

The Belt and Road: Opportunities for Strengthening International Collaboration in Plant Protection

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Ancient Silk Road



More than two thousands years ago, in Chinese Han dynasty (206 BC-AD 220), people of Eurasia explored and opened up several routes of trade and cultural exchanges that linked the major civilizations of Asia, Europe and Africa, called the Silk Road.



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Silk Road Spirit:

- peace and cooperation
- openness and inclusiveness
- mutual learning and mutual benefit

passed from generation to generation

contributed greatly to the prosperity and development of the countries along the Silk Road

The BELT and ROAD (B&R)



Jointly Building Six Economic Corridors

- ① New Eurasian Land Bridge 新亚欧大陆桥
- ② China-Mongolia-Russia Economic Corridor 中蒙俄经济合作走廊
- ③ China-Central Asia-West Asia Economic corridor 中国-中亚-西亚经济走廊
- ④ China-Indochina Peninsula Economic Corridor 中国-中南半岛经济走廊
- ⑤ China-Pakistan Economic Corridor 中巴经济走廊
- ⑥ Bangladesh-China-India-Myanmar Economic Corridor 蒙中印缅经济走廊



International trade

mutual benefits

collaboration needs

B&R ACHIEVEMENTS

- More than **100** countries and international organizations have signed the 'the Belt and Road' cooperation documents with China
- The General Assembly of the United Nations and the United Nations Security Council support and promote the construction of 'the Belt and Road'





B&R Cooperation Priorities

http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1249618.shtml (accessed on 20 April 2015)

Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road

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The Five B&R Cooperation Priorities

POLICY COORDINATION

Promote intergovernmental cooperation expanding shared interests, enhancing mutual political trust and reaching new cooperation consensus.

FACILITIES CONNECTIVITY

Improve connectivity through construction of transport, energy and communications infrastructure and technical systems along the Belt and Road. This includes promotion of green and low-carbon infrastructure.

UNIMPEDED TRADE

Improve investment and trade facilitation in all related countries, removing barriers and setting up free trade agreements to create a sound business environment.

In addition, cooperation should be advanced in emerging industries and mutual investment areas expanded.

01



02



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04



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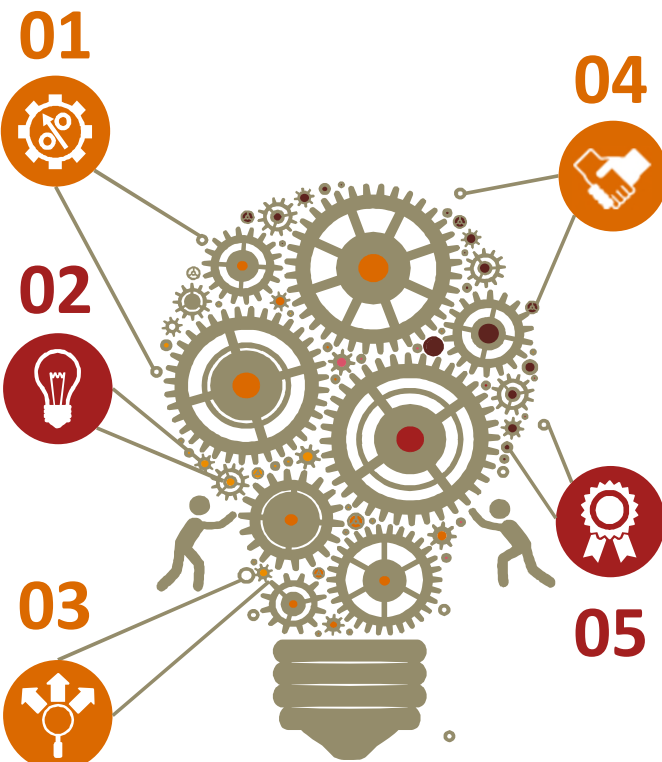


PEOPLE-TO-PEOPLE BONDS

Promote deepening bilateral and multilateral cooperation through various exchanges along the Belt and Road. These include cultural and academic exchanges to increase links between Belt and Road countries.

FINANCIAL INTEGRATION

Enhance co-ordination of monetary policy, deepen multilateral and bilateral financial co-operation and expand the scope of local currency settlement and currency exchange along the BRI.

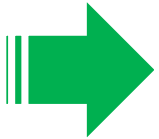


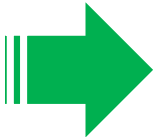


PEOPLE TO PEOPLE BONDS

Addressing Comprehensive Cooperation

- ❑ Strengthening Public Diplomacy
- ❑ **Strengthening Science and Technology**
- ❑ Strengthening Medical and Health
- ❑ Strengthening Tourism
- ❑ Strengthening Culture and Education

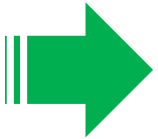




Strengthening S&T Collaboration

S&T Collaboration:

- To strengthen deep-collaboration in science and technology of agriculture, forestry, marine...
- To increase collaboration in **conserving eco-environment:**
 - to develop **GREEN** pest control products and make **TT**;
 - **prevention and management of agricultural invasive alien pests**
- To improve collaboration in tackling climate change, protecting biodiversity



Strengthening S&T Collaboration

Customs/Quarantine Collaboration:

- To enhance collaboration on **mutual recognition of regulations**,
- To improve bi/multilateral cooperation in inspection and quarantine techniques, certification and accreditation, standard measurement...

Platform Collaboration:

- To establish **Joint Laboratory, Technology Transfer Center** between/among B&R countries
- To provide facilities for research

Framework for Better P&M of IAS under B&R Initiative

Challenges: increasing free trade, infrastructure construction and people exchanges will increase the introductions of alien species in China, v.v. in other B&R countries

Opportunities: expanding international collaboration in plant protection from the biosafety and food-security points among B&R countries

Actions: Chinese government_National Biosecurity Program

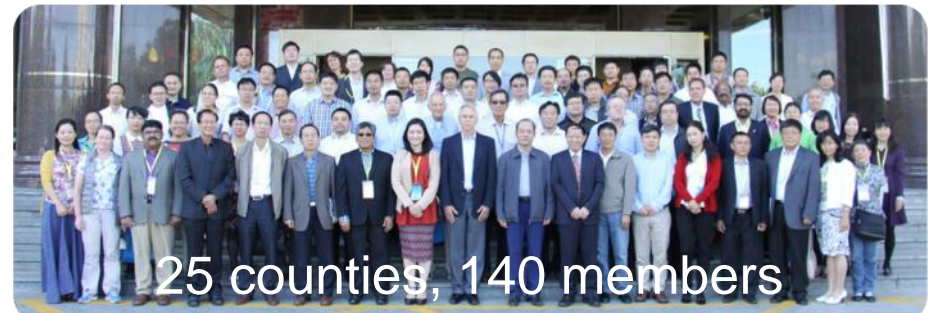
A NATIONAL COMPREHENSIVE WORKING PLAN on IAS (2015-2025)

1. to organize B&R Plant Protection/IAS International Consortium
2. to build up jointly B&R IAS BIG-DATA and intelligent analysis platform
3. to set up B&R joint labs and technology transfer centers
4. to take training courses for youth and women in B&R countries
5. to innovate IAS new technology and approaches (RNAi, gene-group detecting, gene-editing, remote-intelligent-monitoring, image identification and deep learn recognition...)
6. to develop joint-proposals for B&R grants
7. to work closely with IPPC under the framework of FAO-China SS Program

Action 1

The B&R Plant Protection International Consortium was established in 2015

- to coordinate scientific collaborative research,
- to help international academic exchanges and training
- to provide consultancy services for decision-makers world widely



Action 2

Six Working Groups have been organized for conducting government aid projects in B&R countries

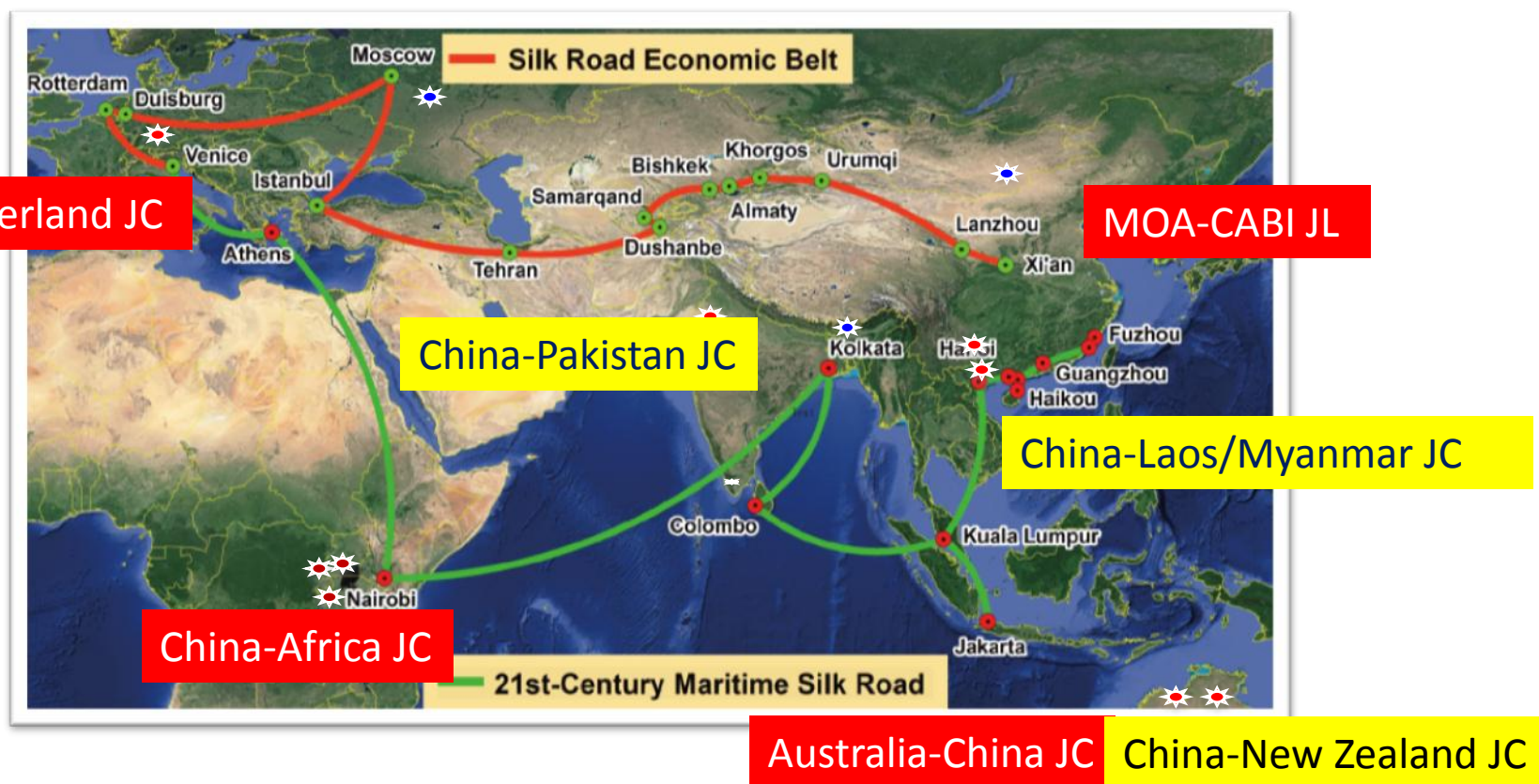
- IAS genomics working group (2015.04)
- Biological control products working group (2015.09)
- Technology transfer working group (2016.05)
- Area-wide biological and ecological integrated manipulation working group (2016.07)
- Big-data working group (2016.09)
- Tropical IAS management working group (2016.11)



Action 3

Four Joint Center/Lab have been established

- to share the facilities for research
- to solve the problems of cross-regional IAS together
- to carry out technology transfer in both sides or to the third part



Action 4

**A total of ¥ 30 million governmental funding
has been granted for building Ag-Firewall**

Ministry of Agriculture and Rural Affairs

CONSTRUCTING B&R RESEARCH PLATFORM (2016-2018) (2 Projects)

- Establishing overseas joint labs with interested partners
- Sharing Ag-pest database and exchanging information



Action 4

A total of ¥ 30 million governmental funding
has been granted for building Ag-Firewall

Ministry of Science and Technology

S&T INNOVATION for IAS CONTROL (2016-2020) **(6 Projects)**

- Understanding agricultural aliens invading mechanisms
- Developing new technology for eradicating and managing IAS
- Long-time monitoring and surveillance in border areas



Action 4

A total of ¥ 30 million governmental funding
has been granted for building Ag-Firewall

Ministry of Science and Technology

CHINA-ASEAN AGRICULTURAL S&T COLLABORATION (2018-2022) **(2 projects)**

- Training courses to ASEAN young scientists (Laos, Myanmar, Cambodia...)
- Technology transfer of biological control for rice pests in Greater Mekong River Sub-regions



Action 4

A total of ¥ 30 million governmental funding
has been granted for building Ag-Firewall

Ministry of Commerce

CHINA-AFRICA 10+10 PROJECT (in process)

- Technology transfer: mass rearing of natural enemies (insects)
- Water-saving agricultural technology in arid area in Kenya



Collaboration Mode

- **Joint-lab-based long term collaboration**
- **Project-based collaboration**
- **Country-to-country-based collaboration**





CHINA-EUROPE COLLABORATION

Joint-lab-based Collaboration (I)

MOA-CABI JOINT LABORATORY (Beijing, China)



- Established jointly by CAAS and CABI in 2008
- Located in CAAS, Beijing
- Funded partially by MOA





CHINA-EUROPE COLLABORATION

Joint-lab-based Collaboration (II)

CABI-CAAS JOINT LABORATORY (Delémont, Switzerland)



- Established jointly by CABI and CAAS in 2017
- Located in Delemont, Switzerland
- Funding: USD 480,000 for 2018-19,
- Partially supported by MARA

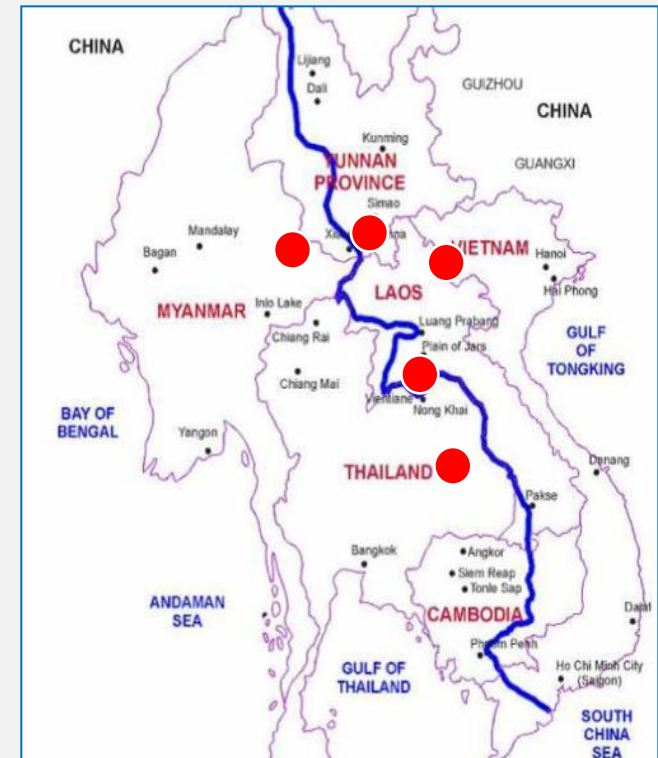


CHINA-ASEAN COLLABORATION

Project-based Collaboration

Technology Transfer Projects

Rice IPM for Food Security in Greater Mekong Sub-Regions and South Korea

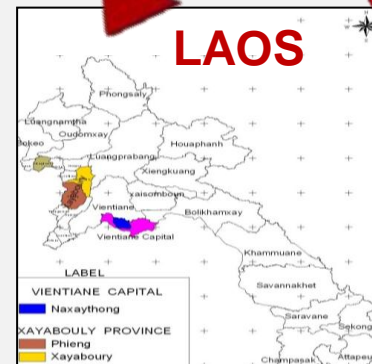


CHINA-ASEAN COLLABORATION

Project-based Collaboration

Using *Trichogramma* to control rice leaf roller and stem borer

First phase: by EU-AID Program (2012-2016)



CHINA-ASEAN COLLABORATION

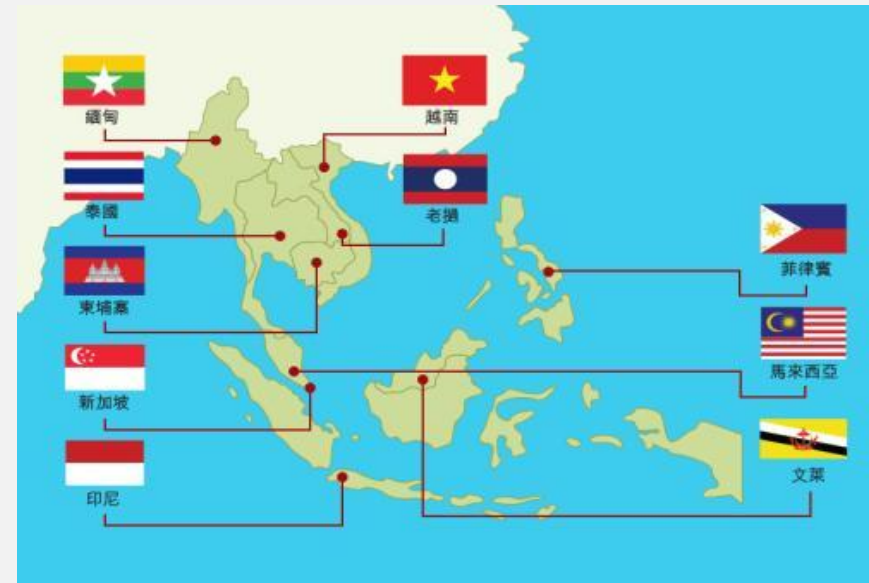
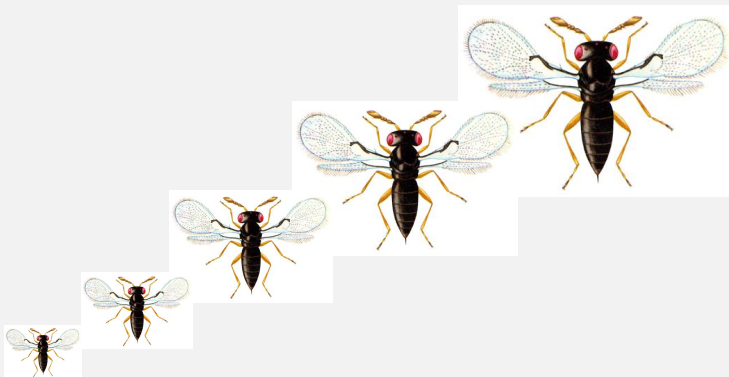
Project-based Collaboration

Using *Trichogramma* to control rice leaf roller and stem borer

Second phase: by MOST-B&R Program (2018-2022)

Funding: ¥ 3 Million

Countries: Laos, Myanmar,
Viet Nam, Thailand, Cambodia



CHINA-AFRICA COLLABORATION

Country-to-country-based Collaboration

CHINA-AFRICA 10+10 PROGRAM

Sustainable Agricultural Technology Transfer to Kenya, Africa, supported by Ministry of Commerce



Chinese Academy of Agricultural Sciences, China (CAAS)



Kenya Agricultural & Livestock Research Organization (KALRO)



SUMMARIES

- 🌀 The construction of the Belt and Road provides both challenges and opportunities;
- 🌀 The B&R initiative encourages close global collaborations on science and technology: bio-security and food-security ...
- 🌀 The Framework for Better Prevention & Management of IAS becomes Chinese national strategy;
- 🌀 Different international collaboration modes provide us clues to make strong linkages, and to obtain financial support.



B&R Plant Protection International Cooperation

Information Sharing

Technology innovation and transfer

Products innovation and transfer

Scientists exchange and scientific training

THANKS

B&R Spirit: Peace and Cooperation, Openness and Inclusiveness, Mutual Learning and Mutual Benefit

