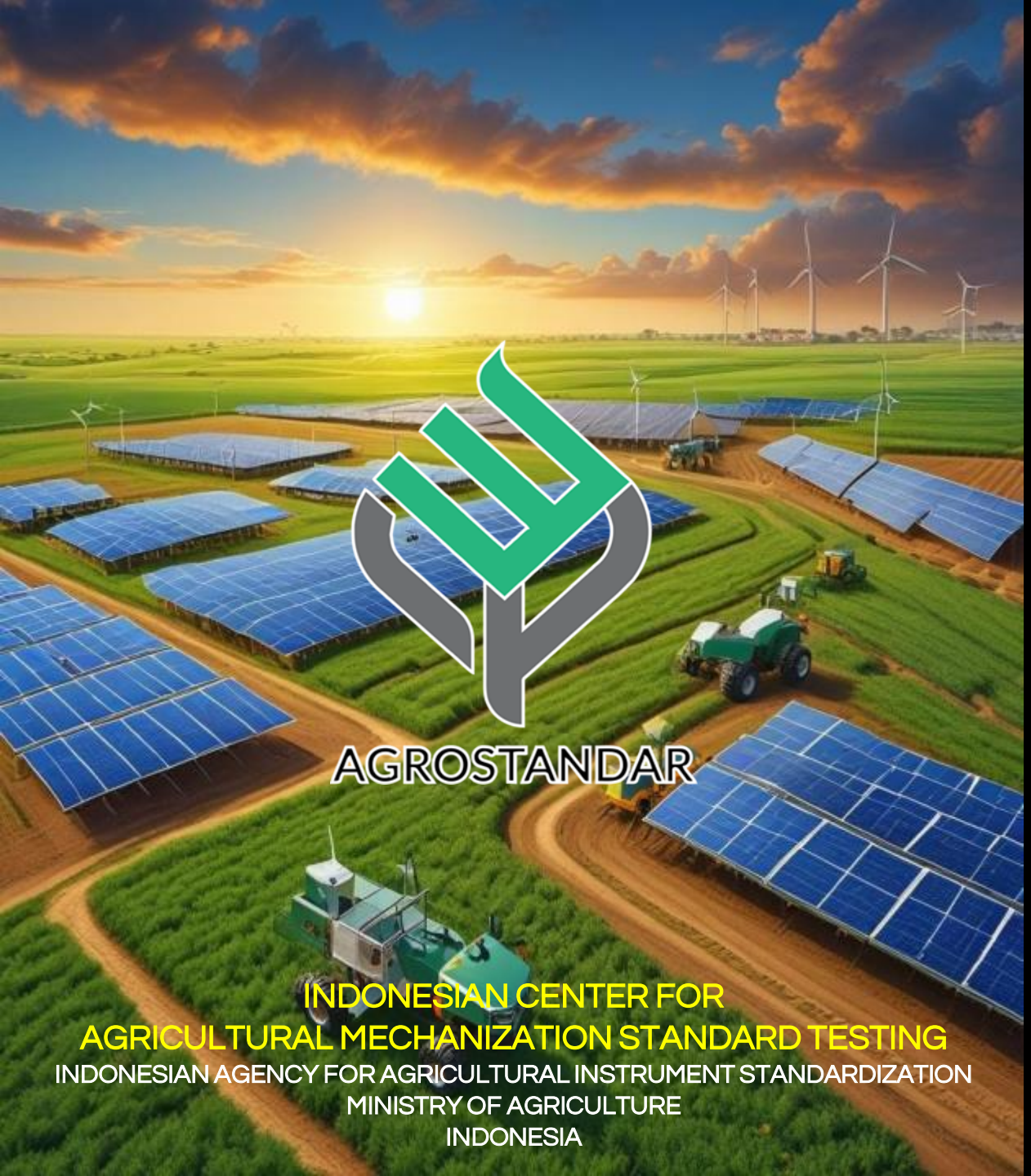

STRENGTHENING MECHANIZATION-BASED SOLUTIONS FOR REDUCING CROP RESIDUE BURNING IN INDONESIA

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Rice Straw Production in Indonesia

- **Indonesia is one of the world's largest rice producers, resulting in an abundant supply of rice straw.**
- **Rice straw production in Indonesia reached 71,3 Mt from a harvest area of 13,8 Mha.**

The Presumption:
the ash from burning the straw is believed to be useful for fertilizing and making the plants more resistant to pests and diseases attack

The fact:
the nutrition in soil will be diminished, the microbes in soil will be degraded. the burning straw can release N and S, and be reacted with Oxygen in the air created air pollutants, impact to GHG emissions – climate change-disrupting rainfall patterns

UTILIZATION OF STRAW

ANIMAL FEED

Rice straw can be used as animal feed as a source of fiber that can be mixed with concentrate to meet the nutritional needs of livestock such as cows, buffalo, goats and sheep.

COMPOST BASIC MATERIALS

Rice straw can be used as a basic material for making compost which can increase soil fertility and improve soil structure..

STRAW BRIQUETTE

Rice straw can be processed into briquettes, which can be used as fuel for cooking or heating a room.

STRAW MUSHROOM GROWING MEDIA

Rice straw can be used as a growing medium for straw mushrooms.

BIOETHANOL

Rice straw can be used as a raw material to produce bioethanol, which can be used as transportation fuel.

Utilization of Agricultural Machinery in Yogyakarta Province

- **Rice Straw Choppers**

  Machines that chop crop residues into smaller pieces, leaving them on the field as a beneficial mulch to enhance soil health.

- **Composting**

  A method used to decompose straw into nutrient-rich compost not only benefits agricultural ecosystems but also supports environmental sustainability

- **Pressed Straw Storage**

  Pressed straw storage serves the function of compactly storing and preserving straw for later

- **Modified Mini Tiller**

  Mini tiller with part attached in front to cut the leftover of harvesting

- **Paddy Power Thresher**

  Use of Paddy Power Thresher – hold on type – followed by grass chopper machine

Utilization of Agricultural Machinery

Karawang, West Java

Straw Mushroom Growing Media

Utilization of straw as a growing medium for straw mushrooms. Development of mushroom production house utilizing straw

Tangerang, Banten

Combine Harvester

Increasing use of combine harvester in Indonesia, reducing crop burning – the typical combine harvester available in Indonesia : harvesting – threshing – chopping the straw – spreading the chopped straw to the field in a row

Improved technologies and practices for integrated management of straw residue by following machine: Chopper, Customized straw pressing machine, composting, and Trailer/straw transportation

Tangerang, Banten

Straw Mobile Pressing

Development of straw mobile pressing machine

Yogyakarta

Government Policies

ASTA CITA 2:

Strengthening Country's security system encouraging resilience through self-sufficiency in food, energy, water, creative economy, green economy and blue economy

Ministry of Agriculture Program in 2025:

1) Increase production of rice and maize
2) Optimalization of agricultural land (target 500,000 Ha) for increasing production in 2025
3) Increase production of milk and meat supporting free meals for students
4) Construction of rice fields 2 millions Ha
5) Providing Superior Seeds 150,000 tons
6) Providing Agricultural machinery for pre & post harvest machinery and subsidy of fertilizer
7) Development of modern farming with the millennial involvement