B&R scientific cooperation: linking Gansu Province of China and Central Asia - Tajikistan

Prof. Ruijun Long 龙瑞军
International Centre for Integrated Mountain Development, Kathmandu, Nepal
Arid Agriculture and Ecological Rehabilitation Engineering Research Center, Ministry of Education, China
Email: Ruijun.long@icimod.org; Longrj@lzu.edu.cn

3 Oct. 2017 Dushanbe
The Silk Road Initiatives of China

"One Belt One Road"
11th century world trade
The Silk Routes (Song Dynasty)
The One Belt one Road Initiative

- By President Xi Jinping
- Sept. 2013, Silk Road in Kazakhstan
- Oct. 2013, Maritime Silk Road in Indonesia
What is "One Belt One Road"?

The Silk Road Economic Belt

"One Belt"

Agreed by UN & SC and over 100 countries and International Organizations

The Maritime Silk Road of the 21st Century

"One Road"
What does the B&R for?

- Peace and Cooperation
- Openness and Inclusiveness
- Mutual learning
- Mutual benefit
Five Links

- Policy
- Road
- Trade
- Currency
- People
Policy

- Strategies and policies on economic development
- Plans and measures for cooperation
- Regional economic integration
Road

- Improve cross-border transportation infrastructure
- Form a network linking Asia's sub-regions and connecting Asia with Europe and Africa
- Address the existing inadequacies
Trade

- Study issues of trade and investment facilitation
- Remove trade and investment barriers
- Promote economic circulation
- Unleash trade and investment potential
Currency

- Promote greater trade settlement in local currencies
- More currency exchange schemes
People

- Dialogue
- Education
- Culture
- Tour
Over 10,000 scholarships every year

- Every year the Chinese government provides 10,000 government scholarships to the relevant countries.
- China’s local governments have also set up special Silk Road scholarships to encourage international cultural and educational exchanges.
Build the Belt and Road into:

- A road for peace
- A road of prosperity
- A road of open up
- A road of innovation
- A road connecting different civilization
Gansu Province and Tajikistan
Gansu Province & the Silk Road
一、丝绸之路是绿洲之路

The Qilian Mountains

The Silk Road
Distribution of Ecological Zones in China

Arid < 250mm
Semi-arid 250-550mm
Sub-humid 550-800mm
Humid > 800

Arid + semi-arid areas > 51%
Geographical Aspect of Lanzhou Area

Diversity
- Landscape
- Biology
- Culture
- Production
- Management

The Loess Plateau

The Xinjiang-Inner Mongolia Plateau

The Qinghai-Tibetan Plateau

Lanzhou
The nature of Gansu Province

• Gansu is the earliest birthplaces of the Chinese nation and ancient Chinese civilization. The Fuxi and Shennong, who lived in Tianshui region, Gansu about 8000 years ago.

• Gansu is situated as geographical center of China, at a junction of the Loess Plateau, Inner Mongolia Plateau and the Qinghai Tibetan Plateau. Altitude: 500 to 5,800 m asl and annual precipitation: 36.6 to 734.9 mm and the annual average temperature: 0°C-14°C.

• Gansu spreads 425,800 km², with a population of 26 million (54 ethnics/56 ethnics in China). Hui nationality (Muslim) in Gansu is the largest one with a population of about 2 million.

• The climate and landscape in Gansu are similar to Central Asian countries (Tajikistan).
Research and education capacity in Gansu

- Over 582 research institutes and development organizations
- More than 34 Universities
- Overall Lanzhou University (LZU) is leading one. Also LZU is one key state universities and the best one in Northwest region of China
The priority fields developed in Gansu

• Dryland and highland agriculture: water-saving and oasis farming, livestock and poultry, mobile pastoralism, potato, fodder production (alfalfa and oat), off-season vegetables etc.

• Facility agriculture: vegetables, flower, edible fungi, fruits etc.

• Breeding and seed production: potato, corn, vegetables, fruits, fodders etc. and their processing,
The priority fields developed in Gansu

- Mediational plants production and processing
- Cold water fishery breeding and production
- Food and Halal food processing and detection
- e-marketing, poverty alleviation
- Environment and hazard: desertification control, ecological restoration, nature hazard monitoring and control etc.
- Cleaning energy: hydro, solar, wind powers and biogas etc.
- Small farming machinery
Tajikistan
The nature of Tajikistan

- More than 90% of Tajikistan’s territory is mountainous; about half lies 3,000 m or more asl.
- The climate of Tajikistan is sharply continental and changes with altitude. The temperature changes from July 27°C to −20°C in cold winters. Annual precipitation: 150-250 mm.
- Population: 7.1 million, Area: 143,100 sq km
- Major languages: Tajik, Uzbek, Russian
- Major religion: Islam
Major import trade

Major import sources (2014)

- China: 46.6%
- Russia: 16.6%
- Kazakhstan: 10.5%
- Turkey: 17.6%
- Iran: 5.2%
- Other: 3.5%
Population stricture

Age breakdown (2014)

- Under 15: 34.6%
- 15-29: 30.3%
- 30-44: 18.2%
- 45-59: 11.8%
- 60-74: 3.8%
- 75-79: 0.7%
- 80 and over: 0.6%

© Encyclopædia Britannica, Inc.
Agriculture and light industry

Agriculture (*Irrigation*)
- Farming activates: cotton, livestock, Gissar sheep, and goats, fruits, vegetables, wheat and barley apricots, pears, apples, plums, quinces, cherries, pomegranates, figs, and nuts

Light industry
- Cotton-cleaning mills, silk factories, knitted goods and footwear, tanning and sewing etc.

Food industry
- Processing fruits, various vegetable oils, tobacco, and geranium oil for perfume etc.

Metalworking industry
- produces looms, power equipment, cables, and agricultural and household implements.
Potential Collaboration Opportunities between Gansu and Tajikistan
Scoping study in the HKPL region
A collaboration project has been approved in 2017

Between Gansu Institute of Business Technology (GIBT) and Academy of Sciences of Tajikistan (AST) on:

*Food Quality & Safety Inspection and Testing Technology Innovation Cooperation Research and Platform Construction of the Silk Road Economic Belt*

*Including Artichoke processing project*

Supported by Gansu Provincial Department of Science and Technology
Dry land agriculture and light industry

- Water-saving farming and livestock industry
- Facility agriculture
- Seed Industry
- Food processing/products-add-value
- Small Farming Machinery
- Family based biogas unit
- Cold water fishery
- ............
Plastic film covered
Integrated arid farming system supported by water-saving techniques
Potato breeding-production and processing in Gansu
Products in the energy saving greenhouse: vegetables, flowers, fruits etc.

Facility agriculture
Traditional Herbal Medicines of OBOR

Map showing the routes of traditional herbal medicines in the OBOR region.
Medicinal Plant Resources in Gansu

- About 2000 medicinal plants
- The largest planting area of herbal medicines: 270,000 hectares
Medicinal Plant Collection

More than 30,000 specimens of medicinal plants
Prospective

- Agricultural techniques transfer
- Capacity building (training course, MSc and PhD programs)
- Agricultural industries development
- Livestock and biogas areas

Livestock and biogas areas
Yak farming and its products
Cold water fishery

- Trout
- Salome
Lanzhou University
Lanzhou University

• Founded in 1909
• One of 38 National Key Universities (985 & 211 project) in China (>2000)
• Area of the Campus : 648 acres
• 31 Schools and 144 units for teaching and research
• 4 affiliated hospitals
• 8 campuses

Disciplines in 11 areas of study

### Programs Offered

<table>
<thead>
<tr>
<th>Degree Level</th>
<th>Programs Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor Programs</td>
<td>81</td>
</tr>
<tr>
<td>Master Degree Programs</td>
<td>187</td>
</tr>
<tr>
<td>Ph. D. Degree Programs</td>
<td>56</td>
</tr>
<tr>
<td>Post-doctoral Programs</td>
<td>10</td>
</tr>
</tbody>
</table>

### Component of students

- **Undergraduates**: 20,000
- **Postgraduates**: 10,000
- **Continuing Education**: 10,000
- **International Students**: 500 (25 CSC supporting MSc & PhD; 40 others per year)

### Students studying abroad

Students studying abroad: 300-400 yearly (by CSC or other supports)
Faculty and Staff

- 4,134 employees (not including those of Hospitals)
- 1,637 faculty members
- 11 CAS and CAE academician
- 365 professors
- 762 associate professors
Prospective

- Agricultural techniques transfer
- Agricultural industries development
- Short-term training courses
- 3 to 12 months training programs
- Academic degrees (PhD and MSc, 3 years)