



UPDATES FROM CSAM

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Coconut Dehusking Machine

The use of traditional tools such as machete, hoe, blade or spear makes manual coconut dehusking time consuming and dangerous. In fact, manual dehusking requires specific skills, strong wrists and arms. Even though the manual method is hampered by poor productivity, presently no commercial mechanical husking method has been developed. The Engineering Research Center of the Malaysian Agricultural Research and Development Institute (MARDI) has designed and developed a coconut dehusking machine to replace the inefficient, time consuming and laborious process of manual coconut dehusking.

Contraction Details

The coconut dehusking machine consists of feeder guard, rotary roller with spikes, guiding plates, sprocket gear and chain, hydraulic pump and hoses, power transmission unit (4.1 kW petrol engine) and the main frame to support these components.

The main frame was designed to support and place all components of the machine. The dimension of the main frame is 875 mm x 1,245 mm x 590 mm. The main frame is divided into three partitions. The first partition of 590 mm x 720 mm is used to place the spiked rollers and hydraulic motor. The second partition measured at 220 mm x 590 mm is used to place the hydraulic pump and lever, which would control the roller moving clockwise and anti-clockwise. The third partition of 590 mm x 305 mm is used to place the hydraulic tank and engine. The hydraulic system is used to rotate both spiked rollers. Each roller spike is rotated in the opposite direction and can be controlled to move clockwise or anti-clockwise. Riped coconuts are fed into the hopper and a handle is used to press the coconut towards the pair of spiked rollers. The spiked rollers grip the husks and tear the husks from the nut. After the separation, the nut rolls down while the husks move into the spiked rollers and exit from the rear of the machine.

Benefits

The dehusking rate was estimated at 250 – 300 nuts an hour or 7 – 10 seconds per nut. The estimated cost of the coconut dehusking machine is RM10,000 (USD 2,257) per unit. Based on preliminary machine testing, the total fixed cost and variable cost of the machine is RM213.46/h (USD 48/h) operation. Nuts can be sold to dealers at a farm price of RM2/nut (USD 0.45/h) after dehusking. The total selling price becomes RM500/h (USD 113/h) operation. Total profit in one hour operation is RM288.54 (USD 65). The payback period for the coconut dehusking machine is estimated to be after 40 hours operation.

Side view of mechanical coconut dehusker

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Coconut dehusker in operation



Development Trends



Mr. Antonio Guterres the ninth Secretary-General of the United Nations started his five-year tenure on January 1st, 2017.

In his first speech to the General Assembly in December, Mr. Guterres promised that his tenure would focus on three key areas: cultivating peace, promoting sustainable development and streamlining the internal functions of the UN.

The complete speech can be found here:

<https://www.un.org/sg/en/content/sg/speeches/2016-12-12/secretary-general-designate-ant%C3%B3nio-guterres-oath-office-speech>

The Report of the Special Rapporteur on the right to food presented in the UN General Assembly Human Rights Council thirty-fourth session (27 Feb- 24 Mar 2017) calls for a global treaty to regulate dangerous pesticides.

The Special Rapporteurs pointed to research showing that pesticides were responsible for an estimated 200,000 acute poisoning deaths each year. Some 99 per cent of fatalities occurred in developing countries where health, safety and environmental regulations were weaker.

“Without harmonized, stringent regulations on the production, sale and acceptable levels of pesticide use, the burden of the negative effects of pesticides is felt by poor and vulnerable communities in countries that have less stringent enforcement mechanisms,” they emphasized.

<http://www.un.org/apps/news/story.asp?NewsID=56311>

“ In the end , it comes down to values, as was said so many times today. We want the world our children inherit to be defined by the values enshrined in the UN Charter: peace, justice, respect, human rights, tolerance and solidarity.”

Member Countries Snapshot

Russian Association of Test Engineers of Agricultural Machinery and Technology (ATEAM)

The Russian Association of Test Engineers of Agricultural Machinery and Technology (ATEAM), chaired by Dr. Vadim M. Pronin was nominated as principal reference person principal reference person for CSAM with agreement of three Russian ministries: the Ministry of Economic Development, the Ministry of Industry and Trade and the Ministry of Agriculture. The headquarters of ATEAM are located on the territory of the Volga state machinery testing station near Samara city. The association «ATEAM» includes 11 state testing stations in the Russian testing system of the Ministry of Agriculture of Russia and the Rosinformagrotech Research Institute, which is also administered by the Ministry of Agriculture of Russia. The Association was established in 2003 as an independent non-profit organization for cooperation with Ministry of Agriculture of Russia to support agricultural development, specifically, to re-equip the agricultural production with high-performance, reliable, safe and comfortable machinery, training and skills development as well as to summarize and disseminate science and effective technologies, domestic and foreign experience and to provide information on agribusiness producers.



The Association ATEAM developed and adopted over 160 branch standards on test methods for agricultural machinery, which are used by all the Russian machinery testing stations. At present, the Association is creating international standards for test methods of agricultural machinery on the basis of the above-mentioned standards.

Website:
<http://www.aist-agro.ru/>
<http://www.povmis.ru/en>



Publications

Case Study: Policies, Institutions and Processes to Support Agricultural Mechanization Development in Myanmar's Dry Zone

The publication provides policy recommendations and action proposals that support sustainable agricultural mechanization development in the Central Dry Zone of Myanmar by identifying and analysing relevant existing policies, institutions and policy processes, with an aim to promote climate-resilient agriculture in this agroecological zone.

Policy Brief: Strengthening Policies, Institutions and Processes for Sustainable Agricultural Mechanization Development in Myanmar's Dry Zone

Based on the findings of the case study: Policies, Institutions and Processes to Support Agricultural Mechanization Development in Myanmar's Dry Zone the brief summarizes strengths and weaknesses of existing policies, institutions and processes in support of sustainable agricultural mechanization. Moreover, it provides policy recommendations for institutions and private sector actors.

Policy Brief: Promoting Custom Hiring of Agricultural Machines for Climate Resilient Agriculture in Myanmar's Dry Zone

Based on the findings of the case study: Stakeholder Mapping for Custom Hiring of Agricultural Machines in the Dry Zone of Myanmar the brief presents about key stakeholders, user preferences, strengths, weaknesses, opportunities and threats of custom-hiring services in the Dry Zone. Furthermore, it emphasizes the crucial role of information dissemination, capacity building, infrastructure and provision of support services to promote the popularization of custom hiring services.

Training Manual: Business Management of Custom Hiring of Agricultural Machinery in the Dry Zone

The manual is based on the findings of the event on Business Management of Custom Hiring of Agricultural Machinery held in the Dry Zone of Myanmar on 3-4 May 2016 under the project supported by the Livelihoods and Food Security Trust Fund (LIFT). This training manual aims to provide practical and theoretical instructions on the support and development of custom hiring services for agricultural machinery in the Dry Zone. In order to provide tangible references and share regional practices, the manual presents case studies from China, India and the Philippines.

Regional Meeting Calls for Joint Efforts and Innovative Partnerships to Promote Sustainable Agricultural Mechanization



On 17th March 2017, in Bangkok, a panel discussion on Sustainable Agricultural Mechanization was organized in collaboration with the German Agricultural Society (DLG) during the AGRITECHNICA ASIA Exhibition. The findings of a Research Paper on Trade and Investment Policies of Agricultural Machinery in Selected Countries developed under CSAM's initiative titled Regional Council of Agricultural Machinery Associations (ReCAMA) were also presented.

During the Panel Discussion, country representatives shared common challenges in developing sustainable agricultural mechanization including those related to a high proportion of farmers being smallholders, scarcity of agricultural labour in many areas, inadequate agricultural infrastructure such as irrigation facilities, low quality of agricultural machinery, weak enforcement of policies, as well as the high-risk nature of agriculture itself. In the context of the challenges posed by climate change and soil degradation, the need to promote environment friendly machinery and practices was noted.

The Panel Discussion also underscored the need for intensifying efforts to help countries in the region to achieve sustainable agricultural mechanization. It recognized the necessity of having strong support from governments and a favorable environment for regional trade and investment. Adoption of appropriate standards to ensure the quality of machinery produced and traded, enabling provision of financial support to smallholder-friendly practices like Custom Hiring, ensuring availability of spare parts and maintenance services, and conducting demonstrations and activities to involve end users were also identified as important areas of work.

Placing the event in the context of the 2030 Agenda for Sustainable Development, Mr. Stefanos Fotiou, Director of the Environment and Development Division of the United Nations Economic and Social Commission for Asia and the Pacific, said, "Agricultural mechanization must move from pure technology to a broader context meeting technological, economic, social, environmental and cultural requirements, and offering innovative and economically viable opportunities for growers, consumers, policymakers and other stakeholders in the entire food system". Representing CSAM as a regional institution of ESCAP dedicated to promoting sustainable agricultural mechanization, Dr. Li Yutong, Head of CSAM, stated "CSAM has showcased its potential for contributing to food security and sustainable agricultural and rural development through agricultural mechanization, and laid solid ground for the Centre's future growth and expansion. CSAM is looking forward to cooperating with all interested partners in its endeavors."



CSAM Activities in Focus

CSAM 12th Governing Council Meeting

Government officials from across Asia and the Pacific reaffirmed the importance of promoting sustainable agriculture to meet the 2030 Agenda for Sustainable Development on 16 March 2016 in Bangkok.

The Governing Council of CSAM met for its 12th session to review the work of the Centre, lay out its workplan for the next year and consider a draft development strategy for 2017-2019. The Governing Council is the first held since the 72nd ESCAP Commission Session in May 2016 where member States updated the statute of CSAM to better align it for implementation of the 2030 Agenda.

The realignment occurred in the context of increased financial support to the Centre by the Chinese government, who hosts CSAM in Beijing, through 2020. Other ESCAP member States also have been providing voluntary contributions to support the operation of the Centre and its programmes.

“As one of the six regional institutions of ESCAP, CSAM has been steadfastly working towards achieving production gains, improved rural livelihood and poverty alleviation through sustainable agricultural mechanization. It plays a key role in realizing ESCAP's vision of a resilient Asia and the Pacific founded on shared prosperity, social equity and sustainability”, said Mr. Stefanos Fotiou, Director of the Environment and Development Division of ESCAP.



CSAM Activities in Focus

Ministry of Agriculture of China and CSAM Agree on Strengthening Cooperation



"The United Nations has offered tremendous assistance to China's development in the past 40 years. We are deeply grateful. Now the time has come for China to support the United Nations, so as to support other countries in their development efforts. We shall engage in joint consultations to ensure inclusive development," said Ambassador Niu Dun, Permanent Representation of the People's Republic of China to the UN Agencies for Food and Agriculture, on the occasion of the visit of a senior-level delegation from the Chinese Government to the Centre for Sustainable Agricultural Mechanization (ESCAP-CSAM) on 1 March 2017.

The delegation, led by Ambassador Niu Dun, included Mr. Weiguo Li, Director-General of the Department of Agricultural Mechanization of the Ministry of Agriculture, Mr. Min Liu, Director-General of the China Agricultural Machinery Testing Centre (CAMTC), Mr. Shengyao Tang, Deputy Director-General of the Department of International Cooperation of the Ministry of Agriculture and other officials.

Deputy Director-General of the Department of International Cooperation of the Ministry of Agriculture and other officials.

Ms. Yutong Li, Head of CSAM, briefly introduced the mandate of CSAM, its comparative advantages and recent activities. She highlighted CSAM's strategic focus on contributing to the Sustainable Development Goals (SDGs), particularly to SDG 1 (No Poverty), SDG 2 (Zero Hunger) and SDG 13 (Climate Action), as well as on assisting member States in developing their agricultural mechanization strategy. Strengthening South-South Cooperation and partnership building with UN agencies, financial institutions, NGOs and the private sector was also emphasized. Five platforms were highlighted to be utilized for this purpose including policy dialogue, data collection and publishing, standard setting, capacity building and promotion of trade and cooperation.

Ambassador Niu Dun concurred with the direction of CSAM's development as an institution and expressed appreciation for the clear thinking on the Centre's future role. The DG of the Department of Agricultural Mechanization appreciated the existing collaboration between CSAM and his Department. He also emphasized that agricultural machinery should remain the focus of the Centre, particularly in the area of enhancing technical and product exchange. The DG of CAMTC applauded the existing collaboration between CAMTC and CSAM, particularly through the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) initiative. The Deputy DG of the Department of International Cooperation acknowledged CSAM's achievement in recent years and expressed the hope that the Centre would maintain the momentum. He concurred with the Centre's focus on policy, standardization and technology, products and human resources.

The delegation members reiterated on several occasions their full support for the work of CSAM and the willingness of the Chinese Government to engage in partnership.



Meeting New People

Mr. LI Qiang

Mr. LI Qiang joined CSAM in March 2017. He holds a Masters degree in Environmental Sciences from the University of Sydney, Australia. Mr. Li has over two decades of experience in international agricultural cooperation projects as a government official for the Chinese government. His past work provides him with substantive experience in human resource development in the agricultural sector. Over the years he has served as a Consultant for different United Nations organizations on agricultural projects implemented both in China and abroad.



Ms. YANG Ge

Ms. Yang Ge joined CSAM in March 2017. She holds a Bachelors degree in Public Administration from Beijing Capital University. Previously, she has worked as a project and administration assistant at the International Center for Agriculture and Biosciences (CABI) in Beijing. At CSAM she assists with the interface between the host government by developing and maintaining a productive relationship with relevant government departments.



Future events

Regional Workshop for Research and Academic Institutions on 'Establishing a Cooperation Mechanism for Human Resource Development on Sustainable Agricultural Mechanization'

The Regional Workshop for Research and Academic Institutions on 'Establishing a Cooperation Mechanism for Human Resource Development on Sustainable Agricultural Mechanization' will be organized by CSAM on 13-15 April 2017 in Nanjing, China during the 9th China (JiangSu) International Agricultural Machinery Fair in collaboration with the Nanjing Research Institute for Agricultural Mechanization (NRIAM) of the Ministry of Agriculture of China.

The event is a follow-up action of the 3rd Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific of CSAM on the theme of "human resource development for sustainable agricultural mechanization" held in 2015 in the Philippines, where member countries called for a cooperation mechanism for research and academic institutions of agricultural mechanization in the region to address the emerging issues through effective communication and innovative partnerships.

The Regional Workshop is aimed to: 1) explore the feasibility of a cooperation platform of research and academic institutions of agricultural mechanization in the region; and 2) discuss the potential operational modalities and cooperation activities of the cooperation platform. It is expected that around 30 representatives of research and academic institutions from 15 countries will attend the event.



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The Centre for Sustainable Agricultural Mechanization (CSAM) is a regional institution of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), based in Beijing, China. Built on the achievements of the Regional Network for Agricultural Machinery (RNAM) and the United Nations Asian and Pacific Centre for Agricultural Engineering and Machinery (UNAPCAEM) CSAM started operations in 2012.

CSAM serves the 62 members and associate members of UNESCAP. It is guided by the 2030 Agenda for Sustainable Development and other internationally agreed development goals, as well as, the resolutions and mandates adopted by UNESCAP.

The vision of CSAM is to achieve production gains, improved rural livelihood and poverty alleviation through sustainable agricultural mechanization for a more resilient, inclusive and sustainable Asia and the Pacific.

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