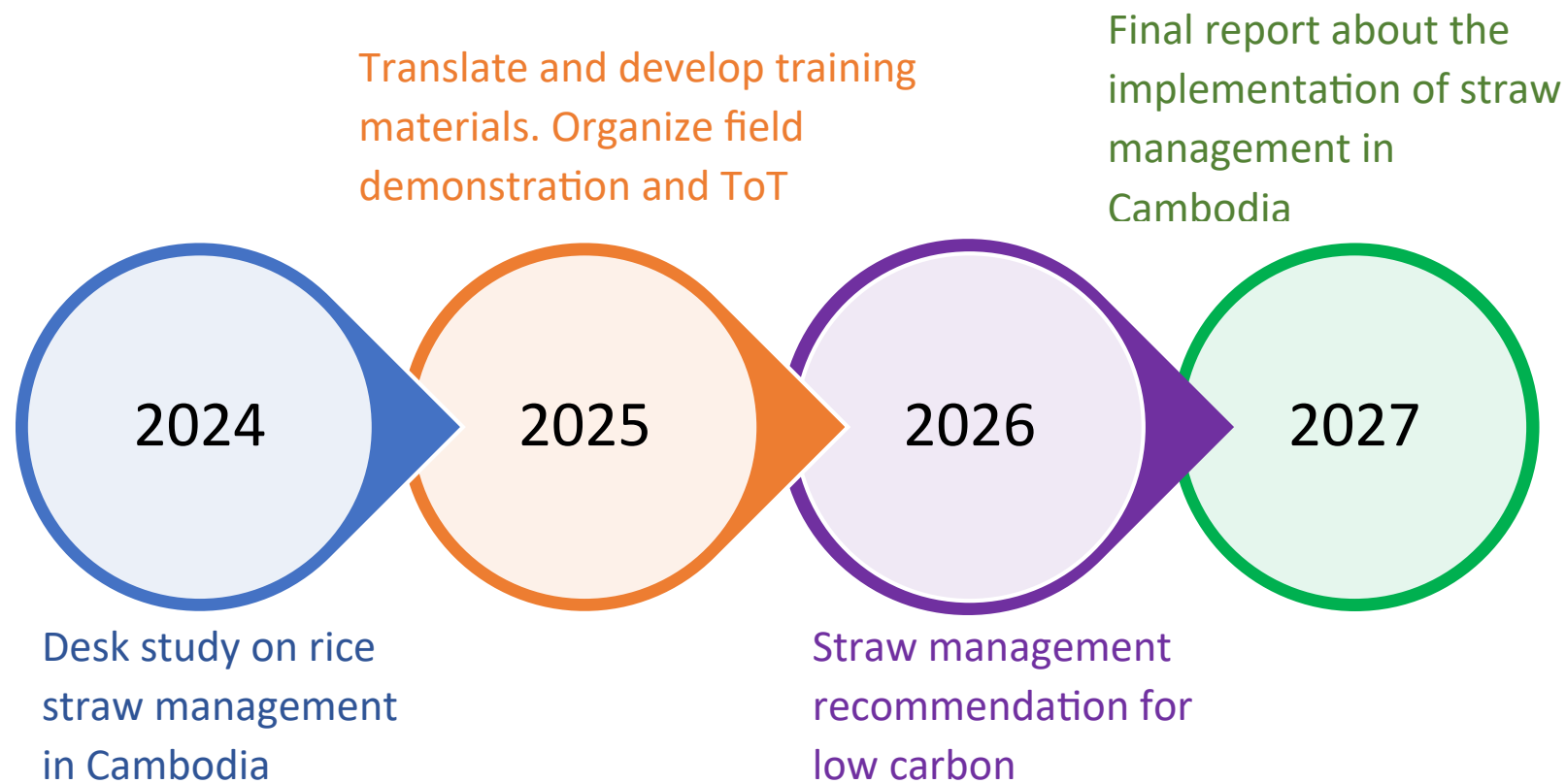
- What is the best technology to add value to rice straw?
- How to reduce the labor cost in rice straw collection?
- How to introduce farmers into a sustainable rice production and agroecological systems?

# Rice straw managements/ options in Cambodia

- Improve technology for mushroom and ruminant farming
- Improve technology for biodegradable packaging manufacturing
- conduct sustainable research and educate rice straw farmers on sustainable rice production and agroecological systems
- produce a rice straw production and waste database, and a GIS map
- introduce mechanized collection methods and supply chain models
- improve bioenergy technology



# Strategy and roadmap activities on Straw-management in Cambodia 2024-2028



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## Preparation of dissemination and training materials

**Goal:** Adopt training materials from Vietnam and translate them into Khmer for dissemination in Cambodia.

**Objective:** Develop hands-on materials for farmers, extension, and local authorities focused on sustainable rice straw management and core technologies such as rice straw compositing, among others.

**Content:** Translate and compile hands-on materials on sustainable rice straw management, i.e. videos, reports, and previous factsheets, both in English and Khmer

**Outcome:** Facilitate technology dissemination to engage stakeholders and gather feedback used to refine future research and technological applications.



# Strategy and roadmap activities on Straw-management in Cambodia 2024-2028

## **Analyze economic and environmental aspects of proper rice straw management**

**Goal:** To achieve and provide data for stakeholders to make decision on proper rice straw management with a possible business

**Objective:** Analyze economic and environment domains for rice straw management in Cambodia

**Content:** A data of economic analysis for rice straw management



# Strategy and roadmap activities on Straw-management in Cambodia 2024-2028

## **Development national strategy for rice straw management in Cambodia**

**Goal:** Develop an annual strategy for rice straw management in Cambodia

**Objective:** Develop and prepare annual strategy for rice straw management practices in Cambodia

**Content:** A comprehensive national strategy for rice straw management starting from 2025



# Thank you

Contact for further information:

