TUNING THE CHINA-LED BELT AND ROAD INITIATIVE (BRI) FOR INTERNATIONAL COOPERATION AND SUSTAINABLE DEVELOPMENT

Short Opening Remarks

by

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Webinar Series on Geotechnics, Energy and the Environment that is led by four excellent institutions: Nanjing University, China; Shantou University, China; Eurasian National University, Kazakhstan; and the Chinese Academy of Sciences-Institute of Mountain Hazards and Environment. Considering that the Belt and Road Initiative (BRI) is an international initiative as conceived and practiced, it is befitting that the following broad-based international professional entities are the sponsors of the webinar series: the *International Society of Environmental Geotechnology (ISEG)* which is ably led by Prof. Shi Bin of Nanjing University; the *International Society of Soil Mechanics and Geotechnical Engineering*; and the *Chinese Sub-Society for Intelligent Monitoring in Geoengineering*. Much direct credit has to go to the Organizing Committee members of this timely webinar series who have worked tirelessly to identify and frame technical issues that underlie BRI for necessary focus. They are Prof. H. H. Zhu of Nanjing University, Dr. A. Gary of Shantou University, Prof. A. Zhussupbekov of Eurasian National University, Prof. L. J. Su of the Chinese Academy of Sciences and Dr. C. C. Zhang of Nanjing University.

Initiated by China in 2013, the Belt and Road Initiative comprises the *Silk Road Economic Belt* that traverses the terrain from China through South Asia, Southeast Asia, Central Asia, Russia to Europe; and the *21*st *Century Maritime Silk Road* that links China's coasts with Southeast / South Asia, South Pacific, the Middle East and East Africa. There is aspirational resonance between BRI and the *Sustainable Development Goal (SDGs)* in terms of international cooperation, knowledge creation and sharing, human development and global peace. It is no doubt then that United Nations agencies, exemplified by UNESCO, have indicated support for BRI, an initiative on which 130 countries have signed collaborative agreements as of March, 2020.

You may know already that BRI has five major priorities, namely: policy coordination, infrastructure connectivity, unimpeded trade, financial integration and connecting people. Infrastructure is the focus of this webinar series, and as far as it is concerned, BRI provides for coverage and investment in ports, roads, railways, airports, power plants and communication networks. On these facilities and systems, just like in the Chinese Han Dynasty's era (206 BCE-22 CCE) during which there was great exchange and diffusion of innovation throughout China, Central Asia and Europe, it behoves modernity to repeat the knowledge exchange postures and practices of that era for global human welfare. The fact that BRI covers about 4.4 billion people (reaching more than 60% of the global population) and about 3% of the global GDP points to its significance with respect to global impact.

Undoubtedly, research, education and information sharing in the sectors of knowledge that apply to BRI, are critical to the success of the configured infrastructure development programs and projects in the following BRI corridors with an estimated cost of up to US\$1 trillion by 2049.

- Sea routes to Africa and the Mediterranean
- New Eurasia Land Bridge Economic Corridor
- China-Mongolia-Russia Economic Corridor
- China-Central Asia-West Asia Economic Corridor
- China-Indochina Peninsula Economic Corridor
- China-Pakistan Economic Corridor

Indeed as acknowledged by Dr. Bai Chunli, the President of the Chinese Academy of Sciences, "science, technology and innovation are the core driving force for BRI development".

Let me applaud the fact that attention has been paid to international cooperation across political, economic, social and technological realms in the ongoing implementation of BRI's infrastructure development programs. The second BRI Forum (BRF) which was held in Beijing in April, 2019, stressed as much, including identification of the criticality of such fields as quantum computing, nanotechnology, artificial intelligence, and smart structures to the implementation of BRI projects across diverse geological, ecological and socio-economic circumstances of countries that are participating in the initiative. All these innovative techniques may sound esoteric but they apply to energy, transportation and other sectors of infrastructure development in the emerging 4th Industrial Revolution. Certainly, research implementation and communication are important endeavours in BRI project execution.

Pleasantly, Prof. Devendra Singh of the Indian Institute of Technology, Bombay (IIT-Bombay), the ISEG Vice President for South Asia, is establishing a virtual *Centre for Geoenvironmental Research and Innovation (CeGRain)* in collaboration with ISEG. This should provide more opportunities for worldwide networking on research by ISEG and affiliated researchers and professional organizations. International scientific cooperation between China and other countries on BRI has precedents, among them: the push for research interaction between China and foreign countries as initiated at the first *National Science Conference* in 1978, and the establishment of the *China Science and Technology Exchange Centre* in 1982 to promote collaboration on science between Chinese and foreign counterparts. May I humble state that at the personal level, I have been a participant in some of these collaborative initiatives as a Concurrent Professor of Nanjing University since 1998 and Honorary Professor of China University of Mining and Technology (CUMT), Xuzhou since 2004.

Today, the United States remains China's largest cooperating partner in the areas of education, science, technology and related research with involvement of thousands of researchers, including them scholars and students. BRI is also resonating in Africa where many countries are striving to build their infrastructure to support rapidly growing population and prepare their societies for the unfolding 4th Industrial Revolution. Europe's Horizon 2020 which focused on flagship initiatives in the areas of food security and agriculture, environment, sustainable urbanization, aviation, biomaterials, energy and geosciences among others within a US \$91 billion funding program, also provided opportunities for dovetailing with BRI as promoted by a series of China-Europe Innovation Dialogues, the third of which was held in June, 2017.

So, this *Belt and Road Webinar Series* on Geotechnics, Energy and Environment is an excellent opportunity to continue to promote knowledge diffusion across intellectual and national boundaries in the thematic areas selected by the organizers. It is worthy of note that there is a plan to publish some of the lectures in the venerable *Journal of Rock Mechanics and Geotechnical Engineering* (an Elsevier journal) and in *Lecture Notes in Civil Engineering* (a Springer journal). It is my suspicion that other journals in other related disciplines including policy, environmental sustainability and geohazards, will be selected in the future as additional instruments of knowledge diffusion.

Once again, I declare this webinar series open to the international community with applause to the sponsors and organizers. The catalysing roles played by ISEG and its leaders: Prof. Shi Bin (President), Prof. Chao-Sheng Tang (Secretary-General) and the regional Vice-Presidents are hereby, acknowledged.

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