

Workshop and Virtual Demonstration on Good Practices in Integrated and Sustainable Straw Management

Tuesday, 25 Oct 2022 (14:00 – 16:30 hrs Beijing time/GMT+8)
Hybrid (Laixi, China & Zoom)

I. Background

In order to address the common issue of straw burning in Asia and the Pacific, CSAM is implementing a Regional Initiative on Integrated Straw Management since 2018. The Initiative seeks to identify, test and promote an integrated model of straw management using agricultural machinery in Cambodia, China, Indonesia, Nepal and Vietnam. India has also been engaged as a knowledge sharing partner to leverage the knowledge and experience gained from a comprehensive national project on straw management in India.

The model of the Regional Initiative is to utilize straw as fertilizer, fodder and base material in a circular manner as per the specific conditions of the piloted countries as shown below.

The Pilot Project on Integrated Straw Management in China is the first pilot project of the Regional Initiative launched in 2019 in Laixi in Shandong Province where winter wheat and summer maize are cultivated. The China Pilot has been implemented in collaboration with China Agricultural University, Qingdao Administration of Agriculture and Rural Affairs, Laixi Administration of Agriculture and Rural Affairs, and Qingdao Zhitao Agricultural Machinery Specialized Cooperative.

The China Pilot has applied various straw utilization approaches as designed in the Regional Initiative to use straw as fertilizer, fodder, and base material for mushroom growing.

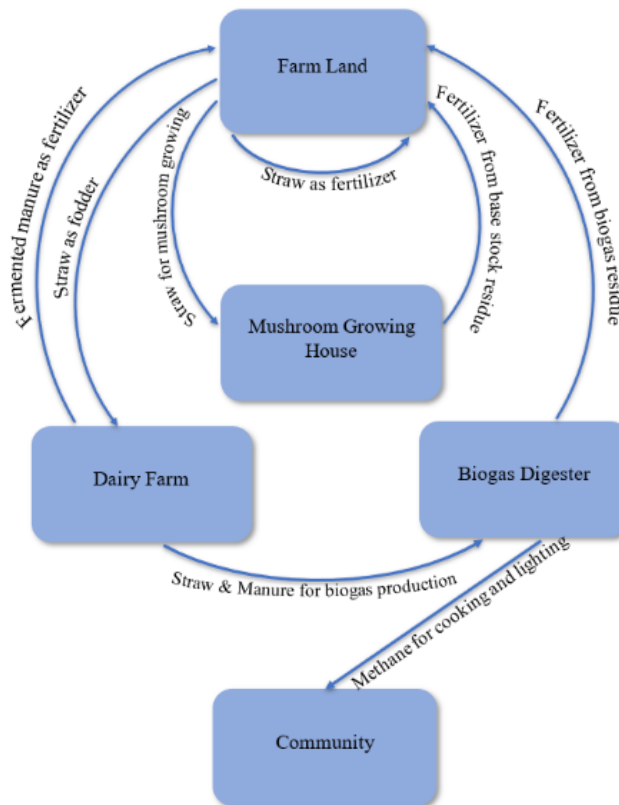


Figure: Circular model of straw utilization

2022 is the third year of the Pilot Project and substantive positive outcomes have been gained through implementing various activities. In particular, the yield of wheat and maize at the pilot sites has increased by more than 5 percent. The straw used as energy (which produces slurry that can be applied as organic fertilizer) generates 90 thousand cubic meters of biogas every year, with a cumulative revenue of CNY 180,000 (approx. USD 25,000). The total revenue of mushroom growing with straw as the base material is CNY 400,000 (approx. USD 570), and each greenhouse can produce 18 tons of mushrooms every year on average. In addition, thanks to the promising results and targeted capacity building activities of the Pilot Project, more than 600,000 mu (40,000 hectare) of farmland are applying the approach of fully returning winter wheat straw to the field and 350,000 mu (23,333 hectare) farmland is applying the approach of summer maize straw-returning to the field as of June 2022. Meanwhile, the Pilot Project has promoted application of the practice of straw use as fodder on more than 400,000 mu (26,667 hectare) farmland in the neighboring area.

Thus, the Pilot Project in China has explored an innovative way of integrated straw management suitable for the local conditions as well as the green and circular development in Laixi by promoting the efficient utilization of straw in multiple ways, which improved soil fertility and structure, reduced greenhouse gas emissions, saved production costs, improved efficiency, increased production and farmers' income, and effectively promoted the green development of agriculture in Laixi.

Meanwhile, there are other innovative ways of utilizing straw in countries of the Asia-Pacific region. For example, the Indian Federal Government has implemented a comprehensive national project for promoting agricultural mechanization for 'In-Situ' management of crop residue. India has thus been engaged as a knowledge sharing partner to leverage the knowledge and experience of the national project, and a regional study tour was organized in India in 2019 which practically demonstrated practices and technologies for management of crop residue through the use of appropriate mechanization solutions. Good practices are also available from other countries such as Laos and Thailand.

II. Objectives

The Workshop and Virtual Demonstration on Good Practices in Integrated and Sustainable Straw Management aims to 1) share the good practices and experiences on integrated management of straw residue in China and other countries; 2) practically demonstrate (via virtual modality) relevant machinery and straw utilization approaches from the China Pilot.

Due to travel restrictions owing to the COVID-19 pandemic, the workshop will be held in Hybrid mode in Laixi, China and online. A virtual demonstration will be arranged to show via livestream the different straw utilization methods from the China Pilot Project site in Laixi.

III. Target audience

Decision-makers, researchers and practitioners from government agencies and departments, universities and research institutions, civil society organizations and private enterprises working in the area of integrated management of straw residue in particular, and sustainable agricultural mechanization in general, in the Asia-Pacific region.

IV. Format

The virtual workshop and demonstration will be conducted online and broadcasted live via Zoom.

V. Programme (TBC)

Time	Item
14:00 – 14:20	<p>Opening</p> <p>Moderator: <i>Mr. Marco Silvestri, Programme Officer, ESCAP-CSAM</i></p> <ul style="list-style-type: none">• Opening remarks: <i>Ms. Li Yutong, Head, Centre for Sustainable Agricultural Mechanization of ESCAP (ESCAP-CSAM)</i>• Welcome remarks: <i>Mr. Lin Li, Deputy Division Chief, Department of Agricultural Mechanization, Ministry of Agriculture and Rural Affairs, China</i>• Welcome remarks: <i>Prof. Li Hongwen, Director, Conservation Tillage Research Center, Ministry of Agriculture and Rural Affairs of China / Professor, China Agricultural University</i>• Welcome remarks: <i>Mr. Cheng Xingmo, Director, Agricultural Technology Extension Center / Member of the Party Leadership Group, Qingdao Administration of Agriculture and Rural Affairs</i>• Welcome remarks: <i>Ms. Wu Haibo, Third-level Researcher, Laixi Municipal People's Government</i>
14:20 – 15:00	<p>Good practices and experiences on integrated management of straw residue in Asia and the Pacific</p> <p>Moderator: <i>Mr. Anshuman Varma, Programme Officer and Deputy Head, ESCAP-CSAM</i></p> <ul style="list-style-type: none">• Implementation of the Pilot Project on Integrated Straw Management in China - <i>Prof. He Jin, Deputy Director, Conservation</i>

Time	Item
	<p><i>Tillage Research Center, Ministry of Agriculture and Rural Affairs of China / Professor, China Agricultural University</i></p> <ul style="list-style-type: none"> <li>• Good Straw Management Practices from India – <i>Dr Panna Lal Singh, Principal Scientist & I/c ADG (Farm Engg.), Agricultural Engineering Division, Indian Council of Agriculture Research (ICAR)</i> <li>• Some Practices on Straw Management in Laos – <i>Mr. Soulikone Chaivanhna, Technical Staff, Department of Agriculture Land Management, Ministry of Agriculture and Forestry</i> <li>• Good Straw Management Practices from Thailand using Agricultural Machinery – <i>Dr. Aunnop Puttaso, Agricultural Researcher Officer (Senior Professional Level), Land Development Department of Thailand</i>
15:00-16:30	<p>Virtual demonstration on integrated straw management</p> <ul style="list-style-type: none"> <li>• Straw used for biogas production, cow manure separation and production of organic fertilizer <li>• Straw used as fodder <li>• Returning maize straw to the field as fertilizer and no-till planting of winter wheat (maize harvesting, subsoiling, wheat no-till planting) <li>• Returning cow manure to the field as fertilizer (returning cow manure to the field, straw chopping and cow manure mixing with soil, wheat planting) <li>• Returning solid and liquid residue from biogas digester to the field as fertilizer (straw chopping and biogas slurry/residue mixing with soil, wheat planting) <p>Q&A (10 minutes)</p>
16:30	<p>Wrap-up and closing remarks</p>