



General Directorate of Agriculture,

Department of Agricultural Engineering



Demonstration on Integrated Management Straw Residue in Cambodia

Presented by Mr. Ngin Kosal

Director of Department of Agricultural Engineering

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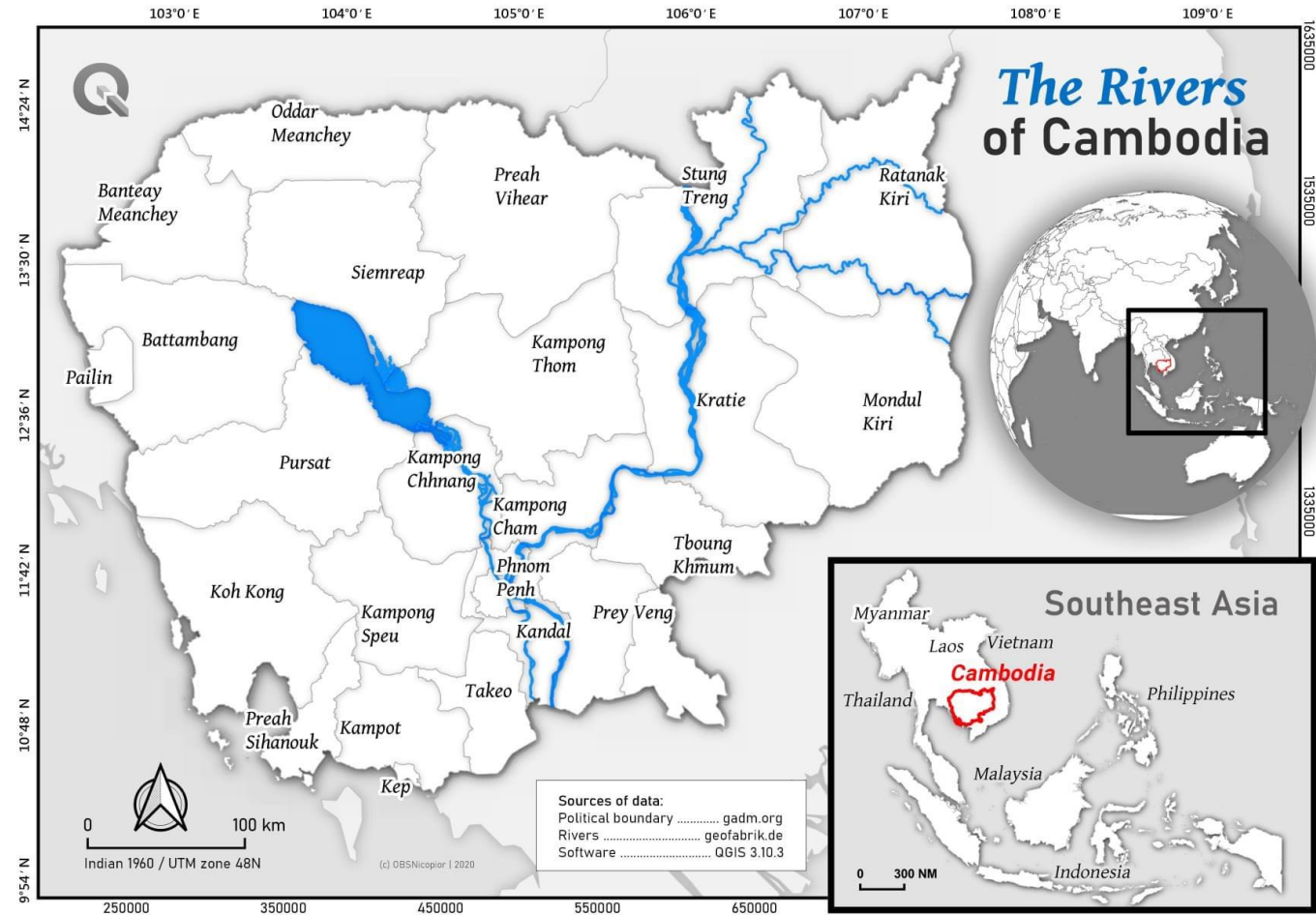
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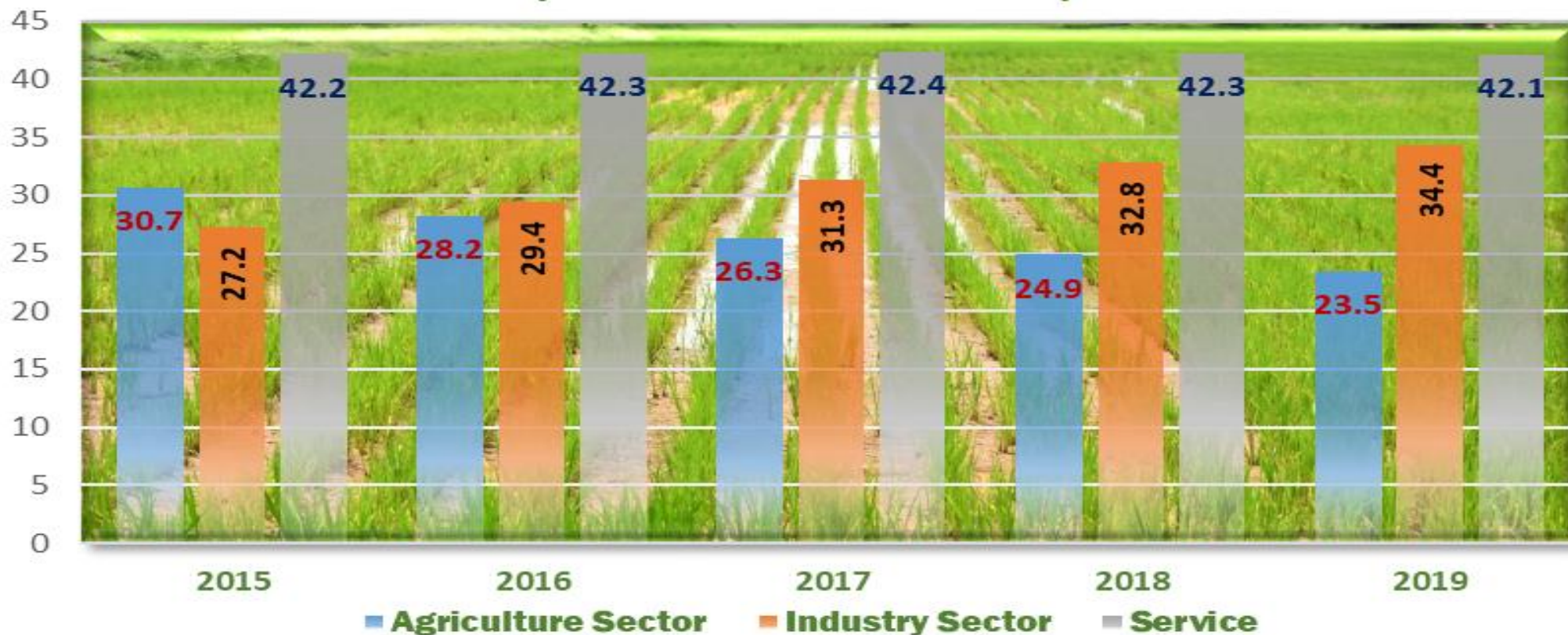
A. General Information about Cambodia

- **Location:** Southeast Asia
- **Latitudes 10-15 North and Longitudes 102-108 East.**
- **Total area:** 181 035 km²
- **Provinces:** 25
- **Capital city:** 1 (Phnom Penh)
- **Population:** 16 million (2019)
- **Wet season:** May-October (15°C-21°C)
- **Dry season:** November-April (25°C-35°C)
- **Rainfall:** 1500mm-2500mm/year
- **Main crop:** Rice, Sugarcane, Cassava, Maize



Present Context of Agriculture Sector

SHARE(%) OF AGRICULTURE IN GDP, 2015-2019
(AT CURRENT PRICES)



B. Rice Straw Collection

- ➔ **Rice straw is abundant and low value in Cambodia.**
- ➔ **Rice straw is burn or left out decaying in the field without proper treatment.**
- ➔ **Rice straw is a small amount recycling**



Collecting by manual



Collecting by machine



Burning at rice field



Collecting?



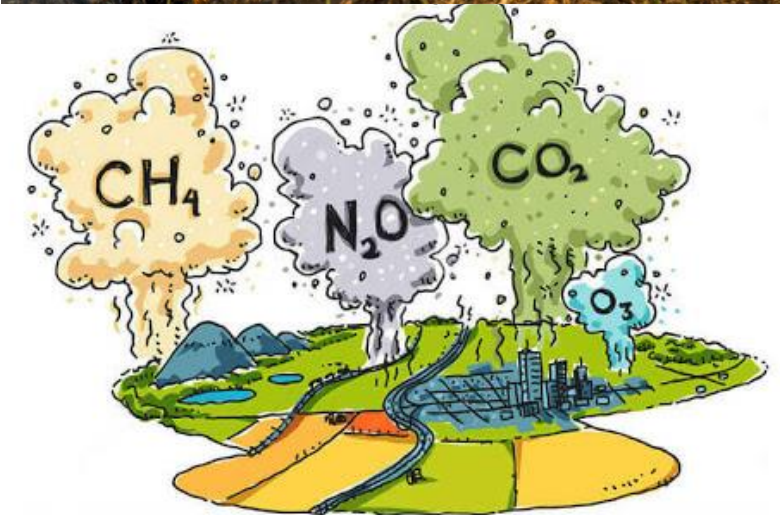
Burning?



C. Rice Straw Issues

- **Rice straw is abundant and low value in Cambodia.**
- **Rice straw is burn or left out decaying in the field without proper treatment.**
- **About 10 million tons of rice straw is generated after harvesting and 3 million tons are burned.**
- **Burning and burying to grow new season of rice.**
- **Field burning of rice straw pollute air and also emits greenhouse gases such as methane(CH₄) and Nitrous oxide (N₂O).**
- **Lack off technology to support rice residue**
- **Lack off management without policy or strategy of straw**

Should farmer burn Rice Straw?



D. Rice Straw Utilization

- **For Silage for animal feed.**
- **Making Compost to apply on the rice field.**
- **Mulching for vegetable garden.**
- **For using in Mushroom farm.**



E. Rice Straw Residue

- ➔ **Making Silage for cow and buffalo**
- ➔ **Rice straw burn in biochar kiln to make biochar to apply in rice field or vegetable production.**
- ➔ **Using rice straw in Mushroom production.**



By the third day, most of the mushrooms would have emerged and we can harvest from 40kg to 50kg a night.



Maintain temperatures in the shelter from 27 ° C to 30 or 35 ° C. If the humidity is too high to cause the straw to rot.



F. Challenges of Rice Straw

- **Greenhouse gas emission of the open field burning of rice straw.**
- **The number of animal using in agriculture has been decreased every year.**
- **There are no technology to train the farmer to convert the rice straw to use in other purpose.**
- **The demand of rice straw is still small for using in agriculture (feed animal, mushroom farm and compost production).**
- **Farmers not understand the benefit from rice straw.**
- **Lack off technology support and budget to promote and improve rice straw management in rural areas.**
- **Lack off policy or strategy to improve the rice straw management.**



Thanks for your attention..!

