

## OPENING REMARKS AT APCAEM REGIONAL SEMINAR ON POST-HARVEST TECHNOLOGY OF MAJOR CROPS

*Jia-yi Cheng<sup>1</sup>*

Respected Dr. Tapio Juokslahti,  
Respected Dr. Joong-wan Cho,  
Respected Dr. Long,  
Distinguished guests,  
Ladies and gentlemen,

I am very pleased to have the opportunity to participate in today's Seminar on Post-Harvest Technology for Major Crops, jointly sponsored by the United Nations Economic and Social Commission for Asia and the Pacific, known as the ESCAP, the Asian and Pacific Center for Agricultural Engineering and Machinery, or known as APCAEM, the Agricultural Department of <sup>2</sup>Yunnan Province, and the Department of International Cooperation of the Chinese Academy of Engineering. On behalf of the Chinese Academy of Engineering, I would like to extend our sincere welcome to all the participants here. I also would like to thank the Agricultural Department of Yunnan Province, which plays a splendid role of host to this Seminar.

In recent years, the cooperative relationship between the Chinese Academy of Engineering and ESCAP, APCAEM has witnessed a dramatic development, which is highlighted by APCAEM's locating its headquarters in Beijing last November. As the focal point of APCAEM in China, Chinese Academy of Engineering is proud of working with ESCAP and APCAEM in promoting social and economic development among Asian and Pacific countries, especially in the field of agricultural engineering, machinery, and agricultural products processing technology.

Our efforts have not been ended in vain. Despite of International Symposium and Exhibition on Fruit and Vegetable Processing Technology in five consecutive years, two International Symposium on Marine Fishery and Aquatic Products Processing Technology, and even an Information Technology Exhibition, we are here today for the Seminar on Post-Harvest Technology. I have found the theme of the Seminar more impressive, for it covers two important aspects in the development of rural areas in developing countries including China. One aspect is post-harvest technology for farmers, and the other is creating job in the countryside. I am not an engineer myself, nor an agriculturist. But when I once read that in China 60 billion kilograms of grain are lost every year due to the lack of appropriate storage technology, I believe it is critical to develop technology and facilities which are suitable for farmers, since 80%

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of grain are stored in rural areas in China.

In terms of employment generation, you may learn that China has determined to adopt a new way of industrialization. During this course, there must be better way to arrange the surplus labor force in rural areas rather than having them migrate into big cities. It would be appropriate for developing post-harvest technology to create more jobs in rural areas.

Therefore, I am looking forward the fruitful results coming from this Seminar, which will definitely beneficial to China, and other developing countries as well.

I wish the Seminar a resounding success.

Thank you.

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*Chun-lin Long<sup>2</sup>*

Distinguished Guests, Ladies and Gentlemen,

It is our honor to convene the APCAEM Regional Seminar on Post-Harvest Technology with leaders and experts from UNESCAP, APCAEM and CAE in the spring city of Kunming on the sunny, golden autumn. We are getting together here to discuss post-harvest technology on potatoes. This is a grand seminar on potatoes in Asia and Pacific, esp. in China. Please allow me to convey the Host Committee of the 5<sup>th</sup> World Potato Congress, Yunnan Agricultural Department and potatoes colleagues in Yunnan to express our cordial congratulations to this seminar. Now, I'd like to take the opportunity to introduce Yunnan agriculture, esp. potato development industry to everyone here.

Yunnan, situated in southwest borderland of China, covers an area of 394 thousand square kilometers and has a population of 42 million and includes 26 minority nationalities. GDP in 2002 is 223 billion Yuan. Yunnan, being a bright and colorful oriental treasure land, has a long history, splendid cultural, rich natural customs, beautiful natural landscapes and abundant natural resources. For years, Yunnan have engaged in agricultural development by increasing agricultural inputs, fully make use of regional advantages, properly develop natural resources to make ourselves as one of the most potential province in West China.

Potato is one of the main crops in Yunnan. Total cultivated areas in 2002 is 348 thousand hectares, which ranked No.5 in China, total yield is 6 million tons, which ranked No. 3 in China with total value of 2.6 million yuan including 2 million yuan in agriculture and 0.4 million yuan in industry. Total potato farmer involves 13 million, which takes 37 % of total farmer in the province. Yunnan has becoming the province with the fastest area to grow potato. Yunnan's potato industry has its special advantages and potentiality. Firstly, its favorable natural resources advantage. Yunnan's typical vertical climate makes it possible to grow potatoes all year round. It may be developed as large-scale raw material production base, long periodical processing base with low costs and better benefits. Secondly, it's special regional advantages. Yunnan neighbors with Sichuan, Guizhou, Guangxi and Tibet and borders with Southeast Asia countries. Yunnan locates in the important region of China- East Free Trade Area, which means the challengeable regional advantages in marketing seed potato and commercial potatoes. Thirdly, it's better background to develop potato industry. The provincial government has paid great attention to potato development for years and has established international co-operations mainly with International

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<sup>2</sup> Assistant Director-General, Agricultural Department, Yunnan Province.

Potato Center.

After years efforts, potato industry have enlarged its scale, but still exists problems of weak infrastructure, low producing levels, poor management on seed potato production and weak supply of quality varieties. According to the current situation, Yunnan provincial government worked out developing strategy by defining enterprises and farmers as the main producing body, granting policy support and introducing foreign enterprises, in order to establish ourselves as the biggest commercial potato production base in China and seed potato supplier to south-east Asia with the lowest processing costs. We aim to develop potato industry as the main industry in agriculture. Total potato area in 2007 is estimated to 533 thousand hectares with total yield of 12 million tons and total value of 8 billion yuan. Total potato area in 2010 is estimated to keep 533 thousand hectares with total yield of 16million tons and total value of 13 billion yuan. According to the strategy, northeast of Yunnan will be established as commercial potato production and starch processing area, center of Yunnan as table potato and chips processing area, northwest Yunnan as seed potato and starch processing area and south of Yunnan as winter production area. We are constructing monitoring systems on variety introduction and breeding, enforcing infrastructure and research work on comprehensive cultivated technology and introducing enterprises from home and abroad to expand our processing capacity.

Dear guests, potato industry is not only a worldwide industry, but also an important industry in Yunnan. We hope to get support from you all to continue our development. Thereby I cordially express my thankfulness to who had helped us and everyone here for your consistent support. Dear participants, the 5<sup>th</sup> World Potato Congress rescheduled to be held in Kunming on 24 -30 March 2004 because of Sars attach in this spring. The congress program keeps unchanged with the original one. I believe the potato Exhibit Garden will be more successful and more participants will attend the Congress.

I finally sincerely invite everyone here attend the Congress next March to develop our mutual business. I wish the seminar with the end of consummation and we are looking forward to meeting you again in Kunming next March.

Thank you very much for your attention.

## **OPENING REMARKS AT APCAEM REGIONAL SEMINAR ON POST-HARVEST TECHNOLOGY OF MAJOR CROPS**

*Ravi Ranayake<sup>3</sup>*

Distinguished Participants,  
Ladies and Gentlemen,

First of all, let me extend my sincere appreciation to the local organizer of the Yunnan Province and the World Potato Congress 2003 secretariat for excellent arrangements for the first “APCAEM Regional Seminar on Post-Harvest Technology for Major Crops” in Kunming, Yunnan Province of China. UNESCAP and APCAEM are pleased to sponsor this important Regional Seminar where experts and professionals from the APCAEM member countries are gathered here to deliberate on the important and timely topic of post-harvest technology.

As you may know, UNESCAP is clearly mandated to contribute to reducing poverty in the region in line with the United Nations Millennium Development Goals (MDGs) declared in September 2000 by the state leaders of 189 nations. The action plans of the MDGs and the recently concluded World Summit on Sustainable Development in Johannesburg call for reducing poverty through increased food availability and affordability by the application of harvest and food processing technology, management and food trade. The action plan also recommends equitable and efficient distribution systems by promoting, for example, community-based partnerships linking urban and rural people and enterprises. In this connection, this Seminar is to contribute to promotion of employment opportunities in post-harvest sector.

Adding value to the farm products through one or more steps in village-processing systems will generate employment opportunities, in particular, for women. In most developing countries, there exist various agro-industrial enterprises for such purposes and some are managed and operated by women themselves. If the technology for such processes are initially identified and listed, and then exchanged or transferred from one area to another, and better yet, improved to enhance product quality, the opportunities for female farm workers would be indeed large. The exchange of technology would be further multiplied and enriched if it is done on an inter-country basis.

There are several ways by which per capita availability of food could be increased. These include increasing of cultivating land and labour productivity to enhance total production and minimizing post-harvest losses. To date, increasing land area for agricultural cultivation has been difficult because of the population pressure,

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<sup>3</sup> Director, Trade and Investment Division of United Nations ESCAP. This speech is delivered by Dr. Joong-wan Cho, Economic Affairs Officer, Trade and Investment Division, United Nations ESCAP.

industrialization and urbanization. In order to increase productivity, scientists are currently trying to develop high yield potential, disease and pest resistant varieties using agro-biotechnology; commercial cultivation of such new varieties, which, however, may take some time. In such a situation and for economic reasons, minimization of the post-harvest losses is the only option to increase per capita food availability. Investment in post-harvest technologies is more economical and timesaving as far as agricultural and food production efficiencies are concerned. It also helps to generate more employment and income. Hence, post-harvest technology is a strong tool for economic and social development of many developing countries in the Asia-Pacific region.

The purpose of this Regional Seminar is to share the latest post-harvest technology among the APCAEM member countries to increase food production and to generate employment especially in the rural sector where the pockets of poverty are concentrated in the UNESCAP region. We believe that adoption and application of the most appropriate and efficient post-harvest technology by the participating countries would lead to increased food crop production and more employment opportunities for rural population, especially for rural women entrepreneurs and workers. The need to increase availability and quality of food crops through the improvement of post-harvest operation, particularly for staple grain, such as potatoes, remains an important national development issue in most of the developing countries. Improving capabilities for efficient post-harvest technology and practices would enhance national food supply and sustain food security at the household level.

As you may be aware, APCAEM located in Beijing, is the fourth Regional Center of UNESCAP. The host country headquarters agreement was recently concluded between the United Nations ESCAP and the Government of China, and the new Regional Center is about to become operational from November 2003. One of the critical areas of the future work programme of APCAEM is related to WTO issues in food safety and sanitary and phytosanitary (SPS) Agreement which are of high relevance to the work programme of the Trade and Investment Division of UNESCAP. I wish to reaffirm UNESCAP's commitment to closer cooperation with the Government of China and other participating APCEAM member countries of the region, relating to various activities within the purview of APCAEM, namely enhancement of agricultural productivity and improvement of efficiency in food production in agro-based industries as well as international standards on food safety and food trade.

Finally, I wish to express my gratitude to the local organizer for the excellent arrangements and the warm hospitality extended to all participants. Thank you for your kind attention and I wish for fruitful and productive deliberations at this Regional Seminar.

#### **OPENING REMARKS AT APCAEM REGIONAL SEMINAR ON POST**

## HARVEST TECHNOLOGY

*Tapio Juokslahti<sup>4</sup>*

Ladies and Gentlemen,  
Distinguished Participants,

With the expansion of international food trade and the continued increase in population growth, global consumer demand for larger quantities of high quality and low cost processed foods has created considerable interest and investment in the development of new or improved post-harvest technologies. This is particularly important for developing countries where post-harvest losses of cereals is between 10-20% and of fruits and vegetables as high as 20-90%. Losses are attributed to a combination of factors affecting the way the farm produce is grown, harvested, cleaned, handled, dried/processed, stored, milled/processed, and marketed. These losses are either outright physical losses, or deterioration of quality, which reduces the commercial value of the farm produce.

In the past, post-harvest development used to focus on small-scale farmers who needed to preserve their harvest to ensure food security for the household. Today new, innovative post-harvest systems are allowing farmers to generate more income by adding value to their crops. These systems also allow the generation of off-farm employment for people involved in the processing, transportation and marketing of food products. Efficient post-harvest systems are particularly important as competition for land and water increase and, with migration of rural people to urban centers, there are likely to be fewer farmers producing food for more consumers.

Good post-harvest management has also other implications. Many farming systems and crop production regions are facing high post-harvest losses and low prices at harvesting time due to poor distribution and marketing systems. Due to this situation improvements made in crop production and yields are often nullified by high post-harvest losses resulting from inadequate post-harvest management. This situation in many farming systems calls for better attention to the post-harvest technologies and issues related to storage and processing as well as marketing and distribution. A good post-harvest management can regulate the flow of farming produce to the markets, and modify the large price fluctuations, which are often typical on over-supply situations of perishable farm production peaks. Emphasis should thus be placed on crop handling, storage technology and storage systems, and behavior of the farm produce during storage and effects on produce quality. Suitable storage systems are thus important in preserving the produce quality high enough to satisfy the needs of the following food production industry and the consumers. Aside from technology in

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<sup>4</sup> Director, Asian and Pacific Centre for Agricultural Engineering and Machinery (APCAEM), c/o Trade and Investment Division, United Nations ESCAP.

post-harvest phases, aspects of chain management to ensure a constant supply of suitable raw material for further processing becomes important.

It is also important to understand the socio-economic and trade environment under which the agriculture, post-harvesting phase of the production and the food industry operates, because these influence also to the technology needs of the production. One good example today is the importance of product quality and the food safety issues related to production and trade of agriculture produce.

This APCAEM Regional Seminar on Post-Harvest Technology here in Kunming, China, during these three days will address the various aspects of post-harvest technologies, various crops, specific situations in the countries, and quality and food safety issues on food trade. The country papers presented and discussions will be compiled into the proceedings of the Regional Seminar to be available in hard copy as well as on the APCAEM Website in the near future.

I hope that the presentations will lead to active and fruitful discussions during these three days we are here together, and will also lead into the adaptation of best practices of post-harvest technologies suitable to the conditions prevailing in Asia, in your respective countries. This Seminar then will have its goal in increasing the institutional and other arrangements to enable the local farmers and processors to use the best post-harvest technologies to improve productivity of their operations.

Let me conclude by thanking in advance all the organizers and participants who have contributed to the success of this Seminar.

Thank you.