CHINA SCIENCE AND TECHNOLOGY NEWSLETTER

Department of International Cooperation
Ministry of Science and Technology(MOST), P.R.China

No.18
September 25 2013

Special Issue: China-ASEAN Cooperation in Science and Technology

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First Forum on China-ASEAN Technology Transfer and Collaborative Innovation Opens in Nanning

Background: The Ministry of Science and Technology of China and the ministries of science and technology of 10 ASEAN countries jointly launched the China-ASEAN Science and Technology Partnership Program on September 22, 2012. As an important move in the effort to deepen China-ASEAN cooperation in science, technology and sustainable development, the program will focus on a range of fields including policy consultancy, technical service, human resources development, collaborative research, and development of China-ASEAN technology transfer network.

From September 3 to 6, 2013, the first Forum on China-ASEAN Technology Transfer and Collaborative Innovation, co-hosted by the Ministry of Science and Technology and the People's Government of Guangxi Zhuang Autonomous Region, was held in Nanning, Guangxi. Mr. Peng Qinghua, Party Secretary of Guangxi Zhuang Autonomous Region, was present at the Forum

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and delivered a speech. Mr. Wan Gang, Minister of Science and Technology of China, and the Science & Technology Ministers of Cambodia, Indonesia, Laos, Myanmar, Thailand, and Vietnam, etc., attended the Forum, and made keynote speeches. Mr. Chen Jiwa, Chairman of Guangxi Zhuang Autonomous Region's Political Consultative Conference was also present. More than 1000 representatives from enterprises, universities, research institutes, and technology transfer facilitating agencies of China and ASEAN countries participated in the Forum, of which those from ASEAN countries totaled over 300. The Forum was chaired by Mr. Cao Jianlin, Vice Minister of Science and Technology of China.

Theme of this Forum is "Joint Innovation, Common Development". During the Forum, a series of activities were organized, including high-level dialogue, matchmaking activities, demonstration of advanced technologies, and field visits to science and technology parks, etc., with the goal of gathering China and ASEAN countries' innovation achievements for demonstration, facilitating the establishment of China-ASEAN Technology Transfer Network, and promoting technology matchmaking and innovation cooperation between China and ASEAN countries. The Forum builds an important platform for China-ASEAN technology transfer cooperation. It is of great practical importance and profound historical significance for China and ASEAN countries to deeply explore their vitality of technological innovation, expand channels of cooperation for enterprises, improve levels of science and technology cooperation, and realize the common development of science, technology and economy.

The Forum was preceded by the signing ceremony of China-ASEAN cooperation projects. Through previous efforts, 20 cooperation projects, including China-ASEAN Technology Transfer Network, China-ASEAN Remote Sensing Satellite Data Sharing and Service Platform, Lao-China Renewable Energy Joint Laboratory, and Beidou-Based Location Service Demonstration and Application, etc., were signed during the Ceremony.

During the High-level Dialogue, Minister Wan Gang and Science & Technology Ministers of Thailand, Indonesia, Laos, Myanmar, Cambodia, and Vietnam, etc., delivered keynote speeches respectively. Concentrating on 3 major topics, namely, policies and measures, opportunities and demands, mechanisms and models of China-ASEAN technology transfer and collaborative innovation, they further expounded the history, status-quo, as well as future development of China-ASEAN technology transfer and collaborative innovation. Minister Wan Gang made an introduction to the latest development of China's science and technology, and summarized the progress of major projects under China-ASEAN Science and technology Partnership Program. He concluded his speech by putting forward 3 proposals to further deepening science and technology cooperation between China and ASEAN countries. First, vigorously promoting exchanges and cooperation on science and technology innovation policies, enhancing mutual understandings in this respect, and sharing successful experiences; second, actively exploring the practice of co-building science and technology parks. China is willing to cooperate with ASEAN countries in terms of planning, construction, operation, and management of science and technology parks; third, establishing long-term mechanism for China-ASEAN agricultural science and technology cooperation through co-building China-ASEAN Agricultural Science and technology Network, so as to facilitate human resources development and technology transfer in the field of agricultural science and technology, upgrade China and ASEAN countries' agricultural industry, and improve the added value of agricultural products.

Representatives from noted enterprises and institutes of both China and abroad, including Dato' Norhalim Yunus, Chief Executive Officer of Malaysian Technology Development Corporation, Mr. Supant Mongkolsuthree, Vice Chairman of the Provincial

Chapters Committee of the Federation of Thai Industries, Mr. Feng Jun, Chairman of aigo Digital Technology Co. Ltd, and Mr. Li Chuyuan, Chairman of Guangzhou Pharmaceutical Holdings Ltd. etc., also made excellent speeches by concentrating on their reflections, experiences, and successful stories on technology transfer and collaborative innovation.

Over 400 enterprises and institutes with as much as 572 projects participated in the matchmaking activities organized during the Forum, including those well-known both in China and abroad, such as Huawei, Longping High-tech, Guangzhou Pharmaceutical, BGI, Sohu, Reignwood Group of Thailand, as well as Transpacific IP of Singapore, etc. Among them, over 150 enterprises and institutes from ASEAN countries brought more than 200 projects for matchmaking and exhibition.

The Forum also exhibited 186 cooperation projects.

(source:MOST,September,2013)

Achieving Common Development through Joint Innovation -Speech at the 1st Forum on China-ASEAN Technology Transfer and Collaborative Innovation

Wan Gang
Vice-chairman of CPPCC and Minister of Science and Technology
3rd September 2013

Honorable Ministers of Science and Technology,
Distinguished guests,
Ladies and Gentlemen,
Good afternoon!

I am very much delighted to join you in Nanning for the 1st Forum on China-ASEAN Technology Transfer and Collaborative Innovation. On behalf of the Ministry of Science and Technology (MOST), I'd like to express my gratitude to all the distinguished guests.

My speech is divided into three sections. Firstly, I will give a snapshot of the latest progress of scientific and technological innovation in China. Secondly, I'm going to talk about the implementation of China-ASEAN Science and Technology Partnership Program (hereinafter referred to as "China-ASEAN STEP"). Last but not least, I will make some proposals on furthering China-ASEAN S&T cooperation.

I. Science and Technology Innovation in China

In recent years, the Chinese government has made important arrangements on science and technology. In 2006, the State Council promulgated *the Outline of the National Program for Long- and Medium-Term Scientific and Technological Development (2006-2020)* and launched major science and technology projects. In 2012, the National Conference on Science and Technology Innovation was convened. President Xi noted that "The Strategy of Innovation-driven Development is a forward-looking strategy for accelerating China's economic

transformation, solving deep-rooted problems, and injecting vigor to growth."

In 2012, China's gross expenditure on R&D topped RMB 1 trillion yuan, accounting for 1.97% of its GDP. The business expenditure is 74% of the gross expenditure. China's full-time equivalent R&D personnel reached 3.2 million, ranking the 1st in the world. China published the second most scientific papers in international journals. Invention patents granted grew and ranked the 2nd worldwide. The gross output value of high-tech industry reached RMB 10 trillion yuan in 2012, ranking the 2nd in the world. The technology transactions have reached RMB 640 billion yuan.

Thanks to concerted efforts, great progress has been made in technological innovation: manual docking between Tiangong 1 and Shenzhou 9 enabled Chinese astronauts to give space lectures to 46 million primary and middle school students; successful lunar probing of Chang'e I and II offered useful data that helps Chinese and foreign students make topographic map of the moon; China's manned deep-sea submersible reached 7,000 meters below the sea level. In May 2013, China developed the world's first 50-petaflog supercomputer Tianhe-II, the world's fastest computer. At present, five supercomputers have been installed in Beijing, Shanghai, Tianjin, Shenzhen and Jinan, offering public service for big data operation.

Input in basic research has seen sustainable and rapid growth. We have made groundbreaking achievements: neutrino oscillation, quantum communication, ultra high-speed optical transmission, molecular design breeding in rice, IPS cells, magnetic confinement and fusion energy. Original innovation was strengthened through improving S&T innovation bases and infrastructure construction. A comprehensive S&T infrastructure platform system covering research laboratories, large-scale scientific apparatuses, natural S&T resources, outdoor field test stations, scientific data and technological literature was built.

S&T innovation underpins national major projects: high-speed railway, hydropower plant, UHV power transmission, hard-to-tap oil and gas fields, long-distance transport of natural gas. These technologies and products have withstood the test of the market and reached advanced level in the world.

We focus on the innovation of agricultural technologies and have made a historical high record: 1168 kg/mu of rice production (1 mu=1/15 hectare). The coverage of improved varieties of main crops has exceeded 96%. The contribution rate of science and technology to agricultural development has reached 54.2%. Science and technology have made important contribution to environmental protection. Healthcare, disaster prevention and relief and climate change.

The Pilot Project on New Energy Vehicles has been expanded to 25 cities in China. As of March 2013, 39,800 new energy vehicles had been running on the street. Grid-connected PV power generation is supported, having achieved gross installed capacity of 5.8GW. The Pilot Project on LED has put into use over 6 million LED lamps, saving more than 500 million kwh of electricity annually. A number of S&T demonstration projects have played an important role in expanding the market, exploring business model and facilitating industrial development.

High-tech zones become important driver of China's regional economic growth. Combined operating revenue of 105 high-tech zones reached RMB 16.7 trillion yuan in 2012, contributing 14.5% of China's industrial added value. High-tech zones employed 12 million people, and R&D investment, new products in value and invention patents there covered respectively more than 30% of China's total in these items. High-tech zones have become the important pillar in boosting regional economy.

It is fair to say that China has made leapfrogging progress in S&T innovation, playing a key role in promoting economic and social development.

II. Latest progress of China-ASEAN STEP

The Chinese government gives great prominence

to international S&T cooperation. China has established S&T ties with 154 countries and regions, and has signed 106 inter-governmental agreements on S&T cooperation. China is actively involved in international mega-science projects including ITER, SKA, GEO and Human Genome Project. China also strengthened international cooperation on climate change. China has embraced innovation dialogue with the U.S., Germany and the EU on S&T innovation policies, and has launched partnerships such as China-ASEAN STEP and China-Africa STEP.

China-ASEAN S&T cooperation has witnessed smooth progress. China-ASEAN Joint Committee on Scientific and Technological Cooperation, established in 1994, has held seven joint committee meetings and implemented a number of cooperation projects. China has established a cooperative relationship with ASEAN countries. Under the bilateral cooperation mechanism, MOST and its counterparts have jointly supported over 1,000 cooperation projects involving many fields including industrial development and social wellbeing.

During the 14th China-ASEAN Summit in 2011, Mr. Wen Jiabao, then Premier, proposed launching China-ASEAN STEP. On September 22nd last year, China-ASEAN STEP was launched at the 10+1 Science and Technology Ministerial Meeting in Nanning.

In line with the principles of equality, mutual benefit, demand-based cooperation, capacity building and extensive participation, China-ASEAN STEP aims to share development experience and strengthen S&T capabilities of countries in the region through innovative S&T cooperation, with an view to accelerating regional economic growth, social progress and cultural development", promote the cooperation between China and ASEAN in S&T, and embrace the global economic integration.

Under the framework of China-ASEAN STEP, we now carry out four key cooperation projects, including Joint Laboratories, China-ASEAN Remote Sensing Satellite Data Sharing and Service Platform, China-ASEAN Technology Transfer Center and Outstanding ASEAN Scientists in China Program.

i. Joint Laboratories

By establishing high-level joint laboratories in partner countries, China helps relevant organizations in partner countries to establish long-term relationship with their Chinese counterparts. China and the partner countries will carry out high-level joint research projects and strengthen exchange and development of young scientists. Efforts will be made to promote the transfer of applicable technologies from China to the partner countries. The joint laboratories will facilitate the sharing of experience and improve the S&T innovation capabilities of the partner countries.

Launched in December 2012, China-Cambodia Food Industry Joint Lab became the first one established within the framework of China-ASEAN STEP. It will help improve the food testing capabilities and food safety standards in Cambodia, thus facilitating the prevalence of China's applicable technologies in Cambodia.

In addition, MOST has built a Joint Lab on Renewable Energy with Laos and a Joint Lab on Radar and Satellite Communication with Myanmar. IT is now discussing building joint labs with Thailand and Indonesia.

ii. China-ASEAN Remote Sensing Satellite Data Sharing and Service Platform

We provide ASEAN countries with free access to China's remote sensing satellite data and carry out demonstration of applications in agricultural output estimation, environmental monitoring, disaster control and urban management. The images on the slides are satellite images of flooded areas in August 2013, which played an important role in disaster analysis and relief.

China-ASEAN Remote Sensing Satellite Data Sharing and Service Platform was built by China Center for Resource Satellite Data and Applications (CRESDA). Now agreement with the National University of Singapore has been finalized. Letters of Intent with

LAPAN of Indonesia, Mandalay Technological University of Myanmar, GISDA of Thailand and Lao Ministry of Science and Technology on satellite terminals were signed. And talks are going on with relevant institutions in Cambodia and Indonesia Aerospace and Aeronautics Research Institute.

On the basis of these projects, we are also willing to continue our cooperation in space information technology in light of the needs of ASEAN countries, for instance cooperation based on application of Beidou Navigation System.

iii. China-ASEAN Technology Transfer Center

In line with the important consensus at the China-ASEAN Science and Technology Ministerial Meeting, CATTC aims to build a technology transfer collaboration network covering ASEAN countries and major Chinese provinces and municipalities, develop a group of organizations and professionals specializing in technology transfer, arrange technology matching, applicable technical training and technology demonstration, advance technology transfer and accelerate the integration of regional innovation. Up to now, a total of 11 Chinese technology transfer centers and 17 ASEAN technology transfer centers have joined the network. This year, a series of activities have already been launched or put on schedule, including Technology Matching on Solar Energy in Thailand, China-Laos Exhibition and Technology Matching for Innovation in Vientiane, China-Vietnam Technology Matching on Agriculture machinery in Thai Binh city, and China-Indonesia Technology Matching on Transfer of Agricultural Technologies Jakarta.

This morning, the China-ASEAN Technology Transfer Center was unveiled by science and technology ministers under the witness of Chinese and ASEAN leaders.

iv. "Outstanding ASEAN Scientists in China"

To facilitate personnel exchanges, MOST will provide funding for outstanding young scientists from ASEAN countries to work in Chinese research institutes, universities and enterprises as visiting scholars. The fund will cover salary, living expenses and insurance.

Up to now, 200 such positions have been provided by Chinese research institutes, universities and enterprises. For detailed information, please refer to the website of MOST.

III. Proposals for China-ASEAN S&T Cooperation

Under the concerted efforts of all parties, China-ASEAN S&T Partnership has witnessed remarkable progress. To facilitate the cooperation and expand areas of collaboration, I have several proposals to make.

Firstly, we will promote cooperation in S&T innovation policies and share experience on S&T innovation policies. For this purpose, MOST will establish the Research Center for China-ASEAN Innovation Policies, supporting policy studies, exchanges and training.

Secondly, we will explore possibilities of establishing Joint Science Parks. MOST looks forward to sharing experience with ASEAN countries in the planning, construction, operation and management of science parks.

Thirdly, we will establish China-ASEAN Agro-tech Collaboration Network. There is a Chinese saying, "Food is the God of the people." Agriculture is extremely important for China and ASEAN countries. A long-term mechanism for human resources development and technology transfer will be established to develop value-added agriculture.

Ladies and gentlemen,

China and ASEAN countries share geographical and cultural proximity. As developing countries, we all face daunting tasks of growing economy and improving people's livelihood. At an important juncture of upgrading industry and driving growth through innovation, we will work closely with ASEAN countries to expand areas of collaboration and provide a model for cooperation among developing countries. Thank you for your attention.

(source:MOST,September,2013)

Unveiling Ceremony of China-ASEAN Technology Transfer Center

In the morning of September 3, during the Opening Ceremony of the 10th China-ASEAN Expo, Mr. Wan Gang, Minister of Science and Technology of China, together with the Science & Technology Ministers of Vietnam, Laos, Myanmar, Cambodia, Thailand, and Indonesia, etc., jointly inaugurated China-ASEAN Technology Transfer Center ("CATTC"), with the witness of Premier Li Keqiang and state leaders from ASEAN countries.

Last September, during the 1st China-ASEAN Ministerial Meeting on Science and Technology Cooperation, Science &Technology Ministers of China and 10 ASEAN member states jointly launched China-ASEAN Science and Technology Partnership Program ("the Program"), and made it clear that CATTC constitutes an important part of the Program.

Through CATTC, it aims to build the China-ASEAN Technology Transfer Network ("CATTN"), which covers China and ASEAN countries, and will foster technology transfer professionals. CATTN will harness the full potential for collaboration, hold B2B meetings, organize technology trainings and demonstrate advanced technologies, in a bid to enhance cooperation among enterprises and the transfer of advanced and applicable technologies between China and ASEAN countries.

In April, 2013, Ministry of Science and Technology of China stated clearly its support for Guangxi to join hands with major provinces and cities such as Yunnan, Beijing, Jiangsu and Sichuang, etc., and take the lead in building CATTC, with Department of Science and Technology of Guangxi in charge of the daily operation of CATTC.

CATTC has been in preparation for half a year. By now, 11 Chinese technology transfer agencies and 17 ASEAN countries' technology transfer agencies have joined CATTN. These agencies collaborate with each other, and have organized a series of matchmaking activities for enterprises, including China-ASEAN New Agricultural Technologies and Crop Varieties, China-Thailand New Solar Technologies and Products, as well as China-Lao Innovation Cooperation Exhibition.

Following the Unveiling Ceremony, the 1st Forum on China-ASEAN Technology Transfer and Collaborative Innovation, organized by CATTC, was held. More than 1000 representatives from enterprises, universities, research institutes, and technology transfer facilitating agencies of China and ASEAN countries, with over 570 projects, participated in the Forum. Among them, more than 300 representatives, with over 200 projects for matchmaking, are from enterprises and institutes of ASEAN countries.

(source:MOST,September,2013)

Minister Wan Gang Receives ASEAN Trainees of Seminar on Spatial Information Technology and Application

In order to implement the spirit of the first China-ASEAN Ministerial Meeting on Science and Technology in 2012 and advance the China-ASEAN Science and Technology Partnership Program, the National Remote Sensing Center of China under the Ministry of Science and Technology of China (MOST) held a China-ASEAN Training Seminar on Spatial Information Technology and Applications from September 3 to 8, 2013, providing technical training in various aspects including remote sensing and Beidou Navigation Satellite System applications.

On the sideline of the seminar, MOST Minister Wan Gang met with the more than 20 trainees from seven ASEAN countries, pointing out that spatial information technology cooperation is the first project launched under the China-ASEAN Science and Technology Partnership Program and that MOST is committed to working with the ASEAN to promote cooperation in Beidou Navigation Satellite System-based applications. At present, the first Beidou continuously operating reference station for forestry management demonstration in ASEAN is under construction in Laos. And a Beidou-based demonstration project for management of public security affairs is ongoing in Cambodia. Minister Wan Gang encouraged the trainees to cherish opportunities, strengthen mutual understanding, build friendships and work together to actively explore new directions and fields of China-ASEAN cooperation in spatial information technology and contribute to ASEAN's integrated economic development with practical scientific and technological collaborations. At the meeting, Minister Wan Gang also presented a geographic information software application developed by a Beijing-based software company to the trainees as a gift.

The seminar received great support from China Satellite Navigation Positioning Application Management Center. Scholars and experts from leading research institutes, universities and enterprises were invited to lecture. It represents an effective practice of China-ASEAN cooperation in spatial information technology and applications. The training gave the trainees an understanding of the applications of China's spatial information technology and navigation systems, strengthened mutual understanding among the technicians, and promoted the technological integration and practical cooperation between China and ASEAN countries in spatial information technology.

(source:MOST,September,2013)

(Editor's Note: All news in the issue are translated from Chinese texts for your reference. They are subject to checks and changes against official release of original Chinese or English texts.)