



# Economic and Social Council

Distr.: General  
23 August 2013

Original: English

---

## Economic and Social Commission for Asia and the Pacific Committee on Trade and Investment

### Third session

Bangkok, 20-22 November 2013

Item 5(b) of the provisional agenda\*

### Reports on activities of the regional institutions: Centre for Sustainable Agricultural Mechanization

## Report on activities of the Centre for Sustainable Agricultural Mechanization

### Note by the secretariat

#### Summary

The present document contains a review of the activities of the Centre for Sustainable Agricultural Mechanization (previously, the United Nations Asian and Pacific Centre for Agricultural Engineering and Machinery) since the second session of the Committee on Trade and Investment. It highlights the developments that have taken place in response to requests from the member States, which actively contribute to the Centre's vision, particularly in the field of sustainable agricultural mechanization. With the change of name and a revised statute, the Centre has renewed its mandate to assist member States in increasing production gains, improving rural livelihoods and alleviating poverty through sustainable agricultural mechanization and agribusiness development. The key challenges facing the Centre as regards growth and development are also identified in the present document, which contains an invitation to the member States to increase support and build extensive partnerships.

## Contents

|   | <i>Page</i> |
|---|-------------|
| I. Introduction.....  | 2           |
| II. Activities undertaken by the Centre during the period 2011-2013 ..... | 2           |
| III. Proposed future focus areas and programmes.....                      | 6           |
| IV. Issues for consideration by the Committee .....                       | 7           |

---

\* E/ESCAP/CTI(3)/L.1.

## **I. Introduction**

1. It is stated in paragraph 21 of the outcome document of the United Nations Conference on Sustainable Development (Rio+20), entitled “The future we want”,<sup>1</sup> that “one in five people on this planet, or over 1 billion people, still live in extreme poverty”. Furthermore, in paragraph 110 of the above-mentioned document, the Conference resolved to increase sustainable agricultural production and productivity globally, and outlines the key areas of investment and support, which include: sustainable agricultural practices; rural infrastructure, storage capacities and related technologies; research and development on sustainable agricultural technologies; development of strong agricultural cooperatives and value chains; and strengthening of urban-rural linkages. In the same paragraph, the Conference recognized the need to significantly reduce post-harvest and other food losses and waste throughout the food supply chain.

2. Agricultural mechanization and engineering play an increasingly important role in increasing the efficiency of agricultural production systems and the productivity and profitability of farmers, and contributing to poverty eradication and improvement of farmers’ livelihoods. Against the backdrop of climate change and sustainable development, the Centre has a niche role to play in assisting member countries in their efforts to promote sustainable agriculture through green agro-technology transfer, capacity-building, agribusiness development and the adoption of sustainable agricultural mechanization strategies for a more resilient, inclusive and sustainable Asia-Pacific region, thus contributing to the attainment of internationally agreed development goals, including the Millennium Development Goals, in the region.

## **II. Activities undertaken by the Centre during the period 2011-2013**

3. Since the second session of the Committee on Trade and Investment, which took place in Bangkok from 27 to 29 July 2011, the Centre has undertaken a series of capacity-building activities and a strategic repositioning to promote transfer of green agro-technologies for food production and development of sustainable agricultural mechanization in the Asia-Pacific region.

4. Amid rising food prices and climate change, renewed emphasis has been put on sustainable agricultural development for food security and conservation of the environment. During the current biennium, technical programmes undertaken by the Centre have focused primarily on dissemination of sustainable agricultural technologies for rice production, as 90 per cent of the world’s output of rice is produced and consumed in Asia. The Centre has made special efforts to address the concerns and technological challenges of sustainable agricultural development as faced by the developing countries, the least developed countries, the landlocked developing countries and the Pacific small island developing States in the region.

5. The Centre organized a regional training workshop on rice post-harvest technology at the Asian Institute of Technology from 10 to 14 October 2011. The training, organized in collaboration with the Agricultural and Food Engineering Department of the Asian Institute of

---

<sup>1</sup> See General Assembly resolution 66/288, annex.

Technology, was conceived so as to build the capacity of agricultural technicians and extension workers in rice-producing Asian countries, with a particular focus on the least developed countries, in an effort to address the acute challenge of post-harvest losses in rice production. The latest technologies involved in rice production, namely those concerned in harvesting, drying, storage and milling, as well as rice quality evaluation, were presented during the training. Good agricultural practices and practical on-farm techniques, together with the best practices of the participating countries, were shared during the training. Some 16 participants from nine Asian countries — namely, Bangladesh, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Nepal, the Philippines, Sri Lanka and Viet Nam — took part in the training. A training manual on rice harvesting and post-harvest technologies was published on the Centre's website.<sup>2</sup>

6. A Regional Seminar on Rice Production and Mechanization was held in Sanya, China, on 12 and 13 December 2011. The seminar was attended by researchers and experts from 10 countries in the Asia-Pacific region — Bangladesh, Cambodia, China, Fiji, Indonesia, the Lao People's Democratic Republic, Nepal, the Philippines, Sri Lanka and Viet Nam — as well as representatives from the Food and Agriculture Organization of the United Nations (FAO) and the International Rice Research Institute. This particular seminar brought to a close a three-year project launched by the Centre to increase rice production through the transfer of agricultural technologies. Over the last two years, 12 countries have participated in the programme, and around 200 agricultural technicians, extension workers and researchers have been trained in breeding, cultivation technology, and seed production of hybrid rice. Workshops on public-private partnerships together with tailored training courses were organized at the request of participating countries. The seminar provided an opportunity for participating countries to share experiences on adopting high-yield rice varieties and to discuss significant technological challenges to wider application as well as emerging issues related to the transfer of sustainable agricultural technology experienced by the developing countries in the Asia-Pacific region.

7. The Workshop for SMEs on Appropriate Precision Farming Technology for Sustainable Food Production was held in Kula Lumpur on 15 October 2012 during the Asia-Pacific Business Forum, in collaboration with the Malaysian Agricultural Research and Development Institute. The central aim of the workshop was to expose participants to the latest technology developed by the Institute — which is the focal point of the Centre in Malaysia — to improve the efficiency of rice production in the region and to further the Centre's role as a regional platform for sharing best practices for more environmentally sustainable agriculture. The workshop is an example of the Centre working with its members to share and promote sustainable agricultural technologies that will enable Asia-Pacific countries to realize the dual goals of intensifying agricultural production and achieving environmental sustainability. The Centre's substantive and close collaboration with key country focal points, such as the Institute, are a means to advance more climate-resilient agricultural production, which in turn enhances rural livelihoods and addresses food insecurity.

8. Sustainable agricultural mechanization plays an increasingly important role in improving agricultural productivity by increasing efficiency in the

---

<sup>2</sup> United Nations Asian and Pacific Centre for Agricultural Engineering and Machinery, *Rice Harvesting & Post-harvest Technologies in Myanmar: A Training Manual*. Available from [www.un-csam.org/publication/pub\\_mm\\_2011.PDF](http://www.un-csam.org/publication/pub_mm_2011.PDF).

agricultural system, filling the rural labour gaps and generating farmers' income through rural business/enterprise development. Commercialization and use of safe, efficient and environmentally friendly agricultural machinery is an important component of agricultural mechanization.

9. The proposed Asia-Pacific network for testing agricultural machinery will be an open regional network composed of the national stations for testing the agricultural machinery of participating countries, research institutes, associations of agricultural machinery manufacturers and farmers' organizations across the Asia-Pacific region. The aim of the proposed network will be to promote sustainable agricultural mechanization by improving the technical and institutional capacity of participating countries in standardization and testing of agricultural machinery through the adoption of region-wide standards, testing codes and procedures for safe, reliable, environmentally sound and efficient agricultural machinery.

10. Work on establishing the network has made substantial progress with the designation of focal points in member countries and finalization of draft terms of reference and action plan, which will be reviewed at the ninth session of the Technical Committee in October 2013, as well as at a policymakers' round table on 18 November 2013, following which it will be considered by the ninth session of the Governing Council on 19 November 2013. To date, 15 countries<sup>3</sup> in the Asia-Pacific region have participated in the work of the Technical Working Group that was set up to prepare for the establishment of the network. The European Network for Testing of Agricultural Machines, FAO, the Organisation for Economic Co-operation and Development, and the United Nations Industrial Development Organization have become members of the Steering Committee tasked with establishing the network.

11. A regional forum on sustainable agricultural mechanization in Asia and the Pacific is also being organized in Qingdao, China, on 26 and 27 October 2013, in parallel with the China International Agricultural Machinery Exhibition 2013. The forum will be attended by government representatives from approximately 15 countries of the region, as well as those from international agencies, academia and the private sector. The objective of the forum is to elaborate strategies and policies on sustainable agricultural mechanization in the region and to create opportunities for regional cooperation and dialogue within the public and private sectors.

12. The development of sustainable agricultural mechanization strategies has an important role to play in climate change adaptation and food security through reducing the impact on fragile natural resources and increasing farmers' resilience in food production. With such strategies in place, a country can choose the most sustainable path in its attempts to intensify its agricultural production through mechanization. In collaboration with the FAO Regional Office for Asia and the Pacific, the Centre has organized three workshops on developing sustainable agricultural mechanization strategies given the heterogeneous nature of agricultural production in the Asia-Pacific region. Representatives of 14 countries attended the workshops, in which detailed country presentations were made outlining the current status of agricultural mechanization and the challenges thereto. Five strategic areas have been identified in order to substantiate a framework for the strategies, namely: surveys, assessments and analyses of the current status of

---

<sup>3</sup> Bangladesh, China, Fiji, India, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, Papua New Guinea, Philippines, Russian Federation, Sri Lanka, Thailand and Viet Nam.

agricultural mechanization; enabling policies and institutions; human capacity development; financial support to enhance investment in the strategies; and advocacy on sustainable agricultural mechanization. A joint publication by the Centre and the FAO Regional Office for Asia and the Pacific will be made available before the end of 2013; it will contain a summary of the outcome of the latest efforts to develop the strategies, together with recommendations for future initiatives. A high-level policymakers' workshop will be convened to solicit further political commitment from member countries on implementation of the strategies at national level.

13. During the reporting period, the Centre has undergone a strategic transformation by orienting its focus of work on promoting sustainable agricultural mechanization and green agro-technology transfer for food production and agribusiness development in the Asia-Pacific region. The Centre has refocused its efforts in order to spearhead regional efforts in realizing the dual goals of intensifying agricultural production while achieving environmental sustainability.

14. Following the suggestion made at the second session of the Committee on Trade and Investment to "consider changing the name of UNAPCAEM to bring it in line with the current needs of development in the region", the Centre adopted a new name, the Centre for Sustainable Agricultural Mechanization, which came into effect on 1 October 2012. Furthermore, at the sixty-ninth session of the Commission, resolution 69/5 on the statute of the Centre for Sustainable Agricultural Mechanization was adopted.

15. To supplement the change of name, the Centre has developed a strategy paper detailing action plans in five major areas: (a) developing a regional forum for sustainable agricultural mechanization; (b) building an information hub for agricultural mechanization in Asia and the Pacific; (c) establishing a reference point for regional agricultural machinery testing standards; (d) providing a regional platform for capacity-building in sustainable agricultural mechanization and green agro-technology transfer; and (e) facilitating intraregional trade of agricultural machinery and agribusiness development.

16. The Centre has intensified its efforts to solicit technical and financial support from various stakeholders to support its substantive projects. A three-year (2014-2016) project proposal to finance the development of the Asia-Pacific network for testing agricultural machinery, together with improving the collection and utilization of agricultural statistics and demonstrating sustainable agricultural technologies, is in the pipeline for funding.

17. The Centre has redoubled its efforts to build extensive partnerships with various stakeholders through outreach activities and publicity campaigns. The Centre was accepted as a corporate member in 2012 by the Executive Board and the General Assembly of the International Commission of Agricultural Engineering. Such membership allows greater access to information and the latest research results in agricultural engineering and technologies throughout the world, and provides a platform for the Centre to engage globally with research institutes and the private sector, not only to promote its work programme, but also to solicit resources for implementation of projects.

### III. Proposed future focus areas and programmes

18. After giving full consideration to its strengths and the challenges facing it, the Centre proposes to focus on the following strategic functions:

(a) To serve as a regional forum for regular policy dialogue and technical communication for the different stakeholders of member countries and other interested parties in the region, or beyond, in order to bring together different perspectives, foster constructive dialogue, facilitate knowledge generation and sharing, and promote extensive cooperation;

(b) To become the data and information hub in the agricultural mechanization community — by collecting and analysing relevant data and information — in order to inform its member countries and interested parties of strategies for evidence-based decision-making;

(c) To serve as the recognized reference point for standards and protocols of agricultural machinery and equipment testing and inspection by collecting and sharing national and international standards and protocols for the purpose of improving member countries' capacity to test and inspect agricultural machinery and equipment, gradually achieving mutual recognition of test results and promoting intraregional trade;

(d) To strengthen its role as the centre for capacity-building for concrete and targeted capacity development assistance on agricultural mechanization, by providing policy support, technical assistance, and technology transfer and human resource development.

19. In particular, the Centre has identified the following key areas of work for the period 2014-2016:

(a) Organization of regional forums on sustainable agricultural mechanization: based on the outcomes of the regional forum that will be held in October 2013 together with the experience and lessons learnt, the Centre is proposing to organize regular forums on sustainable agricultural mechanization, with the support of relevant international agencies, donors, member States and the private sector, subject to the availability of funds and the demand of members;

(b) As regards the proposed Asia-Pacific network for testing agricultural machinery, and sustainable agricultural mechanization strategies: with the launch of the network scheduled for November 2013 prior to the third session of the Committee, capacity-building activities to improve testing capacity, including dissemination of professional know-how and skills and the sharing of experiences, and development of voluntary regional guidelines for testing selected agricultural machinery will be important first steps. Complementing the establishment of the network, country-level strategies for selected countries are to be developed so as to create an enabling environment for sustainable agricultural mechanization and to promote use of and trade in agricultural machinery;

(c) Capacity-building in the compilation of statistics on agricultural machinery and the development of a regional database: in view of the limited capacity of some member countries to collect and utilize agricultural statistics, and the lack of a coordinated and systematic institutional framework, particularly with regard to statistics on agricultural machinery, in collaboration with the FAO Regional Office for Asia and the Pacific, the Centre will organize a regional workshop on agricultural statistics to identify challenges and work out a detailed action plan. A training programme will be

developed to build capacity among policymakers and statisticians. An initial framework for a regional database on agricultural machinery will also be developed in close cooperation with member States;

(d) Demonstration and adoption of adaptable and small-scale agricultural machinery and green agricultural technologies for food production: as the Asia-Pacific region is characterized by heterogeneous topography, agro-ecological systems, and levels of social and economic development and human capacity, promoting the adoption of appropriate agricultural machinery is of special significance for farmers, particularly smallholders, in their efforts to increase food production. The Centre, in collaboration with the private sector in member States, plans to organize a series of sustainable agro-technology demonstrations with on-site training to promote regional technology transfer for food production.

20. In addition, given the increasing importance of South-South cooperation in the Asia-Pacific region, the Centre will make efforts to tap into the existing international and regional South-South cooperation mechanisms to promote regional South-South cooperation on sustainable agricultural mechanization, sustainable agriculture, agribusiness development and other related areas outlined in global and regional initiatives.

#### **IV. Issues for consideration by the Committee**

21. The Committee is invited to consider the current and proposed core programmes of the Centre, in particular the proposed Asia-Pacific network for testing agricultural machinery, and sustainable agricultural mechanization strategies, and to make recommendations for their future development.

22. The Committee is also invited to consider the following issues in relation to the operation and funding of the Centre:

(a) In view of its renewed mandate and the pressing demands of member countries to modernize their agricultural sector so as to increase food productivity and build resilience against climate change — together with its increasing operational costs — the Centre encourages member States to augment their voluntary contributions in line with the recommended guideline, and in consultation with Governing Council members, in order for the Centre to better tailor its technical assistance programmes to the needs of its members;

(b) While strengthening its efforts to solicit wide support from various stakeholders, the Centre is keen to explore new sources of funding to bolster its technical and financial situation. The aim is to explore efficient and effective public and private partnerships by harnessing the resources of the private sector, non-governmental organizations and specialized agencies. Suitable guidelines for this could be developed in consultation with ESCAP;

(c) With limited in-house expertise and a broadened mandate, and in order to increase member States' ownership of programme activities, it is imperative for the Centre to strengthen its human resources. The Centre seeks the active support of member States in implementing the various options, such as secondment of experts from member countries at no cost to the Centre and the placement of experts from the corporate sector on a pro bono basis.