

Virtual Workshop and Demonstration on Integrated Management of Straw Residue

Friday, 16 Oct 2020
(14:00 – 16:30 hrs Beijing time/GMT+8)

I. Background

Burning of straw (crop residue or stubble left on the field after harvesting) is a common concern in many countries in Asia and the Pacific. Due to lack of low-cost, effective, and technically feasible approaches to utilize straw, farmers frequently burn the straw in the field causing serious environmental and health problems. Apart from accelerated Greenhouse Gas Emissions and release of particulate matter in the atmosphere, straw burning leads to loss of soil carbon and micro-nutrients while adversely affecting soil temperature, pH, moisture, and organic matter.

CSAM is implementing a regional initiative on Integrated Straw Management which aims to identify, test and promote an integrated model of straw management using agricultural machinery in three pilot countries, namely, China, Nepal and Vietnam representing East Asia, South Asia and Southeast Asia. The regional pilot project contributes to the attainment of SDG 2 (Zero Hunger) as well as SDG 1 (No Poverty), SDG 12 (Sustainable Production and Consumption) and SDG 13 (Climate Action).

Building upon a strong understanding of the status and available practices of straw management in the region, the regional initiative has identified and is testing a model to utilize straw as fertilizer, fodder, base material, and clean energy production in a circular manner in the areas applying the farming-livestock system (see figure below). According to specific local conditions, the country pilots comprising the regional initiative have adopted different approaches for straw utilization.

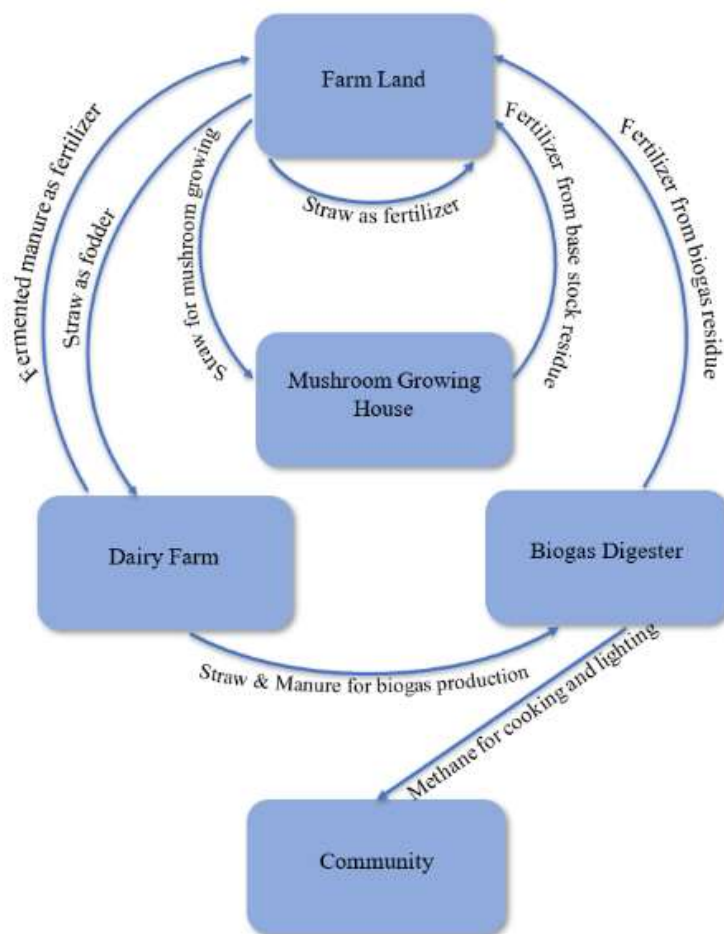


Figure: Circular model of straw utilization

The country pilot in China, being implemented in Laixi in Shandong Province is in collaboration with China Agricultural University, local government agencies, and a local farmers' cooperative. After one year of testing and demonstration between July 2019 and July 2020, positive outcomes have been achieved at the pilot site in Laixi. Winter wheat and summer maize straw respectively were sustainably utilized. Crop and milk production have been improved, resulting in enhanced incomes for the farmers

In Viet Nam, the country pilot has been implemented in Can Tho City for high efficiency utilization of straw for mushroom growing, in collaboration with a national research institute and local farmers. A preliminary survey was conducted, and two demonstration sites were established. Based on the activities, in view of its improved economic benefits, the in-door mushroom growing method was recommended as a context-specific solution to local farmers for adoption, and a training organized to equip them to utilize this method.

In terms of planned expansion, Nepal has expressed interest in joining CSAM's regional initiative and a detailed proposal has already been developed in consultation with local partners. The country pilot in Nepal is expected to be launched later in 2020.

Furthermore, CSAM's regional initiative has engaged India as a knowledge sharing partner to leverage the knowledge and experience gained from a comprehensive national project for promoting agricultural mechanization for 'In-Situ' management of crop residue. 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. Cambodia has also expressed interest in joining the regional initiative and representatives from the country participated in the study tour organized in 2019.

II. Objectives

The Virtual Workshop and Demonstration on Integrated Management of Straw Residue aims 1) to share the good practices and experiences on integrated management of straw residue from participating countries in Asia and the Pacific; 2) to demonstrate relevant machinery and their application at the China pilot site for integrated straw management.

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 MS Teams.

V. Programme (TBC)

Time	Item
14:00 – 14:20	<p>Opening</p> <ul style="list-style-type: none"> • <i>Opening remarks:</i> Mr. Anshuman Varma, Programme Officer and Deputy Head, Centre for Sustainable Agricultural Mechanization of ESCAP (ESCAP-CSAM) • <i>Welcome remarks:</i> Prof. Li Hongwen, Director, Conservation Tillage Research Center, Ministry of Agriculture and Rural Affairs of China • <i>Welcome remarks:</i> Representative of the Qingdao People's Government (To be confirmed/TBC) • <i>Welcome remarks:</i> Representative of the Laixi People's Government (TBC)
14:20 – 15:00	<p>Sharing the good practices and experiences of integrated management of straw residue in Asia and the Pacific – Current Updates</p> <p><i>Moderator:</i> Mr. Anshuman Varma, Programme Officer and Deputy Head, ESCAP-CSAM</p> <ul style="list-style-type: none"> • Cambodia – Mr. Kosal Ngin, Director, Department of Agricultural Engineering, General Directorate of Agriculture, Ministry of Agriculture Forestry and Fisheries • China - Prof. He Jin, Professor, China Agricultural University • Indonesia - Dr. Astu Unadi, Senior Researcher, Indonesian Centre for Agricultural Engineering Research and Development (ICAERD), Indonesian Agency for Agricultural Research and Development (IAARD), Ministry of Agriculture • Nepal - Prof. Jawed Alam, Associate Professor, Institute of Engineering, Purwanchal Campus, Tribhuvan University • Vietnam - Dr. Van Tan Pham, Deputy Director, Sub-Institute of Agricultural Engineering & Post-Harvest Technology (SIAEP), Ministry of Agriculture & Rural Development (MARD) <p>Q&A (5 minutes)</p>

Time	Item
15:00-16:30	<p>Virtual demonstration of integrated straw management machinery</p> <ul style="list-style-type: none"> • Returning maize straw to the field as fertilizer and no-till planting of winter wheat (maize harvesting, subsoiling, wheat no-till planting) • Returning cow manure to the field as fertilizer (returning cow manure to the field, straw chopping and cow manure mixing with soil, wheat planting) • 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	Wrap-up and closing remarks

For more information, please contact:

Mr. Anshuman Varma
Programme Officer and Deputy Head
Centre for Sustainable Agricultural Mechanization (CSAM)
United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
Beijing, P.R. China
Tel: (86-10) 8225 3581 ext. 3535
Email: varmaa@un.org
<http://www.un-csam.org>