

#### CSAM Publications



#### **ANTAM Standard Code for Testing of Power Tillers**

The ANTAM Code for Testing of Power Tillers (001-2017) is enriched with a chapter on safety requirements, while the sections related to vibration and noise test have been improved with the addition of more details.

http://www.un-csam.org/Publication/ANTAM2017/antamCode001-2017.pdf



### ANTAM Standard Code for Testing of Powered Knapsack Misters-cum-dusters

The ANTAM Code for Testing of Knapsack Misters- Cum- Dusters (002-2016) was further refined with the addition of a chapter on terminology to align the structure of all ANTAM Codes. Moreover, the horizontal misting test was modified to increase the accuracy of test results and provide an enhanced monitoring of the environmental impact of the machine. In addition, substantive work was carried out in setting acceptance limits regarding the maximum weight of the machine and sound levels.

http://www.un-csam.org/Publication/ANTAM2017/antamCode002-2017.pdf



### **ANTAM Standard Code for Testing of Paddy Transplanters**

The first edition of the ANTAM Code on Paddy Transplanters (003-2017) includes specifications check, safety requirements, and performance tests.

http://www.un-csam.org/Publication/ANTAM2017/antamCode003-2017.pdf

#### CSAM Publications

### RECAMA Research Paper on Trade and Investment Policy of Agricultural Machinery

A study on trade and investment policies of agricultural machinery are completed under the Regional Council of Agricultural Machinery Associations in Asia and the Pacific (ReCAMA). This study, conducted amongst a selection of 5 member countries in Asia and the Pacific including China, India, Nepal, Sri Lanka and Thailand, facilitates in bringing together the experiences in the transformational process, the trade and investment policies framed, regulatory frameworks introduced, incentive mechanisms in operation and other related development experiences. The Study will provide rich insights as to how trade and investment policies have contributed successfully or even stifled the development of mechanization of agriculture, which can be used as a launching pad by the respective member states. The Study will be released at the 3rd Member Meeting of ReCAMA on 27 Oct. in Wuhan, China.

# Training Manual: Creating an Enabling Environment for Custom Hiring of Agricultural Machinery in Myanmar's Dry Zone

This training manual aims to strengthen capacities of key stakeholders to address some constraints that they might find for customer hiring services in the Dry Zone of Myanmar. The manual has been produced by the Centre for Sustainable Agricultural Mechanization under a project supported by the Livelihoods and Food Security Trust Fund (LIFT) with the intention to become a valuable knowledge resource for relevant actors to jointly create and improve the enabling environment for custom hiring of agricultural machinery and to support climate-resilient agriculture in Myanmar's Dry Zone.



#### Member Countries Snapshot



#### Republic of Turkey, Ministry of Food, Agriculture and Livestock, Directorate of Agricultural Equipment and Machinery Testing Center (TAMTEST)







#### **HISTORY**

Directorate of Agricultural Equipment and Machinery Testing Center (TAMTEST) was established as the Research and Test Laboratory for Agricultural Facilities of Agricultural Equipment and Machinery under the Central Anatolia Regional Agricultural Research Institute, which started to work actively by completing its test standards and measuring systems in 1962. In 1987, TAMTEST was moved under the Ministry of Food, Agriculture and Livestock of Republic of Turkey. To date, TAMTEST has 77 employees including 1 Director, 2 Coordinators, 32 Engineers, 12 Technicians, 8 Officials and 22 Workers.

#### MISSION

The TAMTEST missions focus on conducting several types of tests, such as the official OECD Tests for Agricultural and Forestry Tractors; approval tests and inspections from tractors, components, separate technical unites and systems of tractors; plant protection machinery tests; and agricultural equipment and tool tests for credit sales. In addition, TAMTEST conducts conformity assessments, inspections and tests in accordance with European Conformity (CE) marking for Machinery Directive, earth moving machinery tests and other on-demand tests. Collaboration with manufacturers and public enterprises is also an important objective of the organization.

#### **TAMTEST DEPARTMENTS**

There are 4 technical departments in TAMTEST:

- Tractor and Earth-Moving Machinery
- 2. Mechanization of Field Agriculture
- 3. Plant Protection Equipment
- 4. Machinery Safety Assessment

The activities carried out by our technical departments can be summarized as follows:

#### 1. DEPARTMENT OF TRACTOR AND EARTH-MOVING MACHINERY

1.1. Official OECD Tests for Agricultural and Forestry Tractors

The Directorate of Agricultural Equipment and Machinery Test Center is authorized to carry out the tests of Agricultural and Forestry Tractors according to OECD Test Codes and type approval tests providing technical services to the Ministry of Science, Industry and Technology according to 19 different EU directives based on type approval of agricultural and forestry tractors.

#### 2. DEPARTMENT OF MACHANIZATION OF FIELD AGRICULTURE

These tests are conducted within the scope of the 2000/37 National Directive. Experiments of farm machinery supported by the government or for accredited

sales are obligatory. These tests are based on the test principles and methods of TAMTEST and other related universities, and national and international norms.

The department carries out tests including: harvesting / threshing machinery; generators; transplanters; strength tests for tractors; water pumps; feed mixing and dispensing machines; solar energy systems; seed drill (seeder); and cultivator. For more information on the tests conducted by the department, please visit: www.tarim.gov.tr/TRGM/tamtest

#### 3. DEPARTMENT OF PLANT PROTECTION EQUIPMENT

Legislation requests that obtaining proper testing and license is mandatory for the production, import and sales of plant protection machines in Turkey. In this context, TAMTEST is authorized to carry out the following tests: spraying group dispersion uniformity test; pump performance test; pump life test; single nozzle flow and dispersion test; nozzle wear test, and drop analysis test.

#### 4. DEPARTMENT OF MACHINERY SAFETY ASSESSMENT

In line with the Machinery Safety Regulations in Turkey, all machinery must carry CE mark

("Conformité Européene" mark or as commonly known "European Conformity" mark). In this framework, TAMTEST conducts articulated shaft housing tests in accordance with the principles mentioned in the ISO 5674 standard. Test reports are prepared by risk analysis and conformity assessment of machines under the 2006/42/EC Machinery Safety Directive and related harmonized standards. Manufacturers make necessary modifications according to these reports and issue keep these reports in the technical file when they prepare for CE marking.

#### NATIONAL AND INTERNATIONAL COMMITTEES AND CONGRESSES ATTENDED BY TAMTEST

TAMTEST test engineers attend OECD Tractor Test Engineers Conference, OECD Agriculture and Forestry Tractors Working Group, BSTB (Ministry of Science, Industry and Technology) Agriculture and Forestry Tractors Sub-Committee, ANTAM Annual Meetings and Working Groups, and National Agricultural Mechanism board and congress.

The OECD Conference of Tractor Test Engineers was held in Turkey, hosted by our Directorate in 2007. 50 participants from 15 countries participated in this Conference.

Banu SENER Agricultural Engineer, M. Sc.

Dr. Hamdi TASBAS Director of TAMTEST

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#### Development Trends

# Asia-Pacific must boost development reform efforts to achieve 2030 Agenda, says new UN ESCAP report

Asia and the Pacific, a region with an impressive development track record, will need to step up its overall development reform effort to achieve the Sustainable Development Goals (SDGs) by 2030, according to a report launched by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), at the High-level Political Forum on Sustainable Development (HLPF), in July 2017.

The Asia-Pacific Sustainable Development Goals Baseline report is the first regional measurement methodology of its kind. The report establishes a baseline for the SDGs through an innovative method that assesses regional progress since 2000, to illustrate which development gaps still need to be addressed to achieve the 2030 Agenda. The report also identifies areas where there is insufficient data available to measure progress.

To read more: http://www.unescap.org/news/asia-pacific-must-boost-development-reform-efforts-achieve-2030-agenda-says-new-un-escap-report



Image: Nick Fox / Shutterstock.com

#### South-South cooperation key to overcoming inequalities, says UN deputy chief

Underscoring the importance of South-South cooperation, United Nations Deputy Secretary-General, Amina Mohammed, urged sustained commitment to mutually beneficial approaches that will ensure shared prosperity and make sustainable development a reality.

"Solutions and strategies created in the South are delivering lasting results around the world," she said at an event marking the United Nations Day for South-South Cooperation, held at the UN Headquarters in New York. "Nearly every country in the global South is engaged in South-South cooperation," she added, noting China's Belt and Road Initiative, India's concessional line of credit to Africa, the Asian Infrastructure Investment Bank, and the Strategic Association Agreement by Mexico and Chile as few examples. To mark the importance of South-South cooperation, the UN General Assembly decided to observe this Day on 12 September annually, commemorating the adoption in 1978 of the Buenos Aires Plan of Action for Promoting and Implementing Technical Cooperation among Developing Countries.

To learn more please visit: http://www.un.org/apps/news/story.asp?NewsID=57506

#### Development Trends

#### Much of the planet's land severely degraded owing to increased consumption, UN warns

A new United Nations report warns that a third of the planet's land is now severely degraded thanks to a doubling in the consumption of natural resources over the past 30 years.

Some 15 billion trees and 24 billion tonnes of fertile soil are lost each year, according to the Global Land Outlook (GLO), launched today by the secretariat of the UN Convention to Combat Desertification (UNCCD), at the meeting of States parties taking place in Ordos, China.

The GLO takes a critical look at financial and socio-economic values of land, and its impact on the poor. It marks the first in-depth analysis of land functions viewed from multiple lenses such economic growth and global trade patterns, highlighting the inextricable links between land, these sectors, and the people that can work to save it.

"Smallholder farmers, women and indigenous communities are the most vulnerable, given their reliance on land-based resources, compounded by their exclusion from wider infrastructure and economic development," stated a news release issued by UNCCD.



Image: FAO/ Hoang Dinh Nam

To read more: <a href="http://www.un.org/apps/news/story.asp?NewsID=57503">http://www.un.org/apps/news/story.asp?NewsID=57503</a>

### Climate change threatens agricultural trade in Pacific Rim economies, UN agency warns

With global warming expected to significantly impact future yields in countries located closer to the equator, the United Nations Food and Agriculture Organization (FAO) is calling on Asia-Pacific economies to take a leading role in adaptation and mitigation.

"Many APEC [Asia-Pacific Economic Cooperation] economies have already felt the full force of agricultural losses from natural disasters in recent years, with the vast majority of these being climate related," said Kundhavi Kadiresan, Assistant Director-General and FAO Regional Representative for Asia and the Pacific.

Geographically, the negative impact of climate change on agricultural output could result in lower yields of rice, wheat, corn and soybeans in countries with tropical climates, compared with the impacts experienced by those in higher latitudes. Fisheries could also be affected by changes to water temperature, warned by FAO today.

"The annual tally runs into the billions and billions of dollars in losses. So, the time to act is now. Policy makers need to prepare for changes in supply, shifting trade patterns and a need for greater investment in agriculture, fisheries, land and water management, that will benefit smallholder farmers and others that produce our food," Mr. Kadiresan added.

To read more: <a href="http://www.un.org/sustainabledevelopment/blog/2017/08/climate-change-threatens-agricultural-trade-in-pacific-rim-economies-un-agency-warns/">http://www.un.org/sustainabledevelopment/blog/2017/08/climate-change-threatens-agricultural-trade-in-pacific-rim-economies-un-agency-warns/</a>

#### Meeting New People



#### Dr. Chee-Wan CHAN

Dr. Chee-Wan Chan of Malaysia has joined CSAM on 2 July 2017 and is currently based in the Beijing Office. He retired from the Malaysian Agricultural Research and Development Institute (MARDI) as a Deputy Director of the Mechanization and Automation Research Center in 2016 after serving for 32 years. He obtained his Masters from the Ohio State University and subsequently PhD from the University of Florida specializing in agricultural mechanization and precision agriculture. His research work focuses on the development of mechanization and automation technologies on rice, maize, flowers and fruits crops. He has invented several agricultural machineries on direct row seeding, spraying, yield monitoring including mapping technologies. At the international level, Dr. Chan was involved in several committees and task forces including being an expert team member in the area of precision Agriculture.



#### Mr. Shuai FANG

Shuai Fang served at CSAM as an intern in 2017 Summer. He is New York University graduate student major in industrial engineering and concentrated on Data Science. His current research interest is about Artificial Intelligent in transportation optimization. Previously, Shuai was studying at Purdue and graduated with Mathematical Statistics and Actuarial Science.



#### Mr. Agustin GRIZIA

Agustin Grizia is an Argentinian intern in CSAM. He graduated in International Relations from Universidad del Salvador (Buenos Aires, Argentina) and currently is a Yenching Scholar at Peking University. Next year, he will pursue further graduate studies in the United States as a Fulbright Scholar, His main research interest is China's role in the United Nations and the triangular relation among Latin America, China, and United States.



#### Ms. Yidan XU

Yidan Xu is currently a
Master's student of Public
Policy and Management at the
University of Melbourne,
Australia, and new intern in
CSAM. She obtained her
Bachelor's Degree in
International Relations in
Nankai University.



### Ms. Wing Yu CHENG

CHENG Wing Yu graduated from the University of St. Andrews in the UK. As an International Relations student, she is passionate about international development and hope to pursue an exciting and contributive career in the field. Being service under the United Nations has always been her dream, and she feels honored to serve as an intern at CSAM to work for the promotion of sustainable agricultural mechanization. She believes that this internship would be an incredibly eye-opening experience.

## CSAM Activities in Focus

# 3rd Training of Trainers on the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) Test Codes 11 -16 September 2017, Nanning, China.



The 3rd Training of Trainers on the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) Test Codes was successfully conducted in Nanning, China on September 11-16, 2017. ANTAM is a regional initiative of the Centre for Sustainable Agricultural Mechanization (CSAM) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) for promoting mutually recognized testing standards to facilitate the trade and use of safe, efficient and environmentally sound agricultural machinery. The training in Nanning was co-organized by CSAM and the China Agricultural Machinery Testing Centre of the Ministry of Agriculture of China (CAMTC- MoA). The field and laboratory work was supported by the Guangxi Agricultural Mechanization Administration Bureau, the Guangxi Provincial Agricultural Machinery Testing Center as well as the Nanning Agricultural Commission and the Nanning Binyang County Agricultural Bureau.

The training engaged a total of 23 engineers from 15 countries in the Asia-Pacific region, namely Bangladesh, Cambodia, China, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines, Republic of Korea, Russia, Sri Lanka, Thailand, Turkey and Vietnam. Participants benefited from the experiences shared by three international trainers from Malaysia, China and Japan.

The training curriculum was designed to provide comprehensive knowledge of testing standards and enable the participating engineers to utilize the ANTAM Test Code for Paddy Transplanters in testing stations in their home countries. The first two days were dedicated to theoretical lectures and study of testing procedures, including a comparative study of standard practices from selected countries vis-a-vis the specific characteristics of the ANTAM Code. Apart from this, over the course of three days of laboratory and field practice, each participant was guided in the practical application of the Code. The practical sessions offered the opportunity to perform the tests recommended by the ANTAM network and each participant received instructions on data gathering methods necessary for the completion of the test report.

To read more: http://www.antam-network.net/2016/2017/09/27/regional-un-training-promotes-enhanced-machinery-safety-and-efficiency-for-rice-production/

# CSAM Activities in Focus

#### Seminar on Building Small Holders Resilience under Climate Change through Value Chain Management, 18-20 September 2017, Kunming, China



ESCAP-CSAM co-organized a 'Seminar on Building Smallholders' Resilience under Climate Change through Value Chain Management' together with the World Food Programme (WFP) China office, to assess policy and programme interventions for assisting smallholders to cope with the impacts of

climate change via practical and feasible value chain management. Forty-seven delegates including officials from national and Yunnan provincial government institutions in China, representations of international organizations, researchers, and delegates from twelve Asian and African countries exchanged experiences and offered important insights for addressing the challenges of strengthening smallholders' resilience. The Seminar helped to identify common challenges and opportunities as well as South-South cooperation needs. The outcomes of the Seminar will be further integrated into the ongoing activities of WFP and CSAM and will be used as a basis for programmatic fine-tuning, reorientation and preparation of an action plan for future activities.

To read more: http://www.unescap.org/events/seminar-building-smallholder-farmers%E2%80%99-resilience-under-climate-change-through-value-chain

#### **ANTAM Inter-Laboratory Test**

In September 2017, CSAM has launched the first ANTAM round-robin test. The round-robin test is a measurement system analysis technique, where independent technicians perform the same test, on exactly identical equipment, in different testing stations. The analysis of test results will enable CSAM to compare discrepancies and examine the existing level of testing capacities in the participating countries. To this end, CSAM has procured and arranged the deployment of six Misters-Cum-Dusters at testing stations in six ANTAM participating countries, namely China, France, Malaysia, Philippines, Sri Lanka and Turkey. Test results are expected to be received by mid-late October 2017.

#### **ANTAM Field visits**

Over the course of 2017 CSAM has been promoting capacity building activities to upgrade existing testing facilities in the region. CSAM has conducted two study tours to assess testing capacities in ANTAM participating countries. The first tour was conducted to the Agricultural Machinery Testing and Evaluation Center (AMTEC) in the Philippines from 31 July – 5 Aug 2017. The second study tour was concluded in September 26, 2017, comprising of a visit to the China Agricultural Machinery Testing Station in Nanjing (27-30 Aug 2017) and another visit to the Beijing testing station. The material gathered during the visits will be used to develop a capacity building strategy to pave the way towards the accreditation of the testing stations in the Philippines and in Beijing as official ANTAM testing stations.

# Future Events in the next three months

# The 3rd Training and Study Tour for Agricultural Machinery Manufacturers and Distributors & 3rd Member Meeting of ReCAMA

The Regional Council of Agricultural Machinery Associations (ReCAMA) was established by CSAM with the objective of promoting sustainable agricultural mechanization in Asia and the Pacific through strengthening the capacity of national agricultural machinery associations, facilitating the exchange of knowledge and information, and enhancing collaboration and closer business connections among national associations and their members.

The 3rd Training and Study Tour for Agricultural Machinery Manufacturers and Distributors & 3rd Member Meeting of ReCAMA will be held on 18-28 Oct. 2017 in China. The 3rd Training and Study Tour will focus on precision agriculture and harvesting technologies of rice and maize in response to the demand expressed by network members in 2016. It will include classroom lectures, group discussion, and visits to relevant enterprises. The 3rd Member Meeting of ReCAMA will review and seek to endorse the work report of ReCAMA in 2017 and work plan in 2018, among other things. In order to enrich and maximize international exposure for the participants, apart from training sessions and the Member Meeting, the programme will include participation in the Agrievolution Summit 2017 and a visit to the China International Agricultural Machinery Exhibition (CIAME) 2017 in Wuhan China.

#### Regional Training on Effective Utilization of Pesticides and Plant Protection Equipment in Asian Countries

The Regional Training on Effective Utilization of Pesticides and Plant Protection Equipment in Asian Countries is to be co-organized on 23-31 Oct. 2017 in China by CSAM and Nanjing Research Institute for Agricultural Mechanization (NRIAM). The Training is a follow up action under the academic cooperation network of CSAM established at the 'Regional Workshop for Research and Academic Institutions on Establishing a Cooperation Mechanism for Human Resource Development on Sustainable Agricultural Mechanization' in April 2017. The Regional Training is aimed to: 1) introduce crop and plant protection machinery for precision application of pesticides; 2) share new developments and know-how of pest control in the participating countries; 3) enhance the knowledge and capacity of the participants on pesticide effectiveness and efficiency: and 4) contribute to improve the quality and safety of agricultural products, and protect the agro-ecosystem.

A Side Event for China Pavilion at COP23 – Building Smallholders' Resilience to Climate Change

#### Through South-South Cooperation

A Side Event for China Pavilion at COP23 Building Smallholders' Resilience to Climate Change Through South-South Cooperation will be co-organized on 16 November 2017 in Bonn, Germany by CSAM in collaboration with the World Food Programme (WFP) China Office, the United Nations Food and Agriculture Organization (FAO) China office, and the International Fund for Agricultural Development (IFAD) China office. The main objectives of the side event will be to: 1) underscore the key role of South-South Cooperation for building smallholders' resilience to climate change; 2) Identify main challenges faced by developing countries and identify shared needs and priorities in context of building smallholders' resilience: 3) Showcase relevant successful strategies, institutional and technological models, and best practices from China; and 4) Initiate joint action for building smallholders' resilience to climate change through South-South Cooperation.

A large number of participants attending COP 23 such as representatives of national governments, multilateral and bilateral organizations including United Nations entities, academia, civil society organizations and the private sector are expected to attend the event. Senior level representatives from the Government of China, ESCAP, WFP, FAO and IFAD and member States will also participate in the various sessions.

4th Annual Meeting of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM)

# Future Events in the next three months

#### 4th Annual Meeting of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM)

The 4th Annual Meeting of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) will be held on 22-24 November, 2017 in Manila, the Philippines. The meeting is being organized by the Centre for Sustainable Agricultural Mechanization (CSAM) as the institution leading the ANTAM initiative, in collaboration with the Agricultural Machinery Testing and Evaluation Center (AMTEC), College of Engineering and Agro-Industrial Technology, University of the Philippines of Los Baños.

The 4th Annual Meeting of ANTAM is expected to review and adopt the updated versions of ANTAM Codes for Power Tillers and Misters-Cum-Dusters and the first version of the ANTAM Code on Paddy Transplanters. The meeting will also review and adopt substantive ANTAM documents including the work report for 2017 and work plan for 2018. In addition, participating members will discuss and deliberate upon matters pertinent to the operations and development of the network, specifically regarding certification and accreditation of testing stations.

# 5th Regional Forum on Sustainable Agricultural Mechanization in

#### Asia and the Pacific

The 'Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific' is a strategic annual event of CSAM for promoting high-level policy dialogue and regional cooperation. The 5th Regional Forum will be held on 4-6 December in Kathmandu, Nepal. The theme of the 5th Regional Forum is "Sustainable Agricultural Mechanization Strategy". Around 50 participants are expected to attend the Forum from 20 countries covering policy makers, academic and researchers, extension makers, associations and private sector, as well as other pertinent international and regional organizations.

# The Regional Workshop on Integrated Straw Management in Asia and the Pacific

Following up on the outcomes of the 4th Regional Forum held in November 2016 in Hanoi, Vietnam, and for strengthening CSAM's efforts to promote climate-smart agriculture and agricultural mechanization, a new initiative on Integrated Straw Management in Asia and the Pacific has been launched to address the shared issue of straw burning being faced by many member countries. A team of experts is conducting research to understand the status of straw management in the targeted subregions, and to collect the available, proven practices and technologies of straw management in member countries. Building upon the findings of the Research Paper, a Regional Workshop will be organized to discuss and design the package of pilot

interventions for integrated straw management during the 5th Regional Forum on 4-6 December 2017 in Kathmandu, Nepal.

# The 13th Session of the Governing Council

The 13th Session of the Governing Council (13th GC) of the Centre for Sustainable Agricultural Mechanization (CSAM) will be held in Kathmandu, Nepal on 5 December 2017 (afternoon session). The 13th GC will review and endorse the Centre's work report of 2017 and work plan in 2018, Mid-term Development Strategy, its administrative and financial status in 2017, and provide direction for the Centre's programme of work for 2018.

# 2017 China International Seminar of Sugarcane Mechanization

CSAM will support the organization of the "2017 China International Seminar of Sugarcane Mechanization" during the China Sugarcane Mechanization Expo (The Expo) in Laibin of Guangxi Province on 10-12 December 2017. The Seminar will invite experts, scholars, government officials, corporation representatives to exchange information and views of the latest development of sugarcane mechanization, seek solutions for whole-process sugarcane mechanization.



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Tel: (86-10) 8225 3581 Fax: (86-10) 8225 3584 info@un-csam.org www.un-csam.org 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.

#### Disclaimer

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