



UNIVERSITY OF CENTRAL ASIA  
GRADUATE SCHOOL OF DEVELOPMENT  
Mountain Societies Research Institute



AKDN  
AGA KHAN DEVELOPMENT NETWORK



Proceedings of the International Workshop

# Silk Roads in the Mountains of Central Asia

## Ancient Routes and Modern Challenges in Times of Global Change

3-4 October 2017  
Dushanbe, Tajikistan



**Photo credits:**

Front cover:	Stephen Lioy
Presentations	as per authors
All other photos	Marc Foggin





## Author

Marc Foggin (editor)

## Contributors

Keynotes: Yuri Badenkov, Hermann Kreutzmann, Troy Sternberg, Wu Ning; other speakers: Babar Aman, Aziz Ali Dad, Jonathan Demenge, Alexander Dunets, Long Ruijun, Jerome Mayaud, Tatyana Yashina; editorial support: Janyl Ismailova, Shodigul Mamadyorbekova.

## Publication Layout and Design

University of Central Asia

## Suggested Citation

Foggin, M. (editor). 2018. Proceedings of International Workshop *Silk Roads in the Mountains of Central Asia: Ancient Routes & Modern Challenges in Times of Global Change*, held in Dushanbe, Tajikistan, on 3-4 October 2017. Bishkek, Kyrgyzstan: Mountain Societies Research Institute, University of Central Asia.

Available at: [http://ucentralasia.org/Research/MSRI\\_Publications](http://ucentralasia.org/Research/MSRI_Publications)

For inquiries or additional information, please contact:

## Foreword

Ancient and modern ways, diverse cultures, and a host of ideas and perspectives meet daily in Central Asia. Through these encounters, visions of the future are now being defined and refined as globalization brings people and opportunities together at a scale unprecedented in the history of the world. In the mountains of Central Asia, the ancient Silk Road is actively being built afresh as modern infrastructure and information technologies combine with personal and institutional encounters, and the new ideas or recombination of ideas they bring, allowing a re-imagining of people and place. Once at the periphery of empires, yet also always being the home for numerous mountain peoples and cultures, the mountains of Central Asia now find themselves *de facto* at ‘centre stage’ for much international development and geopolitics at the outset of the 21<sup>st</sup> Century.

Perhaps the most significant driver of change ushering in a new era for Central Asia is China’s vision for the region. Until recently, most attention has been given to Russian influence. More recently, though, China’s economic influence in the region has grown dramatically – especially since President Xi Jinping announced in 2013 the launch of its unparalleled One Belt, One Road Initiative (more recently renamed the Belt & Road Initiative), Central Asia now must look eastward as well. Many exciting opportunities are on the horizon as well as a range of emergent challenges. These are the conundrums of any exchange network – as surely was the case centuries ago on the original Silk Roads, too. The critical area of enquiry now is to move beyond the primary focus of most recent studies on China’s One Belt, One Road Initiative, namely the official or assumed goals and motivations of the Initiative. With this workshop, we aim to turn this approach on its head and instead consider the policies, programmes and projects *from a Central Asia perspective*.

This inaugural Silk Roads workshop was organized by University of Central Asia and its partners and convened 40 development professionals and academics from around the world to discuss what is known or anticipated in the near future under the umbrella of China’s modern re-creation of the Silk Routes in the 21<sup>st</sup> Century. What will such changes mean for Central Asia? In particular, how are these new developments likely to affect the mountain regions of Central Asia, and the societies who live here? Some social and environmental challenges clearly are present, however development opportunities also abound for local communities – if adequate space can be created within the processes of global changes and maximized in favour of mountain societies.

These proceedings provide a glimpse into critical development issues. A start has been made, and now already new concepts, approaches, and collaborations are emerging. The University of Central Asia is honoured to have hosted this meeting. It also extends here a note of appreciation to its partner institutions and keynote speakers – especially to Yuri Badenkov and Hermann Kreutzmann, who first suggested that such a meeting be organized. We also thank all workshop participants, as well as Mountain Societies Research Institute staff who worked tirelessly in the weeks leading up to the meeting to make it a success. Thank you!



# About Mountain Societies Research Institute (MSRI), University of Central Asia (UCA)

The Mountain Societies Research Institute operates at the interface of academia and development. It envisages a future in which communities, government, academia, development practitioners and the private sector collaborate in the generation of inter- and transdisciplinary knowledge and its application for sustainable development in the mountain regions of Central Asia and beyond.

Situated in UCA's Graduate School of Development, Mountain Societies Research Institute conducts research for development with the goal to improve the quality of life and well-being of the people and communities that it serves in the mountain social-ecological systems of Central Asia.

MSRI has five key objectives:

- To generate knowledge on mountain regions and their societies through original scientific research
- To serve as a knowledge hub for scholars from a wide range of disciplines, development practitioners, and policy-makers
- To enhance Central Asian capacities to conduct sound research relevant for mountain societies
- To inform policy and practice through strategic engagement with key development partners and mountain stakeholders
- To disseminate knowledge and lessons learned amongst the full range of mountain stakeholders

MSRI's core research themes include:

- Natural resources management and agro-pastoral livelihoods
- Water-energy-food-environment nexus, incl. food security
- Mountain hazards and disaster risk management
- Climate change, adaptation to climate change

**For more information:**

<http://msri.ucentralasia.org>





## Partner Institutions



### Institute of Geography, Russian Academy of Sciences

The Institute of Geography, Russian Academy of Sciences is the oldest and largest Russian research center, founded in 1918, devoted to the study of physical and economical geography. The Institute's main current research directions are: evolution of the natural environment and surface natural resources; natural cryogenic systems; cryosphere processes; geographical aspects of land use and nature conservation; the interaction of environment and society in light of growing anthropogenic pressures; regional frameworks for the sustainable development of environment and society; and GIS technologies and mapping.

<http://www.ras.ru/>



### School of Geography and Environment, University of Oxford

The School of Geography and the Environment is a dynamic, diverse, interdisciplinary academic department at the University of Oxford that combines natural and social science interests and skills, underpinned by Geography's tradition of working across differing cultures. The School is internationally recognized for the quality of its teaching, research, and wider engagement across the breadth of human and physical geography and environmental studies.

[www.geog.ox.ac.uk/](http://www.geog.ox.ac.uk/)



### Centre for Development Studies (ZELF), Free University of Berlin

The Centre for Development Studies (ZELF) provides research and teaching in the field of Geographical Development Studies. The Centre's main research interests concern the political, economic and socio-cultural developments and transformation processes in Central and South Asia. It studies dimensions and forms of social vulnerability, the effects of global exchange relations, and transformation processes in rural areas. Current research focuses on rural areas in Pakistan, India, Nepal, Afghanistan, Tajikistan, Kyrgyzstan and the People's Republic of China (Xinjiang and Tibet). Most projects are located in peripheral regions where human-environmental relations are under stress, e.g. in mountain regions, with a focus on pastoral practices, water management, and other resource-oriented strategies. The Centre's institutional core is the professorship in Geographical Development Studies (Prof. Dr. Hermann Kreutzmann) within the Institute of Geographical Sciences, in the Department of Earth Sciences, Freie Universität Berlin.

<http://www.geo.fu-berlin.de/en/geog/fachrichtungen/anthrogeog/zelf/index.html>







## International Centre for Integrated Mountain Development

The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre based in Kathmandu, Nepal serving the eight regional member countries of the Hindu Kush Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. Globalization and climate change increasingly influence the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues.

<http://www.icimod.org/>



## Central Asia Mountain Hub (CAMH)

The Central Asia Mountain Hub (formerly known as Mountain Partnership Central Asia Hub) has been hosted at UCA since 2010, and at MSRI since the Institute's establishment in 2011. Supported by the Swiss Agency for Development and Cooperation (SDC), CAMH is a regional centre that brings together a wide range of mountain stakeholders including members of the Mountain Partnership global alliance, to ground the sustainable mountain development (SMD) concept into practice at regional, national and sub-national levels. CAMH activities include policy advocacy at many levels through community mobilisation as well as collaboration with policy makers; building partnerships to enhance local capacities and to promote and extend good practices; and advancing the 'mountain agenda' and mountain peoples' concerns in global, regional, national and sub-national development and policy making processes.

[www.ucentralasia.org/msri/](http://www.ucentralasia.org/msri/)

[www.fao.org/mountain-partnership/](http://www.fao.org/mountain-partnership/)



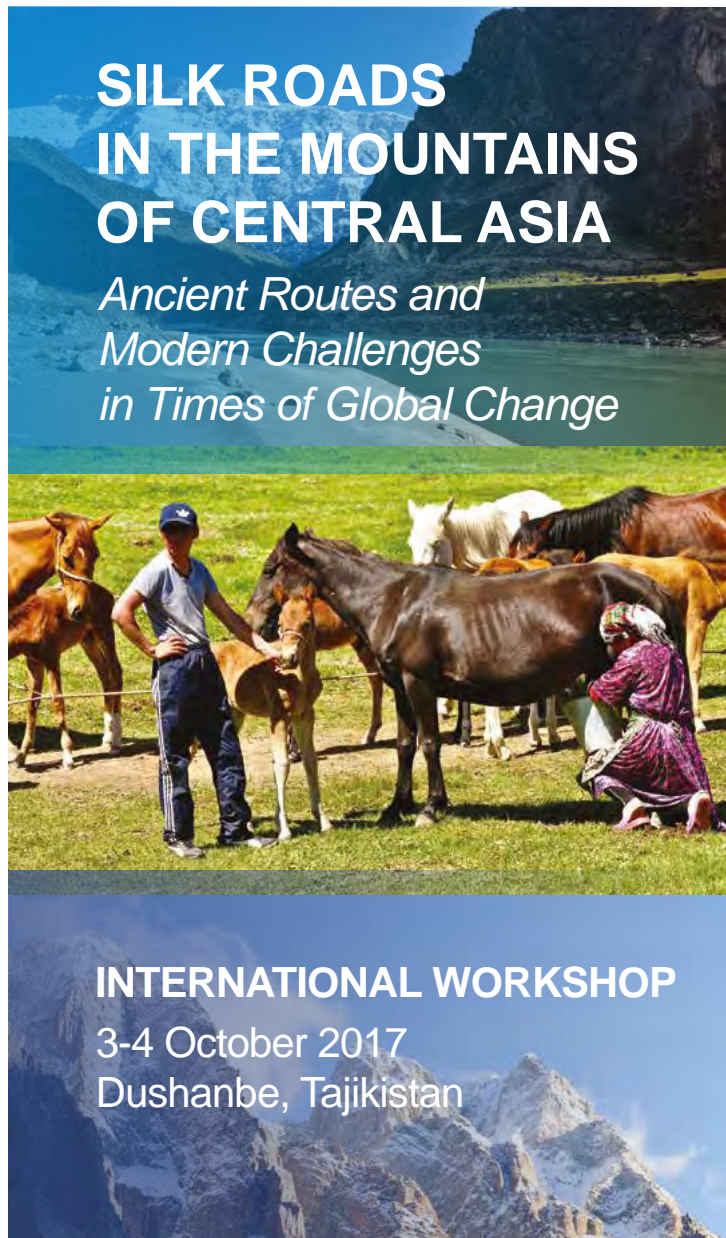
## Aga Khan Development Network (AKDN)

The Aga Khan Development Network (AKDN) has a mandate to improve living conditions and opportunities in the communities it serves without regard to faith, origin or gender. AKDN operates predominantly in Asia and Africa. For more than 60 years, it has been building institutions and delivering services by creating schools and hospitals, newspapers and electricity generation plants, and social programmes helping improve the lives of hundreds of millions of people in places as varied as Cairo, Kabul, Delhi and Bamako. AKDN has been operating in Central Asia since 1995.

<http://www.akdn.org/>

# Table of Contents

<b>Introduction .....</b>	<b>11</b>
<b>Workshop summary.....</b>	<b>12</b>
<b>Dushanbe Declaration 2017 .....</b>	<b>15</b>
<b>Keynote Presenters .....</b>	<b>18</b>
<b>Keynote Sessions .....</b>	<b>20</b>
Building Mountain Resilience Through Transboundary Management (Wu Ning) .....	20
Pamirian Crossroads and The New Silk Road Initiative (Hermann Kreutzmann) .....	26
Silk Road in High Asia: Geography, Environment & Sustainability in Altai (Yuri Badenkov) .....	27
Role of Landscape and Politics of Infrastructure for China’s New Silk Road (Troy Sternberg) ....	48
<b>Other Presentations .....</b>	<b>65</b>
Scientific cooperation linking Gansu, China, with Tajikistan and Central Asia (Ruijun Long).....	65
Beyond the Karakoram Range: Looking at six decades of road development in Ladakh and their impacts on mountain environment and societies (Jonathan Demenge).....	87
Report on the China Pakistan Economic Corridor (CPEC) by AKRSP Pakistan (Aziz Ali Dad)...	96
Locational Advantage of Gilgit-Baltistan: Special Economic Zones (Babar Aman) .....	104
The ViSTA model: Predicting the impact of land use change in high-altitude deserts (Jerome Mayaud).....	105
Great Altai: First Transboundary Biosphere Reserve in Asia - a Model of Transboundary Socio-Ecological System (Tatyana Yashina) .....	118
Development of tourism in the transboundary Altai: influence of the project «One belt, one road» (Alexander Dunets) .....	119
Hindu Kush Pamir Karakoram Landscape (HKPL) Initiative (ICIMOD Team) .....	122
<b>Annexes .....</b>	<b>134</b>
Workshop Schedule & Agenda.....	135
Book Launch: Yuri Badenkov .....	139
Book Launch: Hermann Kreutzmann.....	141
Maps of Central Asia .....	143
Workshop Participants .....	144
Selected References .....	145



**Mountain Societies Research Institute  
University of Central Asia (UCA)**  
138 Toktogul Street, Bishkek  
Kyrgyz Republic, 720001  
msri@ucentralasia.org

# ***Silk Roads in the Mountains of Central Asia***

## **Ancient Routes & Modern Challenges in Times of Global Change including the Pamirs, Tien Shan, and Altai mountains**

3-4 October 2017 — Dushanbe, Tajikistan

Dushanbe Declaration

## **Introduction**

Central Asia has been a crossroads for global economic trade and the exchange of ideas and innovations for centuries. China's "One Belt, One Road" (OBOR) Initiative (also known as the Belt & Road Initiative (BRI) was launched in 2013, seeking to revive the ancient routes that to a large extent were closed for much of the twentieth century. Spanning more than 60 countries from Asia to Europe, the land and sea routes envisaged by China are likely to impact, and could radically transform, local and regional socio-economic, ecological, and cultural systems. Further study of the possible outworking of the OBOR initiative in Central Asian countries such as Tajikistan –highly dependent on foreign investments from China for the development of transportation as well as telecommunication and agricultural infrastructures – clearly is warranted. Many significant benefits as well as potential challenges stem from such financial and technological investments and other forms of influence; these should be explicitly considered and discussed, even debated, and eventually synthesized – in order to inform both policy and practice. A wide and inclusive approach to dialogue is essential, too, encompassing a broad range of thematic, geographic, and socio-cultural perspectives.

Focusing on the mountains of Central Asia, with special attention on the Pamirs and Hindu Kush ranges, this workshop considered both opportunities and challenges associated with current and planned infrastructure developments (e.g. roads, railways, pipelines), urbanization, and the range of institutional changes that are likely to arise through emerging development pressures (such as changes in land tenure, access and benefit sharing, civic engagement, legislation, etc.).

The workshop adopted a social-ecological systems approach in the dialogues it encouraged, and sought to foster new partnerships and networks that promote interdisciplinary research. A more refined research agenda to advance Sustainable Mountain Development is anticipated from the workshop, as part of the global over-arching Mountain Agenda promoted by the Swiss Agency for Development and Cooperation (SDC), the UN Food and Agriculture Organization (FAO), and other global development implementation and donor agencies.

In regard to the OBOR initiative, the international Silk Road workshop aimed specifically to answer the following questions, and more:

- What are the actual or anticipated impacts of the OBOR initiative on mountain regions in Central Asia?
- To what extent will improved accessibility benefit local communities, versus external stakeholders?
- Who are likely to be the main winners and who will be the losers in the mountain regions?
- How will the OBOR initiative affect urbanization in mountain regions?
- What environmental impacts may be expected in mountain environments, such as land

degradation, loss of wildlife/biodiversity, transformation of traditional indigenous systems and cultural identity?

- How will the initiative influence the ability of external actors to determine developments in the mountain regions (cf. tele-coupled landscapes)?
- How should potential impacts of OBOR initiative and other ‘Silk Road’ developments be assessed in context of, or in conjunction with, other manifestations of global change, particularly climate change?

Anticipated workshop outcomes and outputs included the following:

- Inventory of existing knowledge about current development trajectories in the Pamirs and other Central Asian mountain ranges
- Synthesis of progress in our understanding of global changes occurring in mountain areas, including examples of innovative development approaches as well as identification of significant knowledge gaps
- Increased interdisciplinary work, international exchanges, and collaborations amongst researchers, practitioners, and policy-makers
- Networking amongst researchers and development practitioners with special interest in the Mountain Agenda
- Building on the above, eventual authoring of one or more “policy briefs” under MSRI’s new Policy Brief Series, as well as submission of articles for a ‘special issue’ in a development journal (e.g. Geography, Environment, Sustainability)

The first in a series of workshops, this meeting primarily aimed to develop broad consensus on priorities for research in relation to development policy impacts on the societies resident in, or dependent on, the mountains of Central Asia. The workshop took place in Dushanbe over a two-day period in October 2017. Following the workshop, an optional 5-days field trip was organized, during which participants were able to visit UCA Khorog Campus and to experience the cultures and natural environments in the Pamir region.

This inaugural **Silk Roads in the Mountains of Central Asia** international workshop organized by the University of Central Asia was marked by the authoring of the **Dushanbe Declaration**, highlighting the dialogues, broad consensus, and key recommendations from the workshop.

## Workshop summary

The workshop began with a welcome and opening remarks by Marc Foggin, Associate Director of the Mountain Societies Research Institute, University of Central Asia, and by Yodgor Faizov, CEO of AKF Tajikistan, presented on behalf of the Aga Khan Development Network (AKDN).

Presentations over the two days served to help the group ‘take stock’ of current changes taking place in the region, with a special focus on China’s new programme of economic investment and development known as the One Belt, One Road (OBOR) Initiative.

Several additional sessions were dedicated to the further exploration of major emerging themes or discussion points, including time for questions and answers following presentations. Some of the high-level questions and observations made during these discussions included the following:

- The ancient Silk Roads were long-distance routes with bi- and multi-directional exchanges of goods, people, ideas, and cultures. Today, China's new plans for a revived Silk Road hold some risk of unidirectional trade... How could we better assure that exchanges and integration between countries and communities hold benefits for all parties concerned?
- The time scales for OBOR are unprecedented. The speed of infrastructure developments and other OBOR projects in Central Asia are extremely rapid, arguably with insufficient time for due consideration of the great variability and complexities of natural environments, people and cultures, and endogenous development priorities in the region.
- Repeatedly the question was asked, *Who should set priorities?* This was almost always followed by, *What policies and/or procedures should be in place to ensure that mountain communities are kept in the centre?*
- The value of transdisciplinary research involving all stakeholders was highlighted. The role of 'action research' with real connections to people and issues deemed important to them (such as land entitlement) also was stressed. In light this need, developing a supportive network of universities to promote learning exchanges and emphasizing the importance of such research approaches was encouraged.
- Despite associated challenges, the role of transport routes (roads) and other infrastructure projects as facilitating mechanisms for development was recognized by the participants.
- The need to bridge short- and long-term development perspectives/needs and strategies also was recognized. This gap could be met in part through appropriate partnerships, e.g. between research institutes and development agencies together with community partners.

### Anticipated impacts of OBOR in Mountains of Central Asia

During the second day of the workshop, three breakout sessions were facilitated to help further elucidate the main anticipated **impacts of OBOR projects** in the mountain areas of Central Asia:

1. Transitioning from 'transport routes to 'development corridors'
2. Environmental considerations of infrastructure and land projects
3. Sociocultural impacts of OBOR related projects in mountain regions

Based on these and other sessions, the following impacts or **issues of concern** – whether real or perceived, actual or potential – were deemed by the workshop participants as being of greatest significance, warranting further careful consideration and academic study in the future. They are presented here *in the order in which the group raised them* during the workshop's final discussion session, which aimed to recapture the essence of all the discussions of the preceding two days.

- Food security, both for China and Central Asia – policy for small holders also important
- Promoting rural livelihoods and wellbeing, developing opportunities, access to markets
- Local socioeconomic benefits of OBOR projects also must be taken into consideration
- Government concerns about radicalism can impact ideas of how to develop OBOR
- OBOR can equally impact climate adaptation responses, such as migration patterns
- Impacts on Central Asian realities in terms of water, energy, transportation, connectivity, and improved or grown markets, are all critically important

- Education of all stakeholders about the potential benefits and impacts of OBOR is crucial
- Fostering community participation and sharing benefits with communities also should be upheld, to be facilitated by improved civic platforms and promoting engagement
- Interactions or impacts of OBOR projects on health and environment are potentially high
- Perceptions about OBOR and China should be better understood, as xenophobia is high
- All OBOR countries should be included in OBOR related discussions, including e.g. about job opportunities, prosperity, economy, trade balance between the concerned countries
- Benefits of local and regional/transboundary tourism development must be maximized
- Conflict and security issues must be considered, with due security measures in place
- OBOR impacts on societies along economic corridors, e.g. effects on peace and stability
- Environmental conservation measures to be taken, including impacts of invasive species
- Geopolitics, including Russia and China – considering new impacts of OBOR projects
- Potential role of new information technologies, especially for youth, and value of training
- Corruption and transparency – how to ensure corruption is eliminated, role of transparency
- Legal training will be important in new or emerging fields (e.g. impact assessments), also including policy development (especially for environmental and cultural sustainability)
- The role of experts is very crucial for project implementation, ensuring good practices

*“Regional development will certainly improve under the influence of China’s OBOR Initiative. But local development and wellbeing in mountain areas is extremely important too, and sometimes is at risk of being overlooked. We must keep communities at the centre of any development initiatives.”*

Nusrat Nasab

*“Creating a network of universities in China and Central Asia within the framework of OBOR would encourage and facilitate academic exchanges, and research and monitoring of its environmental, sociocultural and development impacts and outcomes. Coordinated by UCA, this could provide basis for long-term monitoring of mountain socioecological systems, for mountain observatories.”*

Long Ruijun

*“Information and communication technologies (ICTs) can greatly enhance future collaborations and outreach. Their role in scenario planning is unprecedented, and should be maximized. We now have excellent opportunity to bring modern technologies and long established sociocultural systems together.”*

Antonia Eastwood

# Dushanbe Declaration 2017

## Preamble

The *Silk Roads in the Mountains of Central Asia* workshop aimed to broaden, deepen, and strengthen our understanding of recent and anticipated developments in the context of China's *One Belt, One Road* policy and related initiatives. The impacts on the Pamir, Tien Shan and Altai mountain regions and societies of Central Asia were the main focus of discussions, attained through inclusive dialogue with participants from many countries, from multiple academic and professional backgrounds, and people working in academia, government, the financial sector, civil society, and in many instances with close ties to communities.

Discussions aimed to assess the current state of knowledge about *One Belt, One Road* initiatives, and led to the preliminary, broadly agreed identification of priority areas for future transdisciplinary research in Central Asia's mountainous regions. The workshop has thus helped advance the global Sustainable Mountain Development (SMD) agenda as well as encourage research and action on a broad range of mountain-relevant Sustainable Development Goals (SDGs) that are anticipated to be affected, positively or negatively, by China's increasing engagement and investment in the region.

## Recommendations emerging from the workshop

Based on two days of dialogue and discussion, drawing on recent experience and observations from across Central Asia, the following ten core recommendations are highlighted:

- Local, national and regional stakeholders including mountain communities directly and indirectly impacted by China's One Belt, One Road (OBOR) Initiative should be engaged in the planning and implementation of proposed projects.
- Regional cooperation should be encouraged through mechanisms such as transboundary collaborations, interstate agreements, knowledge platforms, and exchange networks.
- In times of regional and global changes, building local resilience through key development interventions and strategic approaches will be of critical importance for local communities.
- Use of emerging information and communications technologies (ICTs) can help advance and strengthen the participation of local communities and reinforce the positive impacts of development interventions.
- The geophysical, ecological and socio-cultural dimensions of mountain landscapes impacted by OBOR should be studied with diverse approaches and perspectives, including the use of scenario planning to ensure that sustainable and inclusive development plans are made.
- 'Transport routes' should transition to and be perceived as development corridors for regional development, with increased attention given to localize the benefits of development in mountain regions as well as mitigating potential negative sociocultural, economic, or environmental impacts.
- Experiences from UNESCO's model of transboundary biosphere reserves may be used to facilitate dialogue and cooperation in conservation of biological and cultural diversity in regions affected by OBOR initiatives, with relevant experiences drawn from the "Great Altai" Transboundary Biosphere Reserve, as well as ICIMOD's transboundary landscape conservation programme.
- Research on the immediate, mid- and long-term impacts of OBOR-related projects should be



undertaken, including inter-disciplinary studies about socio-cultural dimensions of change, economic regionalization and globalization, climate change and adaptation, biodiversity and ecosystem services, natural resource governance and regional institution, local and regional security, and the administration of regional connectivity including goods and services.

- Several priority research topics pertaining to OBOR were identified at the workshop, included the following:
- Host regions' and nations' ability to decide, structure and/or influence OBOR projects, to be undertaken alongside institutional and personal capacity building, along with a strengthening of partnerships with Chinese institutions and the private sector
- Transport and market access – people's connectivity and exchanges in farming/ pastoral contexts, and migration, focusing on production, processing, flow of goods and marketing including ICT based e-commerce platforms
- Water – understanding the influences of environmental conditions including climatic change and weather extremes, and anthropogenic interventions e.g. infrastructure development and agricultural intensification, with focus on agricultural development, sustainable urbanization, and disaster risk reduction (e.g. mountain hazards)
- Mountain ecosystems – assessing, monitoring and managing rangelands, wetlands and deserts for sustaining food production, water security and nature's contribution to people; and strengthening the conservation of high altitude wetlands with further attention given to Ramsar sites in Pamirs
- Climate change – enhancing the capacities of local communities in adaptation, mitigation, and promoting the assessment of carbon footprint of key projects, including implementing eco-friendly technology (e.g. renewable energy)
- A network of universities and research institutions, or an international panel of experts, should be established – possibly under the umbrella of UCA – in order to foster exchange of information and scientific data, build partnerships, and facilitate thematic research that extends our understanding of OBOR's impacts on the environment and local communities.

The *Silk Roads in the Mountains of Central Asia* workshop was organized and hosted by University of Central Asia (UCA) through its Mountain Societies Research Institute (MSRI). The workshop was co-initiated by the Institute of Geography, Russian Academy of Science, and Free University of Berlin; and was co-sponsored by University of Oxford and the International Centre for Integrated Mountain Development (ICIMOD).

**We the undersigned**, acting as representatives of the participants of the Silk Roads workshop held in Dushanbe, Tajikistan, maintain the significance of all the *above recommendations* for local and regional sustainable development in Central Asia, especially in light of China's growing engagement in the region. These recommendations can help advance 'sustainable mountain development' by strengthening opportunities and enhancing benefits for local and regional mountain stakeholders. As much as possible, these jointly developed and agreed recommendations, as presented herein, should be incorporated into future development programmes and projects, including Chinese-led infrastructure projects under OBOR, as concrete ways to advance our common goals of promoting people's wellbeing, while also protecting our shared natural and cultural heritages for the present and future generations.

Dr Yuri Badenkov,  
Institute of Geography, RAS

Dr Wu Ning,  
ICIMOD

Dr Marc Foggin,  
University of Central Asia

Dr Hermann Kreutzmann,  
Free University of Berlin

Dr Long Ruijun,  
Lanzhou University

Dr Troy Sternberg,  
University of Oxford

Dr Alexander Dunets,  
Altai State University

*Participants of Silk Roads in the Mountains of Central Asia workshop, on 3-4 October 2017*



## Keynote Presenters



**Dr. Yuri Badenkov**, Senior Research Scientist  
Institute of Geography, Russian Academy of  
Sciences

Dr. Yuri Badenkov is a leading scientist in the field of sustainable mountain development and adaptation strategies for global change, with experience working in North Eurasia, Central Asia, North and South Caucasus, and the Sudet Mountains in Poland. Dr. Badenkov was a core member of the founding commission of University of Central Asia (UCA) and is member of the Advisory Committee for UCA's Mountain Societies Research Institute (MSRI). From 1983 to 2013, he led the Mountain Group MAB-6 at the Russian Academy of Science Institute of Geography. He also has contributed to UNESCO's work on sustainable mountain development, and to the Man and the Biosphere Programme (MAB), working to preserve mountain biosphere reserves. For his contribution in promoting cooperation with UNESCO, Dr. Badenkov received a prestigious medal of honour from the Commission of the Russian Federation for UNESCO Affairs. Dr. Badenkov holds a degree in Geology from the University of Moscow and in Geochemistry from the University of St. Petersburg.



**Dr. Hermann Kreutzmann**, Professor of  
Human Geography

Director, Centre for Development Studies,  
Freie Universität Berlin

Director, Institute of Geographic Sciences,  
Freie Universität Berlin

Dr. Hermann Kreutzmann has been Chair of Human Geography and Director of the Centre for Development Studies (ZELF) at Freie Universität Berlin since 2005. Previously he held the Chair of Cultural Geography and Development Studies, and was Director of the Institute of Geography at the Friedrich-Alexander-Universität in Erlangen-Nuernberg. He was awarded his postdoctoral habilitation degree from Bonn University in 1994. Dr. Kreutzmann was recipient of a Heisenberg Fellowship in 1995 and awarded the Tianshan Prize in China in 2010. He has conducted empirical research in Afghanistan, Pakistan, Tajikistan, Kyrgyzstan, India, Nepal, Tibet and Xinjiang (China) since 1977, with fieldwork spanning a period of more than a decade, resulting in more than 200 publications including over twenty authored and edited books. Dr. Kreutzmann is Principle Investigator in the Berlin Graduate School "Muslim Culture and Societies" and a board member of the BMBF programme "Crossroads Asia."



**Dr. Wu Ning**, Chief Ecologist  
International Centre for Integrated Mountain  
Development (ICIMOD)

Dr. Wu Ning, a Chinese national, joined ICIMOD in October 2011. Prior to joining ICIMOD, he worked at the Chengdu Institute of Biology (CIB), Chinese Academy of Sciences (CAS) as Director General, responsible for the formulation, development, and management of many national and international programme activities. He handled over 60 projects from the Ministry of Science and Technology of China, the Natural Science Foundation of China, and many international organizations. His work on alpine ecology, high-altitude peatland and climate change, ecosystem services and ecosystem management in the Hindu Kush Himalayan region has been widely acknowledged. He has an MSc in plant ecology from Chinese Academy of Sciences and a PhD in geography from the Free University of Berlin, where he was also a Research Fellow of the Alexander von Humboldt Foundation. Dr. Wu Ning has published over 200 articles in peer-reviewed journals and many books or book chapters on various topics of ecology, geography and mountain development. Now he is also the Coordinating Lead Author (CLA) of IPBES regional assessment of biodiversity and ecosystem services for Asia and the Pacific, and the CLA of the Himalayan Monitoring and Assessment Programme.



**Dr. Troy Sternberg**, John Fell Research  
Fellow  
School of Geography, University of Oxford

Dr. Troy Sternberg is a member of the Center for Climate and Security's Advisory Board, and a British Academy Post-doctoral Research Fellow in the School of Geography, Oxford University. His research focuses on the interaction of natural hazards with societies and the environment in the Gobi Desert, including hazard identification as well as social exposure and resilience and evolving impacts of climate hazards on human systems. In particular, Dr. Sternberg explores how drought, dzud (extreme winter) and climate influence human opportunity and security in the Gobi region of northern China and southern Mongolia. His interests center on desert processes – natural hazards, water, drought, climate, degradation, pastoralism, livelihoods, development, and expanding drylands. He has contributed to several peer-reviewed journals, including the International Journal of Climatology and Forced Migration Review. Dr. Sternberg holds a Doctorate in Philosophy (D.Phil) from Oxford University.

# Keynote Sessions

## SESSION 1: BUILDING MOUNTAIN RESILIENCE THROUGH TRANSBOUNDARY MANAGEMENT OF ECOSYSTEM SERVICES

### KEY SPEAKER: WU NING (ICIMOD)


Ecological and community resilience concept considers building or reverting back after shocks and moving forward to adapt in the changing conditions. This approach combines economic, social, and environmental dimensions of sustainable development with climate change adaptation, sustainable management of ecosystems, and preparedness for future risks towards an integrated development in the Hindu Kush Himalaya (HKH). Using the resilience concept and transboundary approach International Centre for Integrated Mountain Development (ICIMOD) is working on management and conservation of a few transboundary landscapes in order to achieving adaptation goals and Resilient Mountain Solutions. This paper presents drivers of change faced by the people and ecosystems in the Hindu Kush Himalaya. The theoretical concepts of transboundary approach, context and practical experiences in ecosystem management, ecosystem based adaptation are used for identifying resilient outcomes and developing solution packages. Examples of ICIMOD's experiences in responding to resilient outcomes and solutions for transboundary management are shared.

### Key insights

- There are three main pillars of sustainable development: environmental, sociocultural, and economic sustainability – each with its own set of drivers of change in mountain systems.
- The main drivers of environment sustainability in mountains are: land use and land cover change; over exploitation; pollution; invasive alien species; geo-hazards; climate change.
- The main drivers of social sustainability in mountain are: demographic oscillation; socio-cultural adaptations; governance and institutions; technological implementation.
- The main drivers of economic sustainability in mountains are: urban expansion; market integration; transportation and infrastructure development.
- Due to increasing natural hazards and disasters, mountain communities need to do more than just coping with changes and bouncing back, they should aim to 'bounce forward' with a comprehensive resilience mechanism.
- Changes in the mountain regions offer opportunities to innovate and build resilience including both community and ecosystem resilience.
- Interventions should be viewed as 'solution packages' targeting a combination of contextual factors related to ecosystem, people, institutions, infrastructure, and external influences.
- Changes in mountain regions also bring and foster opportunities, including learning about common mountain issues, a need for transboundary conservation and development, new cross border scientific cooperation possibilities (cf. OBOR), and a recognized need for strategies in climate change adaptation, disaster risk reduction, and clean energy.
- There is a need for regional approaches, and the rationale behind this is the critical data deficit for many environmental parameters in mountain areas. The region is home to many globally significant wildlife species and habitats that need protecting even beyond existing 'protected areas' systems, which offers a unique opportunity to trial integrated approaches to research, monitoring, and management of ecosystems and enhancing their resilience.
- In developing the Hindu Kush - Karakoram - Pamir Landscape conservation programme, it is

important to focus on three main priorities: To improve our understanding on biodiversity and ecosystem interfaces; to promote trans-boundary cooperation for conserving and sustaining ecosystem services and their cross-border flows; and to enhance resilience, adaptive capacity, and livelihoods of mountain communities through actively engaging in regional or global initiatives such as OBOR.

## Session 1. Building Mountain Resilience

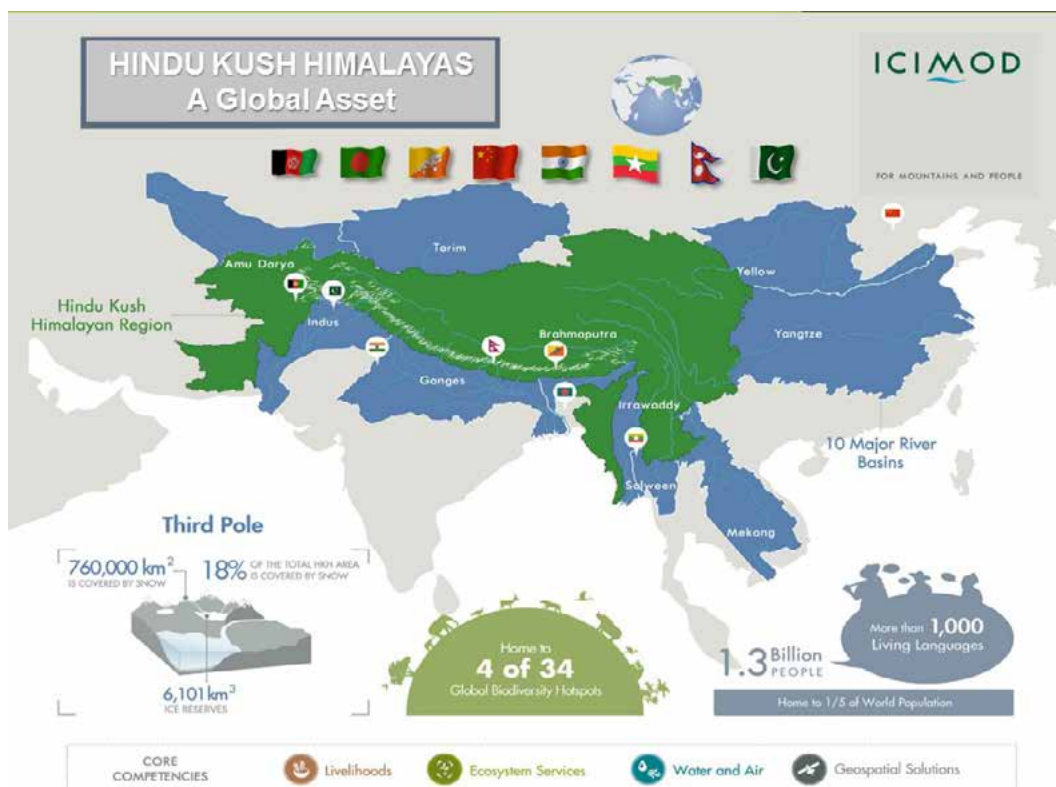


# Building Mountain Resilience through Transboundary Management of Ecosystems

3-4 October 2017, Dushanbe, Tajikistan

Wu Ning & Yi Shaoliang  
International Centre for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal

FOR MOUNTAINS AND PEOPLE

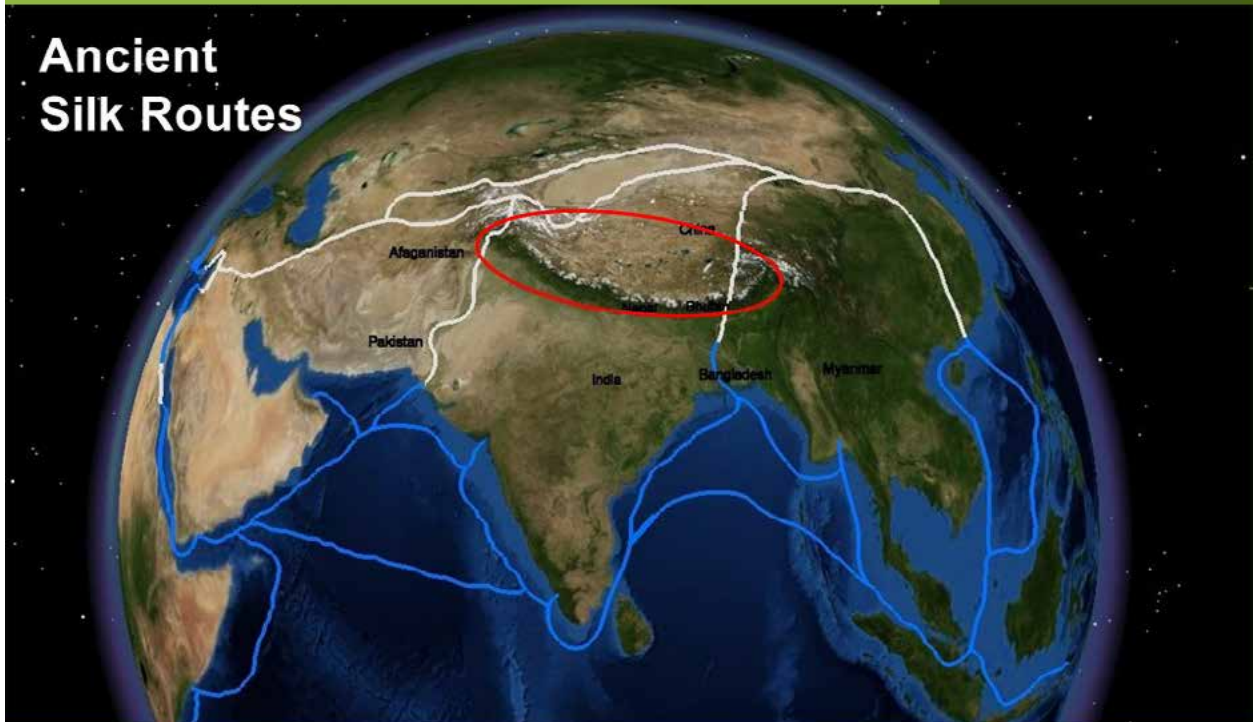


# Mountains – important region of connection in Asia and beyond

ICIMOD

FOR MOUNTAINS AND PEOPLE

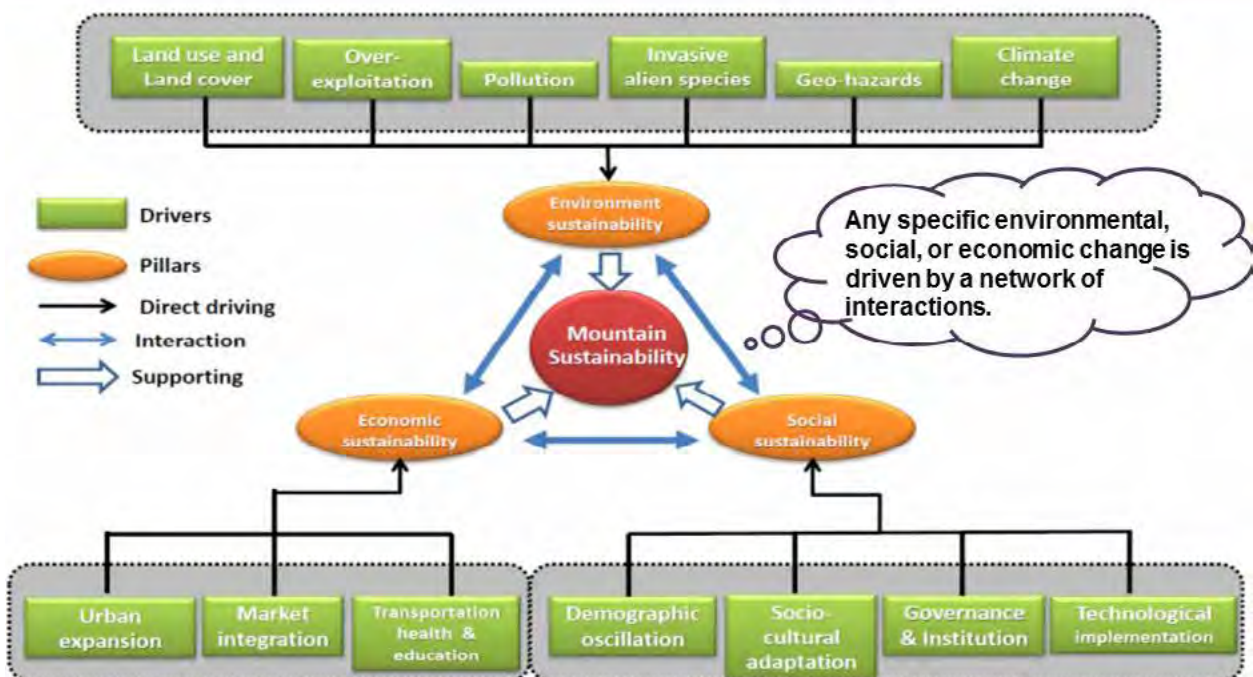
## Ancient Silk Routes



## Drivers of Mountain Changes

ICIMOD

FOR MOUNTAINS AND PEOPLE



# Working Across Boundaries

ICIMOD

FOR MOUNTAINS AND PEOPLE

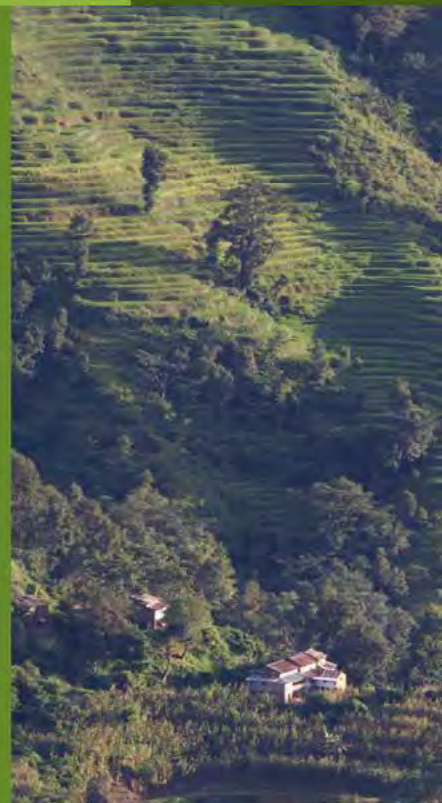


- ❑ **Kailash Sacred** (Sacred landscape with unique biodiversity and culture)
- ❑ **Kangchenjunga** (Corridors and Connectivity)
- ❑ **Karakoram Pamir Wahan Landscape (KPWL)** (Transboundary PAs with unique alpine biodiversity)
- ❑ **Initiative for Far Eastern Himalayas (HI-LIFE)** (biodiversity hotspots-endemism)

# Change Brings Opportunities

ICIMOD

- ❑ **South/South learning on common regional mountain issues**
- ❑ **Transboundary conservation and development**
- ❑ **Cross border scientific cooperation**
- ❑ **Regional & global investments (i.e. one belt one road)**
- ❑ **Climate change adaptation, disaster risk reduction, clean energy, and green technology**



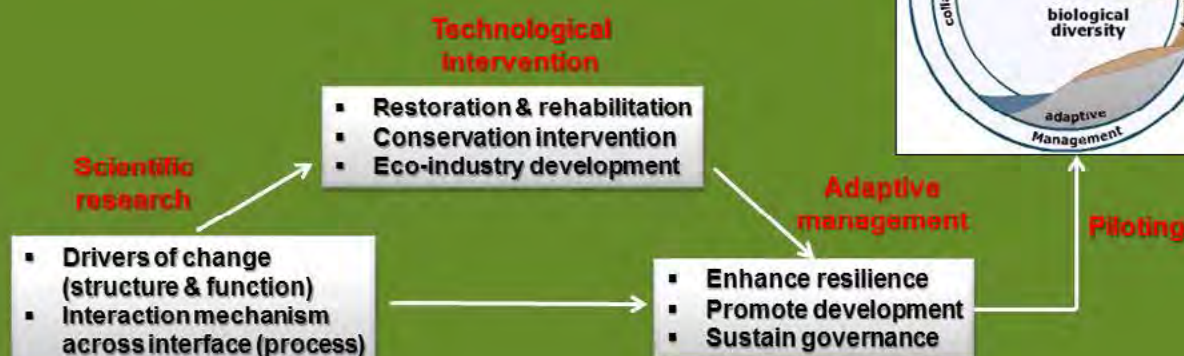


## Need for Regional Approach – The rationale

- ❑ Critical data deficit on environmental parameters in the HKH hindering scientific understanding and viable policy and practice responses;
- ❑ The region is home to many globally significant species and wide range of habitats beyond the existing PAs and the political boundaries (More than 20% of the PAs are transboundary in nature);
- ❑ Conservation effectiveness questioned as most of the PAs are scattered as ‘conservation islands’, and lack connectivity in between;
- ❑ Offer unique opportunity for an integrated approach to research, monitoring and managing interfaced ecosystems and enhance their resilience.

## Ecosystem management in Transboundary Initiatives

Ecosystem management requires a comprehensive framework and scientific understanding of the ecosystem functioning beyond their administrative borders. This can help build ecosystem resilience and develop adaptive practices on the ground.

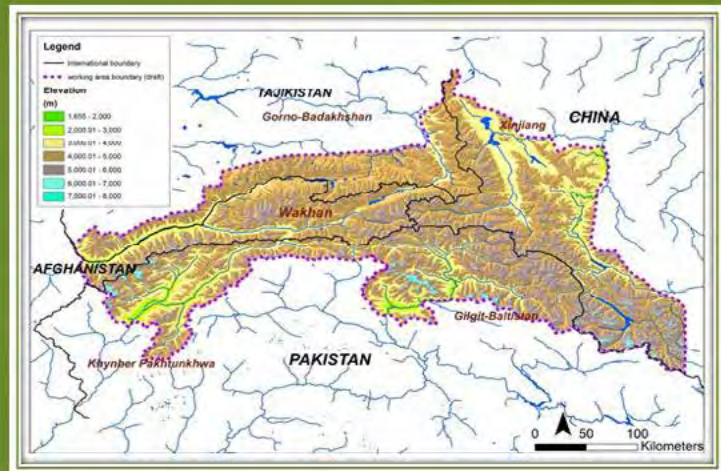


# Karakoram-Pamir-Wahkan landscape (KPWL)

ICIMOD

FOR MOUNTAINS AND PEOPLE

- ❑ To improve the understanding on biodiversity and climate change
- ❑ To promote transboundary cooperation in conserving and sustaining ES
- ❑ To enhance resilience, adaptive capacity and livelihoods of local communities.



# Adaptation to Changes – Livelihood Diversification

ICIMOD

FOR MOUNTAINS AND PEOPLE

## Internal diversification

- Livestock production (migration and mix grazing)
- Fodder production
- Mixed cropping

## External diversification

- Waging and trading
- Out-migration
- Collection of NTFPs
- Securing food



## SESSION 2: PAMIRIAN CROSSROADS AND THE NEW SILK ROAD INITIATIVE

### KEY SPEAKER: HERMANN KREUTZMANN

The Pamirian Crossroads have been a thoroughfare for pilgrims, refugees, traders and nomads over long periods of time. The harsh environment has provided home for mountain farmers and pastoralists. Nevertheless, the Pamirian Crossroads were a contested arena during the Great Game and functioned as a buffer during the Cold War. In recent years the new Silk Road initiative, the Shanghai Cooperation Organisation and the Chinese ‘One belt, one road’ policy for Eurasian exchange has drawn a renewed attention towards a strategically located mountain region. The presentation will draw attention to the transformation of external interests and their effects on the Pamirian Crossroads.

### Key insights

- For centuries mountains have generally been perceived as barriers to communication, however they also facilitate communication, especially when they serve as crossroads.
- The name ‘Pamir’ has been mentioned already in Xuan Zang’s famous Journey to the West in 644 CE. He used the term to describe some of the mountain areas he traversed. These areas were seen as obstacles, but at the same time as mountain bridges connecting Central and South Asia, the Chinese, Indian and Persian realms.
- The Pamirian crossroads were situated between four major historical khanates or local kingdoms, Bokhara and Kashgaria, Badakhshan and Kashmir. This rugged mountain area is now bordering the historic and modern states of China, India, Pakistan, Afghanistan, and Tajikistan.
- Until the late 19th century, the Pamirs (including Karakoram range) were perceived by outsiders as ‘blank spot’ on the maps, an area not allocated to any empire due to remoteness and difficult accessibility. Thus, the mountain communities in the Pamirian Crossroads could maintain a certain degree of autonomy and independence.
- From geological and natural perspectives, a ‘Pamir’ is an ecologically distinct habitat or area, situated at high altitude, with extensive green pastures in the vicinity of glacial meltwaters. Marco Polo was one of the early observers who communicated that the Pamirs are fertile places where animals can become fat easily and their meat is very tasty.
- There is not just one Pamir, but several. Twelve Pamirs are identified, the majority in Tajikistan, followed by Afghanistan and China; and one in Pakistan.
- Announcement of the first road for motor traffic going through the high mountains was made in ‘Pravda’ in 1934, famously recognizing the Pamir Highway as “the road 5 kilometers high.” This was the first major road system in these mountains – and the British competitors were envious. The Karakoram Highway was built by the Chinese as the Pak-China Friendship Highway and opened in 1978.
- However, this area is not only an area of connections and communication – it also is an area of separation. Over the decades, the Great Game between the British and Russian empires had its effect, and boundaries drawn around a century ago remain to this day.
- High fences were built during the Cold War, leading to the separation and independent developments in four neighbouring countries – Pakistan, Afghanistan, Tajikistan, China.
- People of a same culture and speaking the same language were separated between the countries. Wakhi and Kyrgyz languages can be found in all four countries. Some migration does occur, but divisions and unique trajectories remain. The Pamirian mountains are a natural laboratory for the comparative study of sociocultural development.

**Pamirian Crossroads and the New Silk Road Initiative**

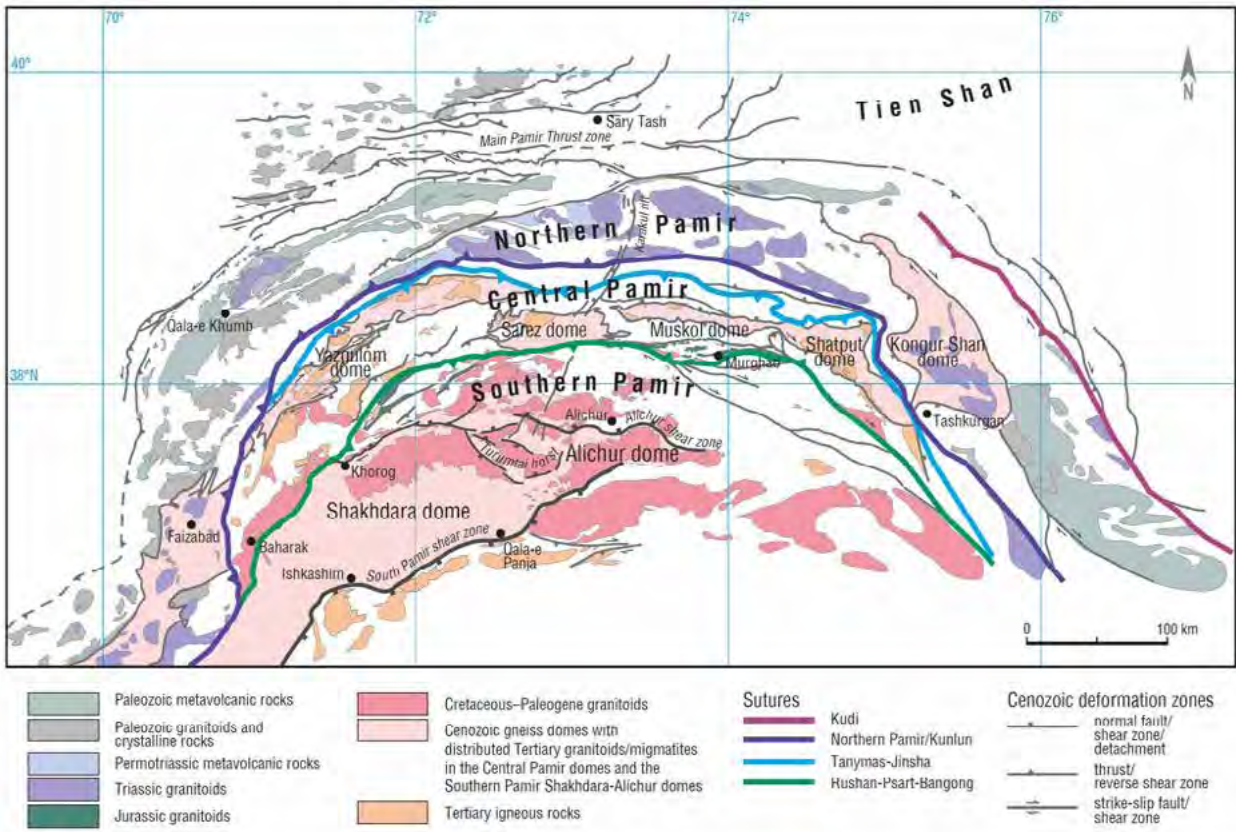
**Памирский перекрёсток и новая инициатива Шёлкового пути**

Freie Universität Berlin

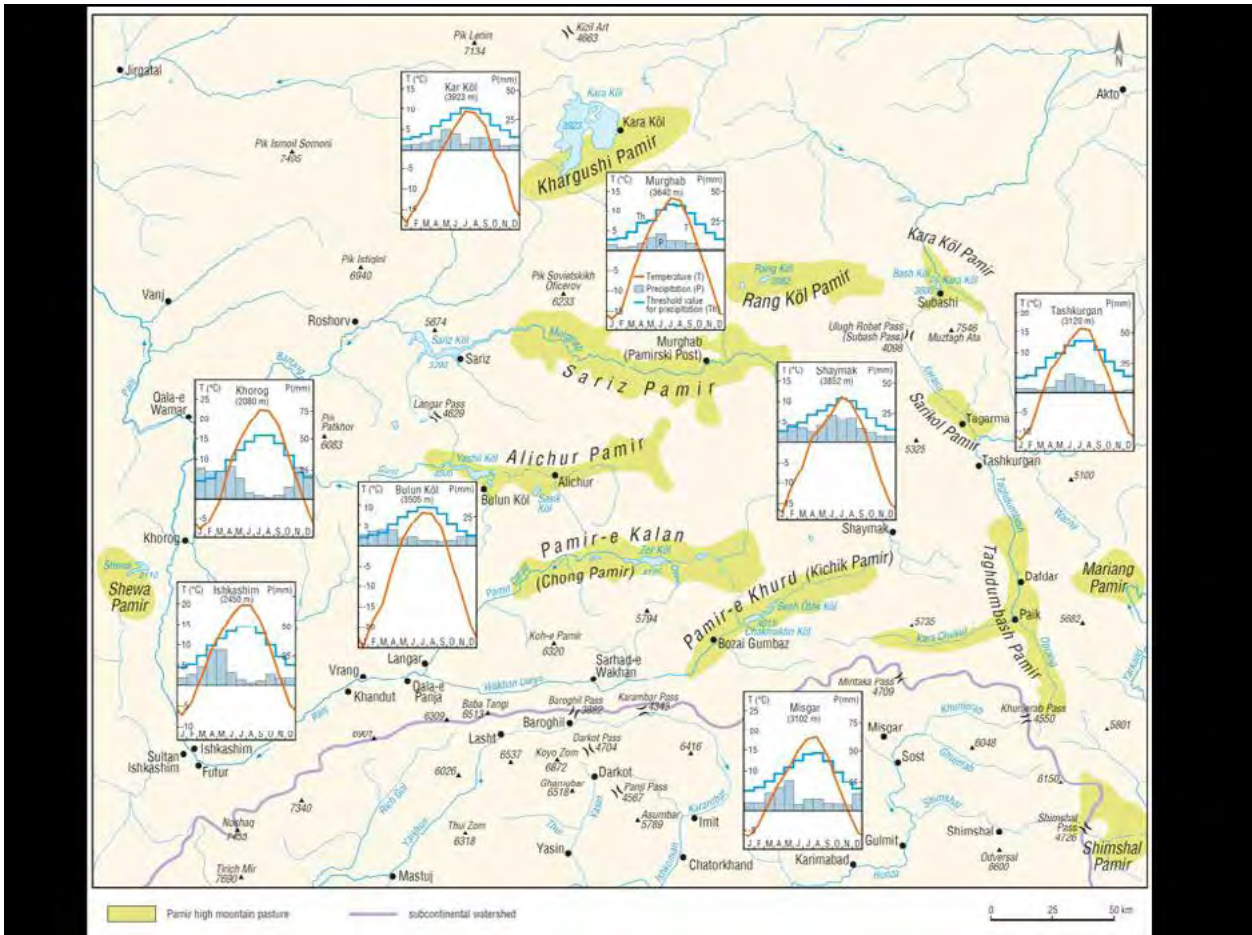
Hermann Kreutzmann

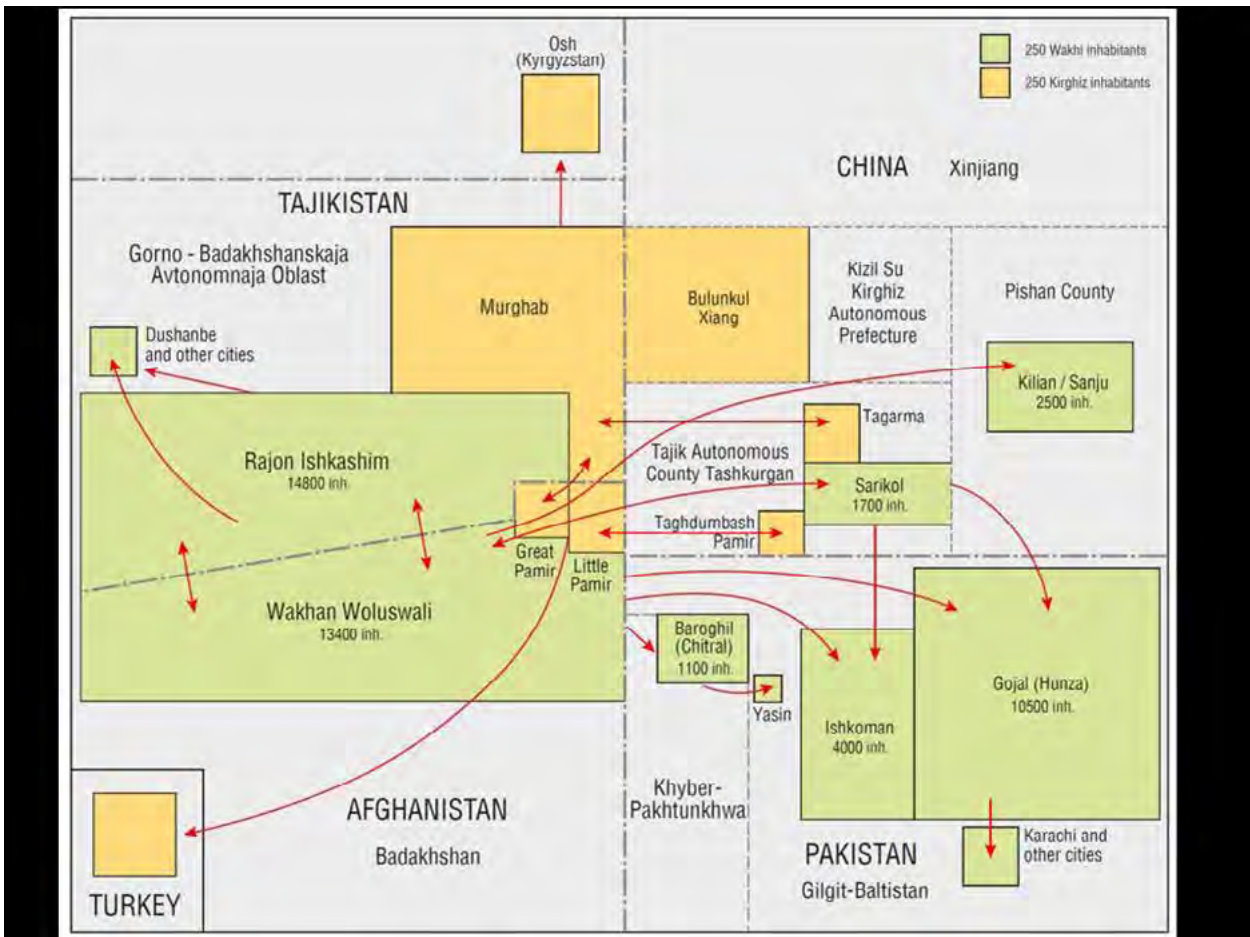
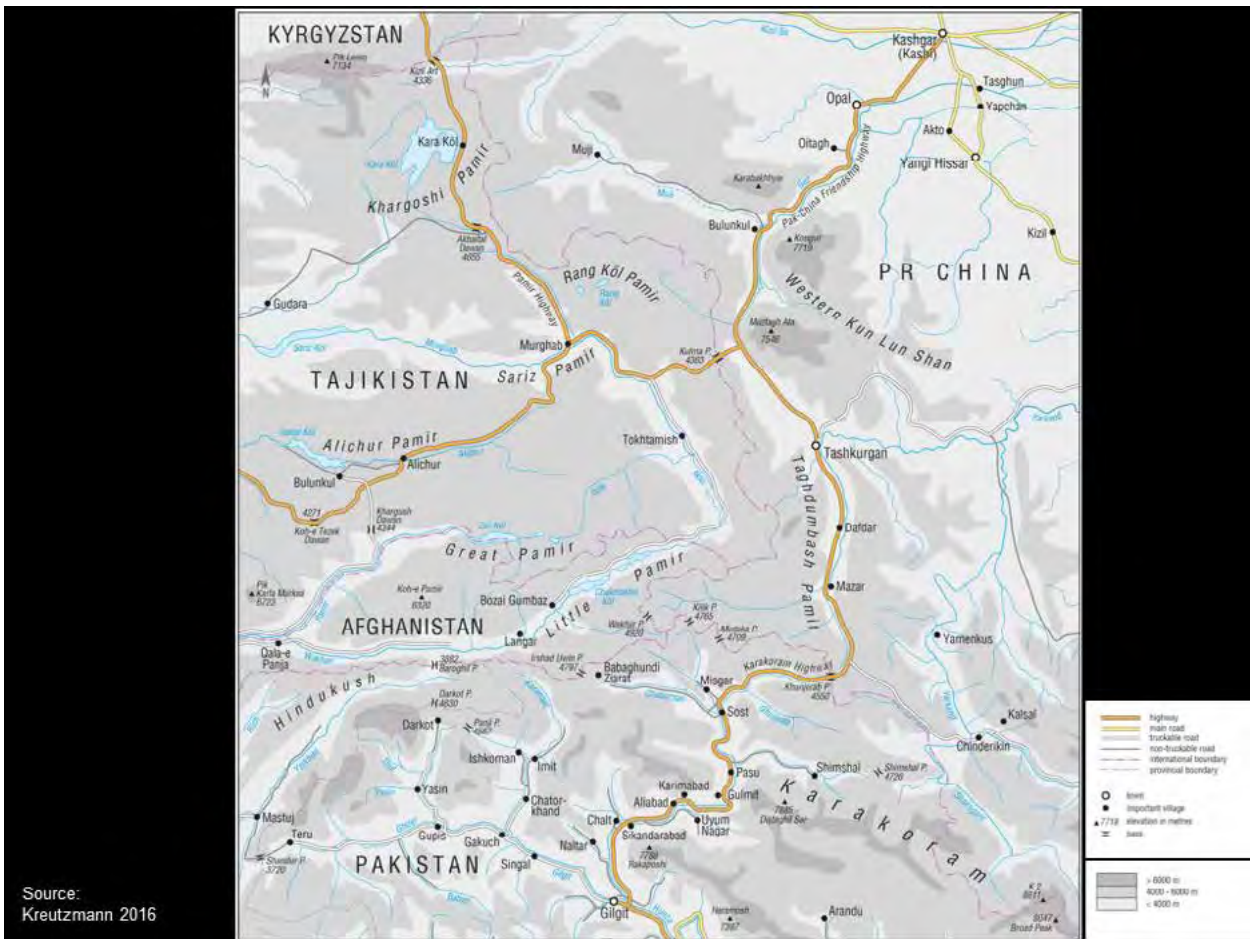
ZELF Centre for Development Studies





Source: Hermann Kreutzmann (2015: 155); based on James Mechie et al. (2012: 388)





**Sustainable development – country perspectives**

1 Tajikistan – transformation from external supply system to self-reliance

**Устойчивое развитие – государственная перспектива**

1 Таджикистан – трансформация из системы внешней поддержки в самостоятельность



Source: Hermann Kreutzmann (2015: 372)

**Sustainable development – country perspectives**

2 Afghanistan – closed frontiers and internal challenges

**Устойчивое развитие – государственная перспектива**

2 Афганистан – закрытые границы и внутренние вызовы



### Sustainable development – country perspectives

3 China – modernisation with effects in the periphery

Устойчивое развитие – государственная перспектива

3 Китай – модернизация с эффектами в периферии

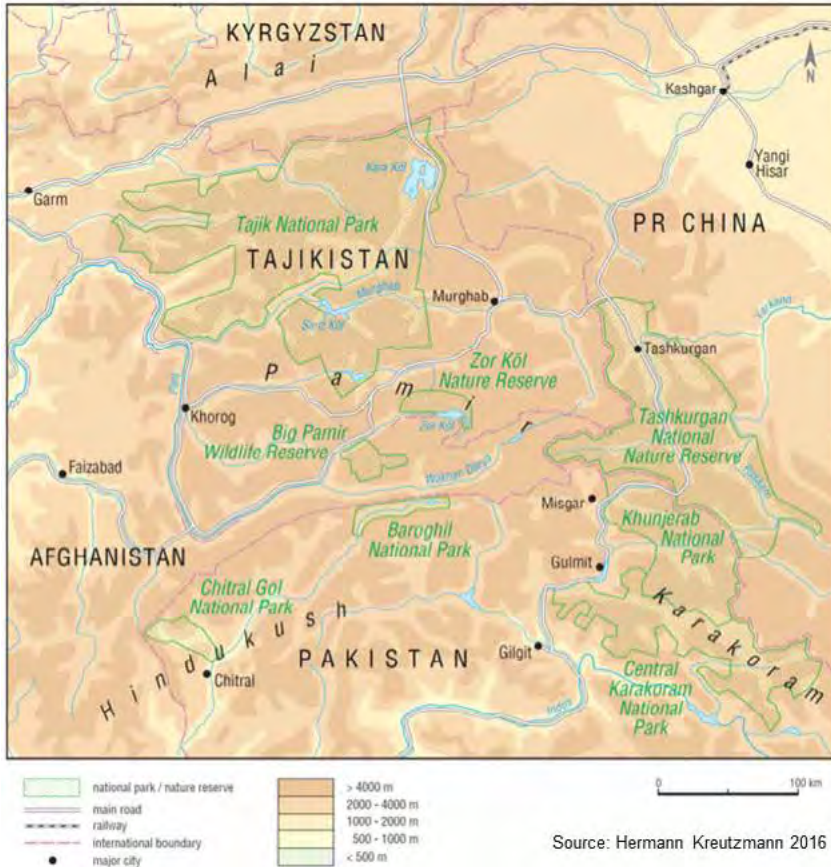


Source: Kreutzmann (2015: 389)





**Sustainable development – future prospects**



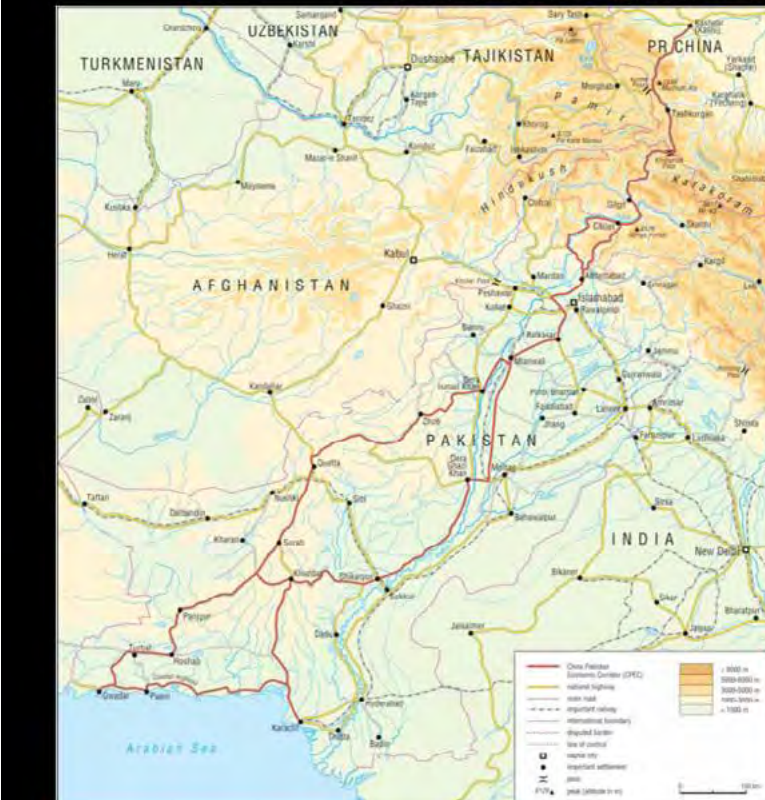
**Устойчивое развитие  
виды на будущее**

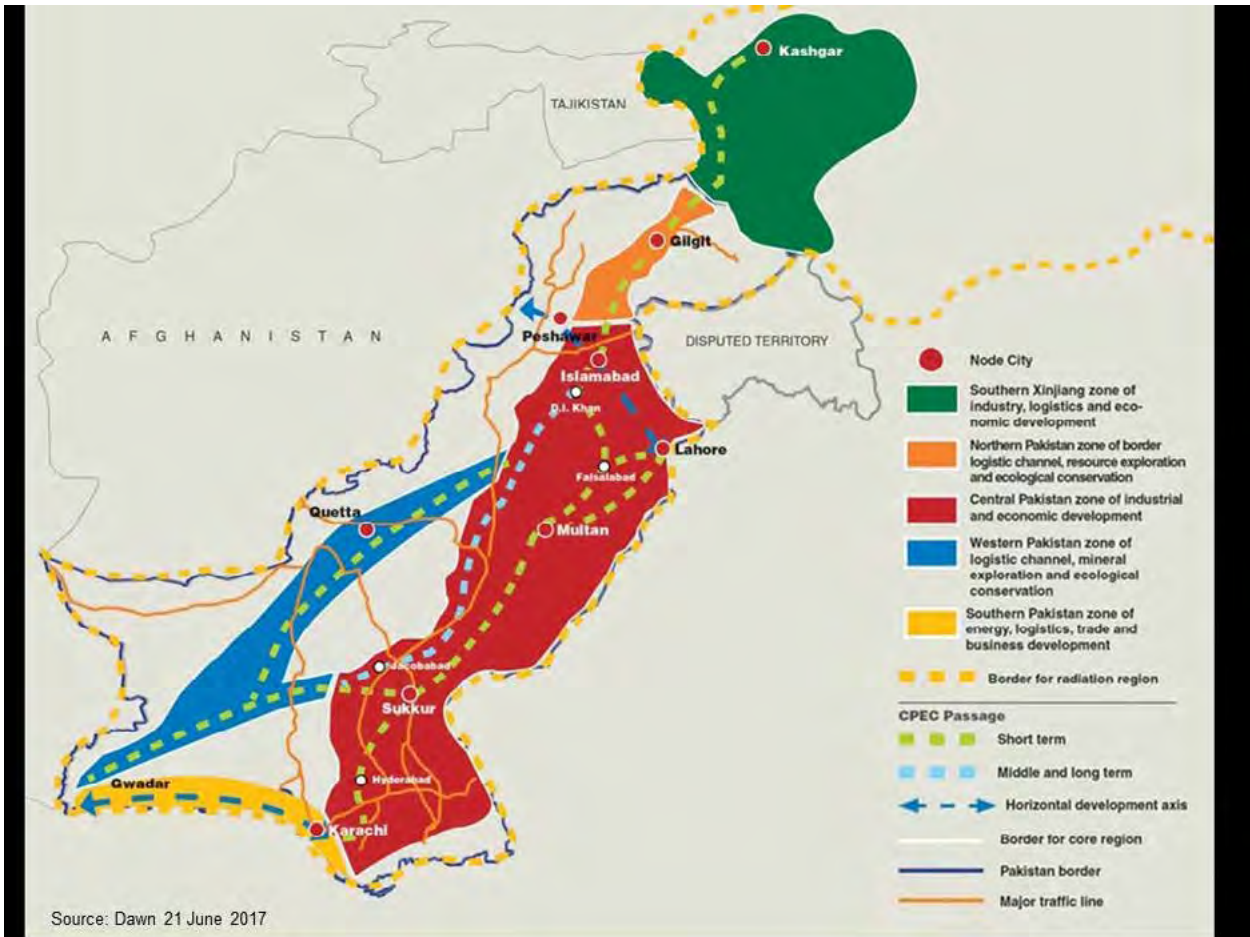
**Sustainable development – future prospects**

The China Pakistan Economic Corridor – chances and constraints

**Устойчивое развитие – виды на будущее**

**Экономический коридор Китай Пакистан – шансы и препятствия**



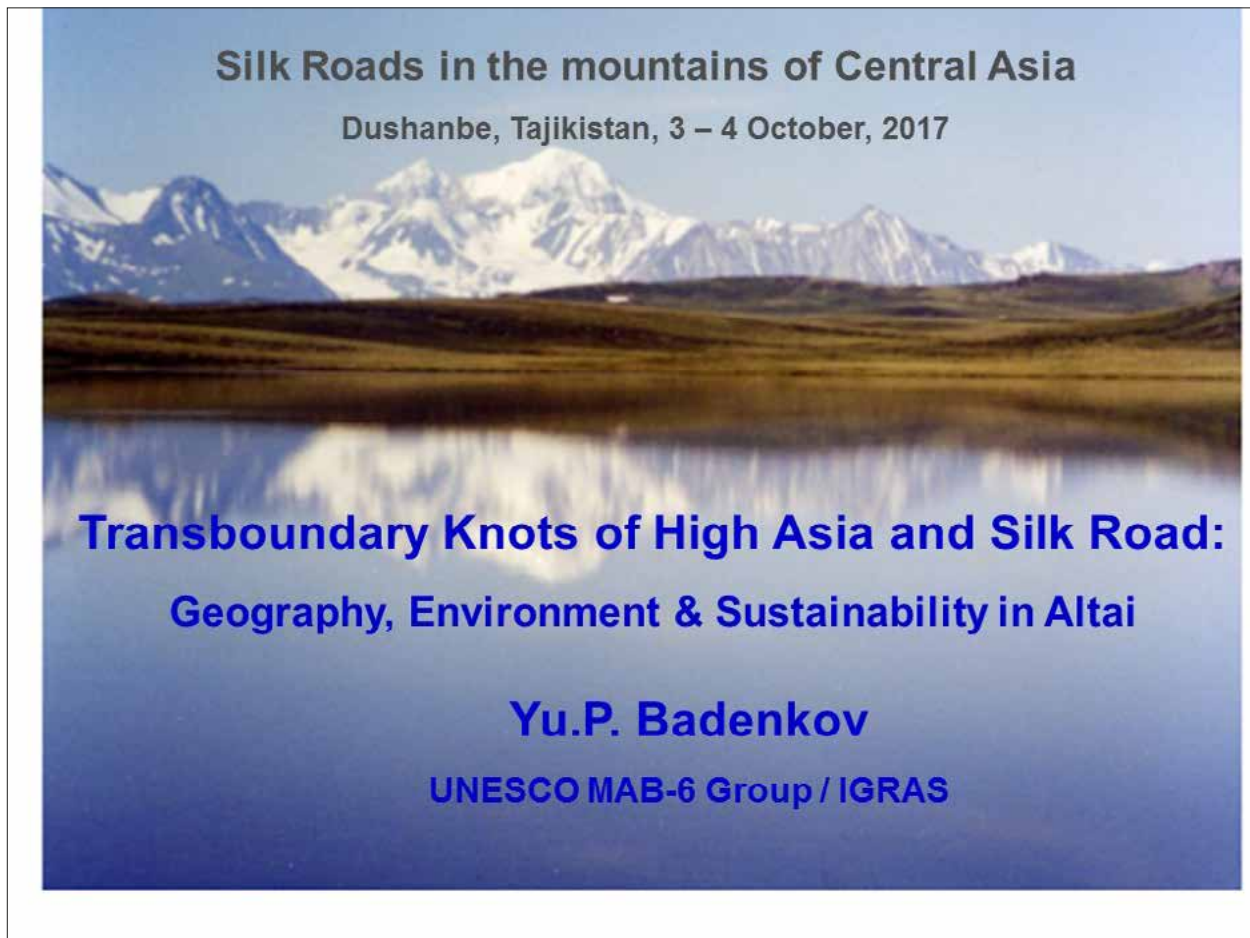


## SESSION 3: THE SILK ROAD IN HIGH ASIA: GEOGRAPHY, ENVIRONMENT & SUSTAINABILITY IN ALTAI

KEY SPEAKER: YURI BADENKOV

### Key insights

- The ‘Great Mountain Arc of Asia’ connects all of Central Asia. Key mountain massifs are traversed by the ancient Silk Road – linking histories, cultures, and geopolitical realities.
- Altai Mountains are a crossroads in the heart of the Asian continent, a ‘knot’ where many geographies, ecological zones and cultures meet.
- Transboundary Altai paradox: Altai as economic periphery, also as an ecological center. Indigenous people vs. newcomers: Sacredness, Spirituality, and Development.
- Climate change affects Altai-Sayan biodiversity conservation. Connectivity conservation approaches adopted for the Altai-Sayan Mountain ecoregion and mega-corridor.
- Situated in the heart of the huge “Eastern China - Central Asia Economic Region” and “Continental Bridge Initiative” across Kazakhstan, Xinjiang, Mongolia, and Siberia.
- Russian response to the Chinese “Continental Bridge” through sacred Altai Mountains:
  1. Altai Convention proposed as a transboundary interstate legal mechanism for regional cooperation and development
  2. Altai Transboundary Biosphere Reserve created as territory for cooperation in nature protection and development issues
  3. International Coordinating Council established in 2003 under the name “Our Common Home, Altai” to serve as platform for regional cooperation of scientists, policymakers and NGOs. The Urumqi Conference for Strategic Development of Central Asia took place in 1998.
- The concept of an Altai ‘continental bridge’ for transportation and as economic corridor was later proposed to be transformed into a gas pipeline (construction not yet realized)
- The UNESCO Transboundary Biosphere Reserve “Great Altai” (bilateral, Russia and Kazakhstan) was established at 2017.
- Transboundary tourism is also under negotiation.



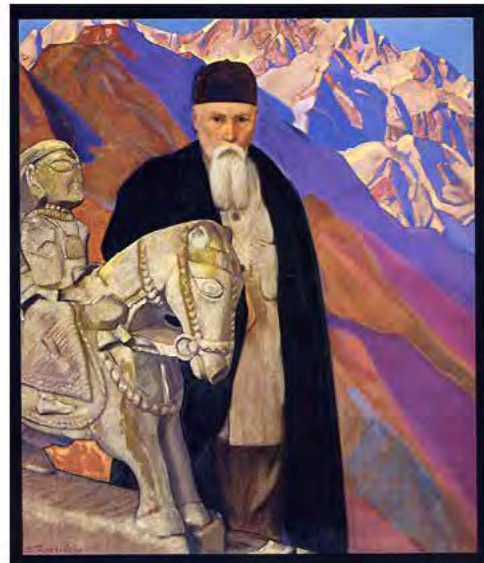
### **Introductory notes:**

- Great Mountain Arc of Asia – ending of the Middle Kingdom (China). Central Asia and key mountain massifs on routes of ancient Silk Road. What is Central Asia? Historical, cultural and geopolitical issues.
- What is new in ancient Silk Road concept in XXI Century (Chinese approach)?
- Challenge for science, policy and business. New research paradigm and development approach – participatory and transdisciplinary.

## Altai mountain knot.

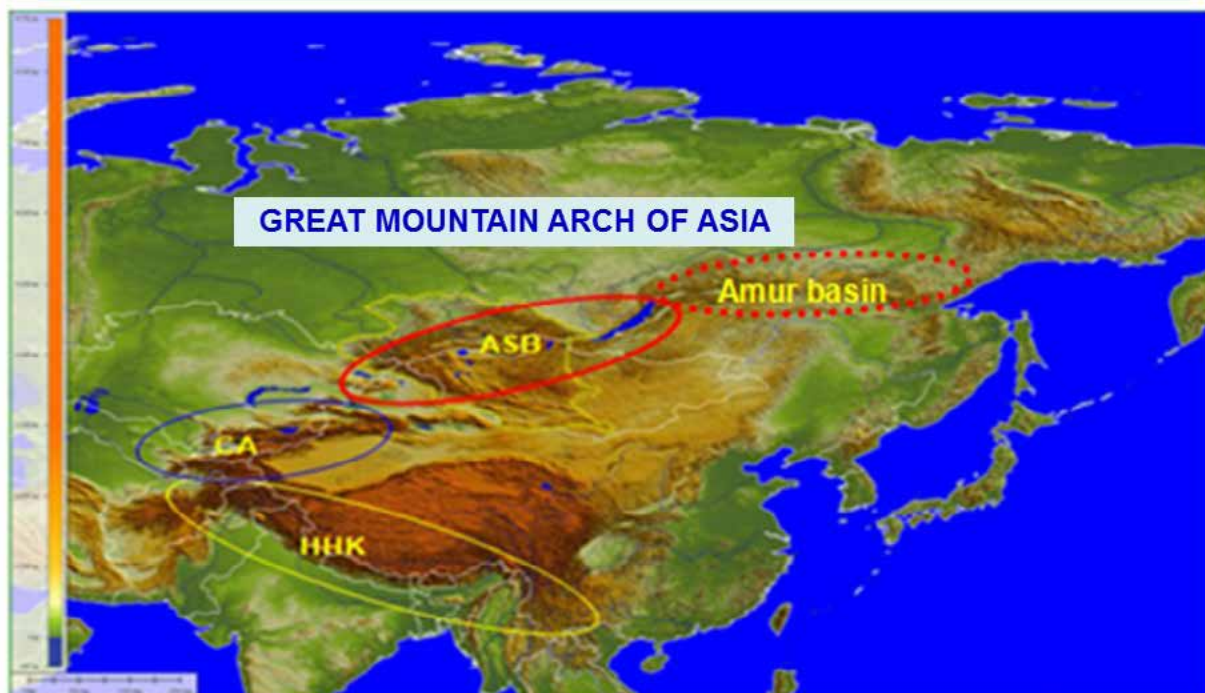
- Altai as geographical, ecological and cultural crossroad in the center of Asian continent
- Transboundary Alta's paradox: Economic Periphery vis-à-vis Ecological Center
- Indigenous people and newcomers: Sacredness, Spirituality and Development. Nicolas Roerich "Altai – Himalaya spiritual Bridge". Shambala?
- Climate Change and Altai-Sayan biodiversity conservation. Connectivity conservation approach for Altai-Sayan mountain mega-corridor. Cooperation with ICIMOD.

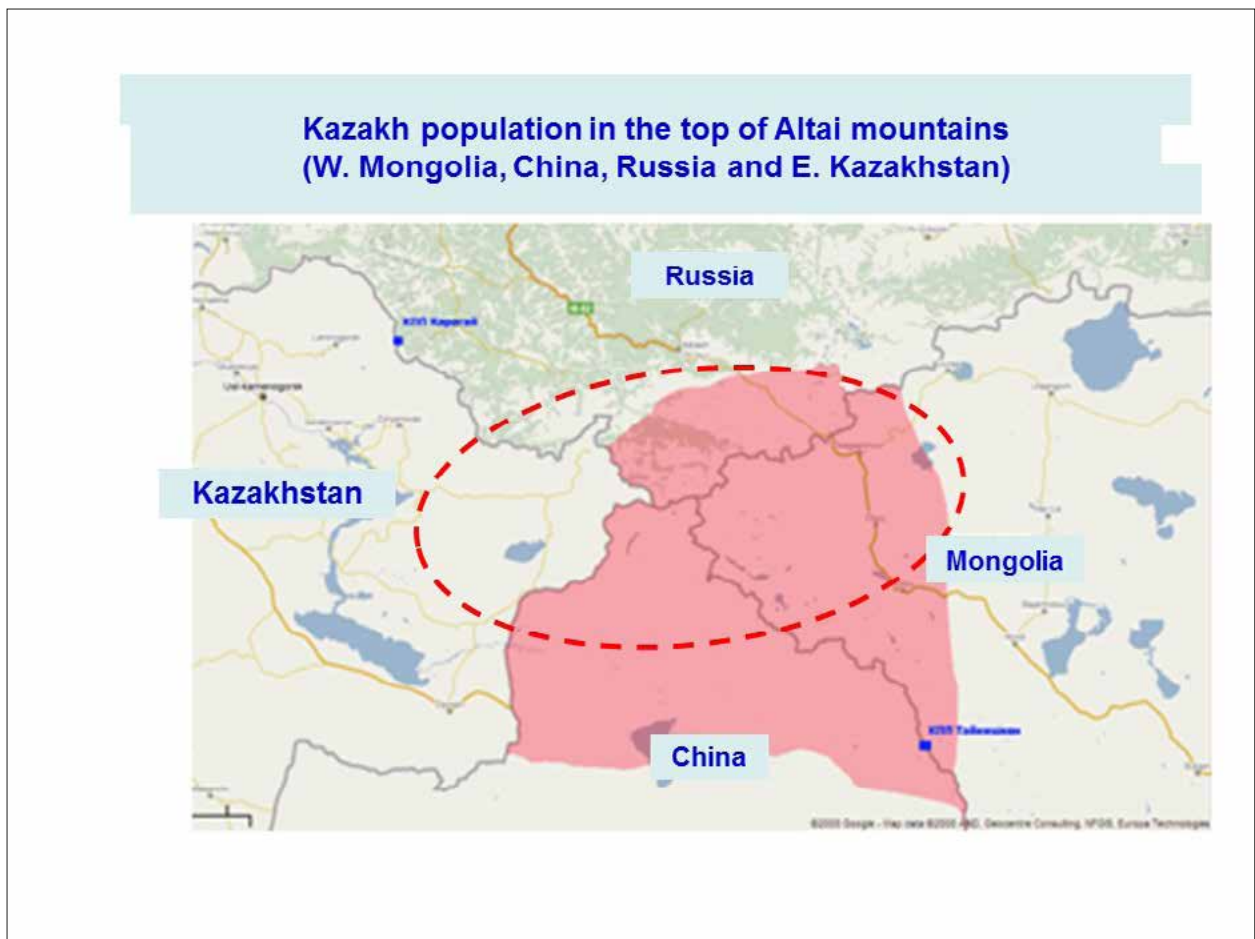
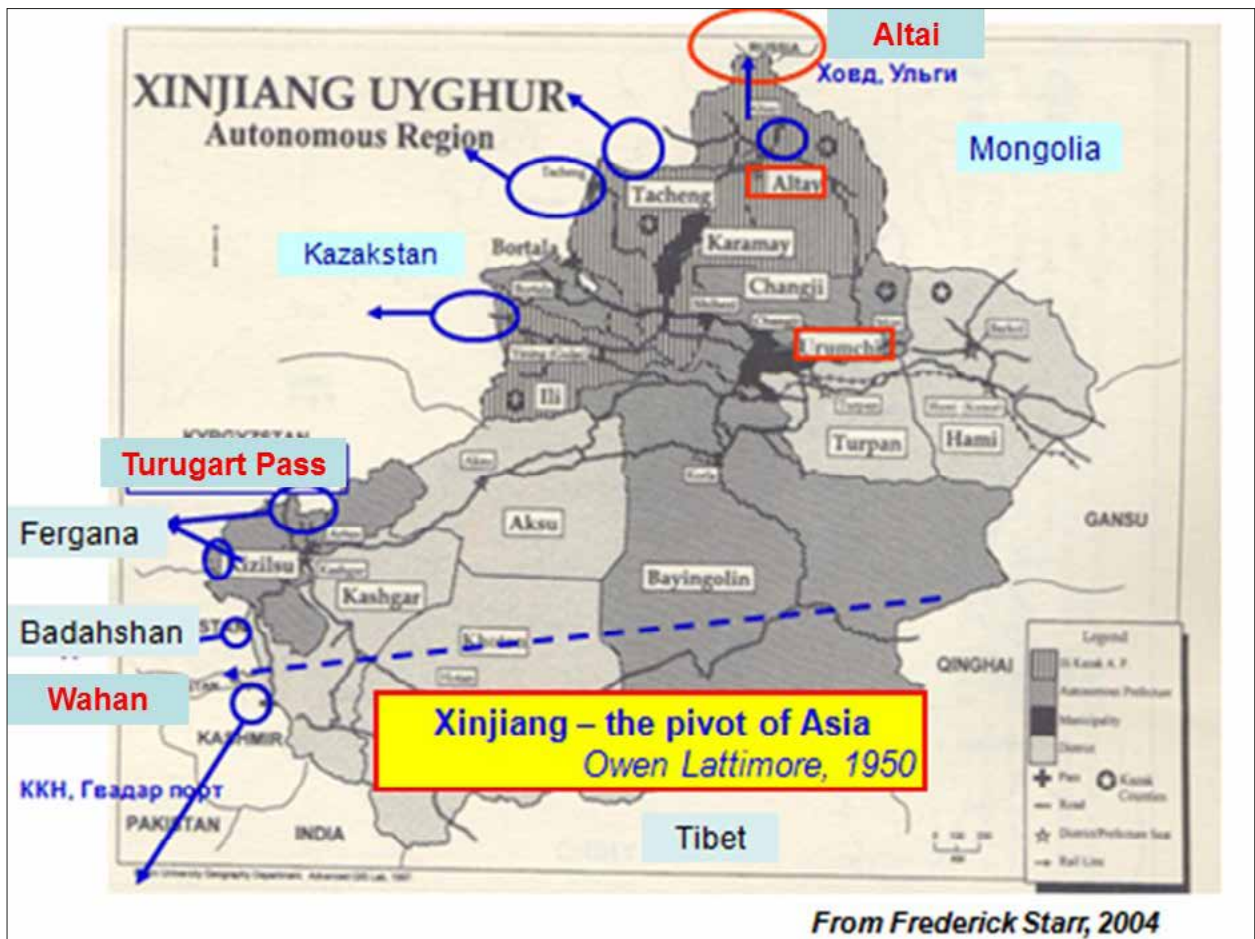
## Great Environment & Cultural Diversity Sacredness aura of indigenous people and Nicholas Roerich





## ASIA GREAT MOUNTAIN ARCH Regional continental context





**Kazakh's nomads family, Bayan Ulgi, Western Mongolia.**



**Climate change, connectivity conservation and UNESCO Biosphere reserves as in situ observatories**





## The Western Kanas Glacier in Altai: 1905 - 2001



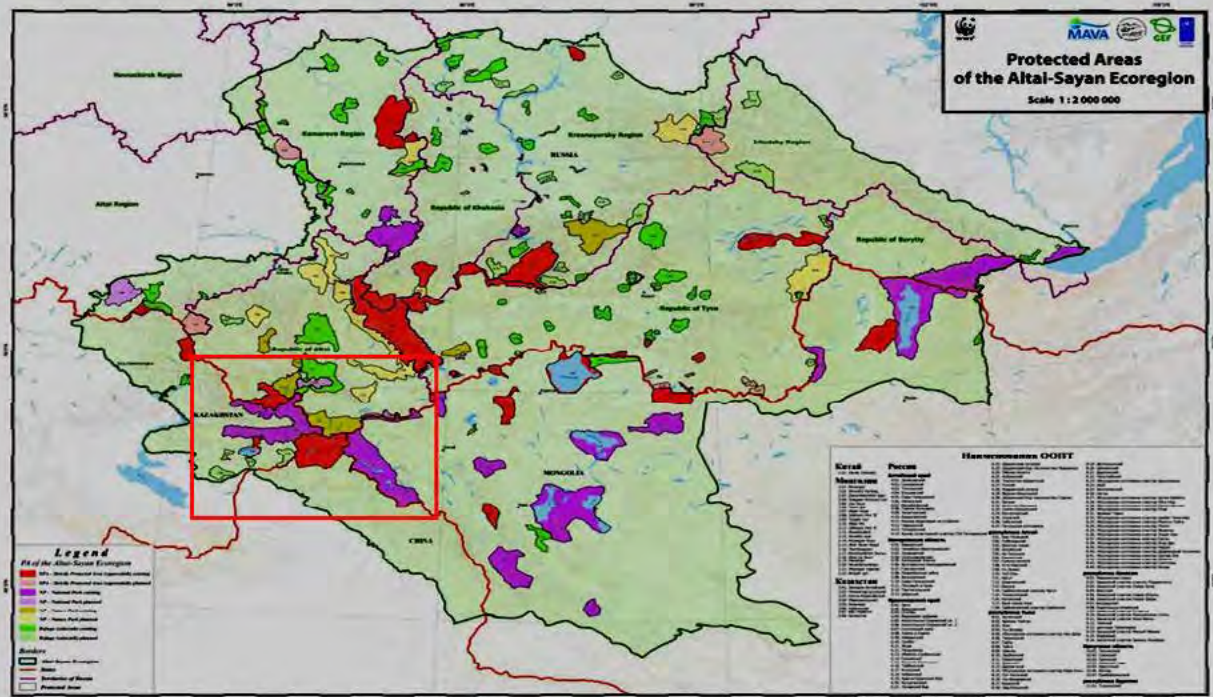
Figure 4. The Western Kanas Glacier in 2001 (Photograph: Mikhailov and Ostanin) and inset 1905 (Photograph: Sapozhnikov).

- Since 1905 the glacier has shrunk in length by 1.5 – 2.0 km, and the elevation of tongue has risen by over 100m.
- The rate of retreat of the W. Kanas glacier is estimated to be 15-20 m per year

after N.N. Mikhailov and O.V. Ostanin



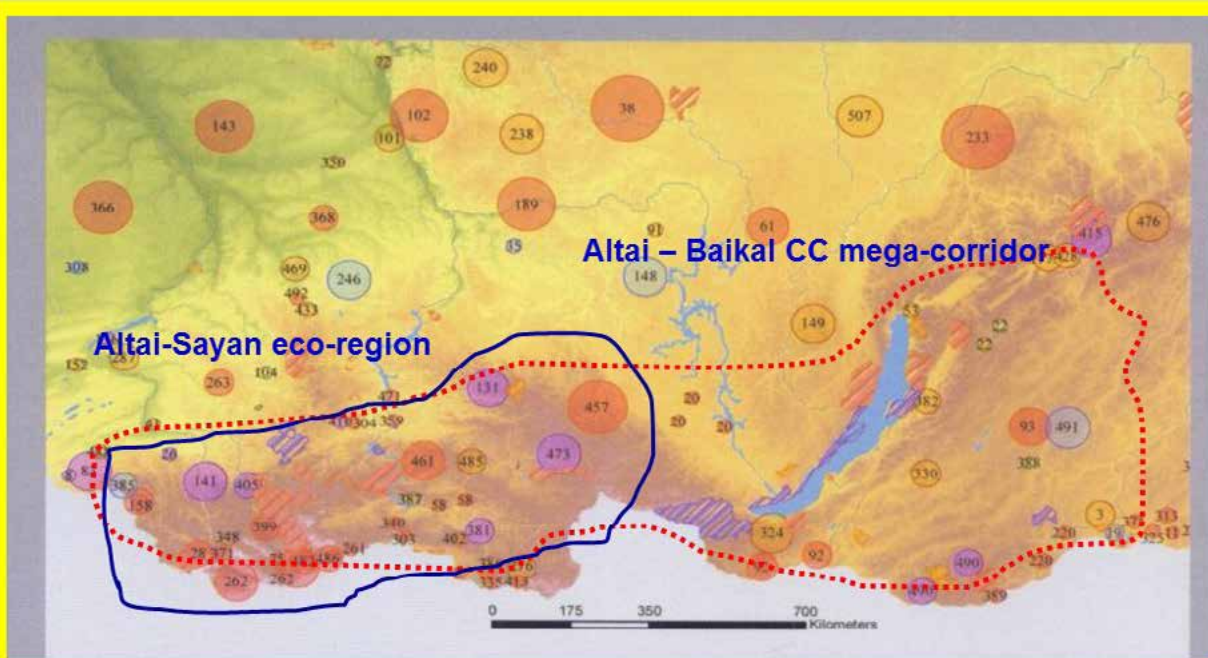
## Connectivity across borders: transboundary Protected Areas



## UNDP, GEF and ICI partnership: to improve connectivity in Altai Sayan as an adaptation measure to Climate Change



## Connectivity across ecoregions: Altay - Baikal Megaconnectivity Conservation Corridor: proposed



## I. Altai and the Silk Road

- **preSilk Road history. Part of the Great Scythian Steppe Belt – active migration and trade (from Black Sea plains up to Altai mountains).**
- **Altai was northern periphery of the Silk Road space**

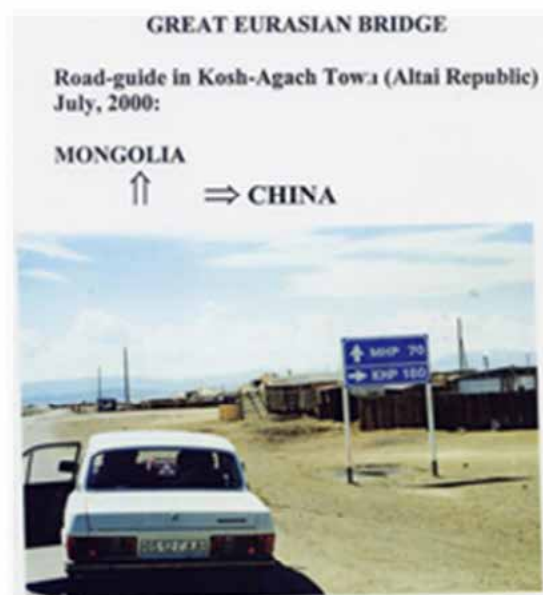
**Famous Berel's archeological site in Kazakh's Altai  
The Great Scythian steppe belt**



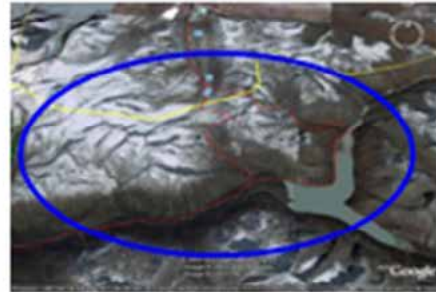
## II. First Chinese call for OBOR in 1996:

- Development of huge East Central Asia Economic Region and Continental Bridge initiative (Eastern Kazakhstan, Western Mongolia, Xinjiang and Siberia. "In the mid of XXI Century this region would be one of the global development centers".
- Response from Russian side on Chinese "Continental Bridge through Altai Sacred mountains" initiative: 1) concept of Altai Convention was proposed as transboundary interstate legal mechanism for cooperation and development; 2) Transboundary Biosphere Reserve "Altai" creation as territory of cooperation in nature protection and development issues; 3) International Coordinating Council "Our common home Altai" was established in 2003 as platform for cooperation.
- Concept of Continental Bridge (transport-economic corridor) was transformed in Gas pipe-line construction (don't realized, yet)

### 1996: Continental economic bridge Xinjiang-Siberia pre-Silk road initiative



## 2006: Gas pipeline instead transcontinental bridge



## ALTAI MOUNTAIN CONVENTION AS LEGAL TOOL FOR COOPERATION & DEVELOPMENT

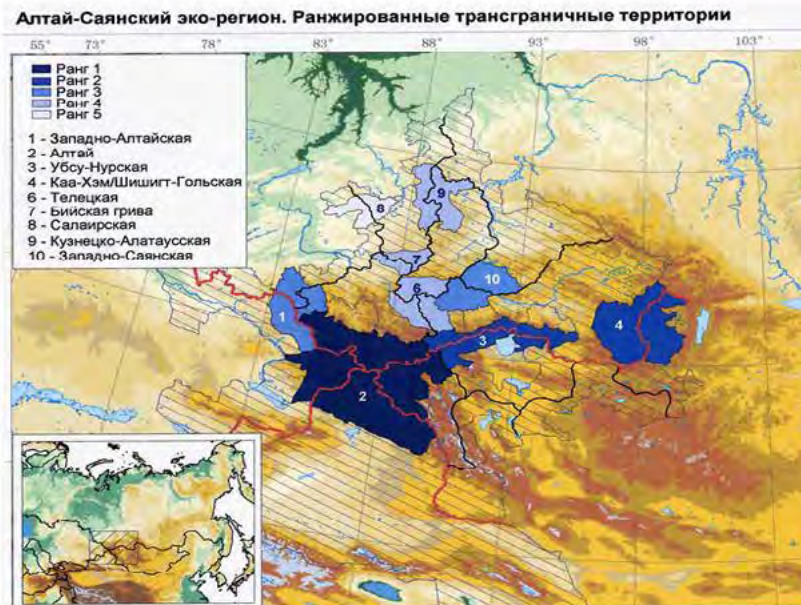
### Статья 2

Договаривающиеся стороны обязуются придерживаться согласованных принципов в формулировании целостной (интегральной?) политики развития и сохранения природной и этнокультурной среды Алтая с учетом интересов всех стран Алтайского региона

Для достижения названных целей (п.1, статья 2) договаривающиеся стороны разрабатывают соответствующие принципы в следующих основных областях:

- Население и культура
- Региональное планирование
- Управление водными ресурсами
- биологического и ландшафтного разнообразия
- Горное сельское хозяйство
- Горные леса
- Защита почвенного покрова
- Туризм и рекреация
- Транспорт
- Горнорудная промышленность
- Энергетика
- Отходы производства

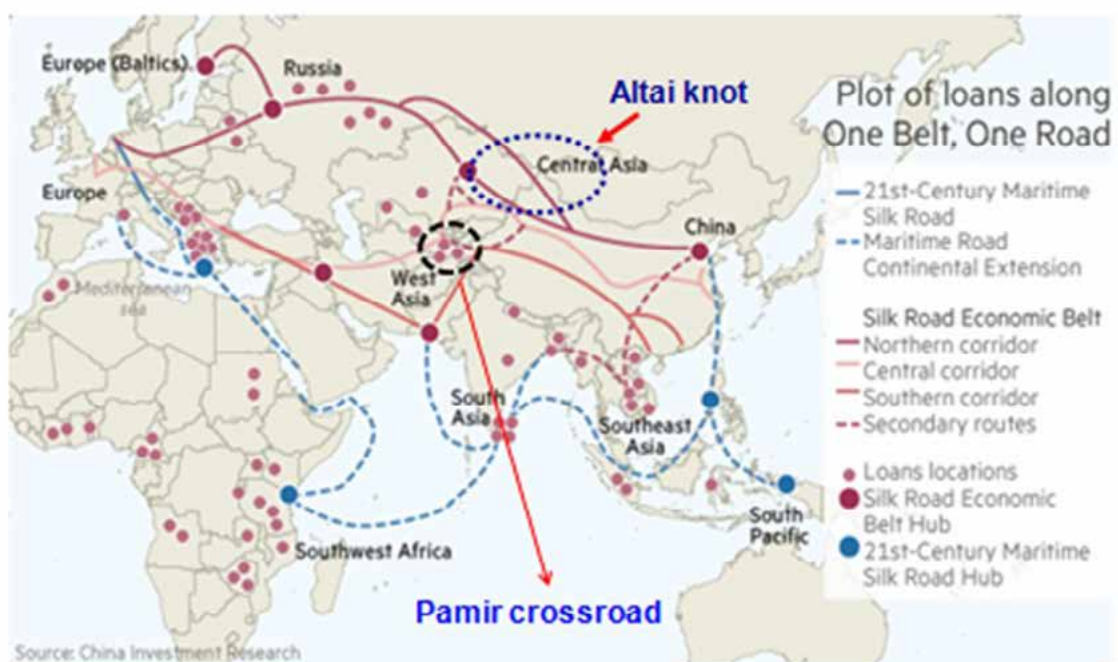
## UNESCO TRANSBOUNDARY BIOSPHERE RESERVE “ALTAI” as territory of cooperation, development & ecological / cultural diversity conservation



### III. New Chinese “One Belt. One Road” initiative (2013) in Altai context

- **Uncertainties**
- **Scientific cooperation and exchanges**
- **First (in Asia) UNESCO Transboundary Biosphere Reserve “Great Altai” (Russia – Kazakhstan) was established. (Tatyana Yashina)**
- **Transboundary tourism development is under negotiations and research (Alexander Dunets)**

### Silk Road Economic Belt: One Belt, One Road New Chinese development doctrine (2013)



## Actual or anticipated impacts of OBOR initiative on Altai mountains.

- **Transport infrastructure development** (roads, pipeline). **Risks** for biological / cultural diversity

**Positive effects: growth of economic cooperation and sustainable development ?**

- **Tourism development.** Increase of tourists flow from China as well as from the regions of Russia. **Risks** for fragile mountain ecosystems and indigenous cultures

**Positive effects: additional incomes for local economy, population & business**

## IV. Perspectives & Proposals for discussions

### Expected outcomes of Workshop:

- Proposals for research education, practice cooperation.
- The book "Silk Roads 21 in the Mountains of Central Asia (Altai, Pamir, Tien-Shan)" writing (2018-2019?)
- *Regional mountain UNESCO BR Network development as research / education in situ institutions for OBOR*
- *Mountain Silk Road 21 OBOR website / portal creation (based in IMSR UCA?)*



## SESSION 4: THE ROLE OF LANDSCAPE AND POLITICS OF INFRASTRUCTURE FOR CHINA'S NEW SILK ROAD PROGRAMME IN CENTRAL ASIA

### KEY SPEAKER: TROY STERNBERG

China's \$1 trillion One Belt, One Road (OBOR) infrastructure project has significant landscape, socio-economic and political implications in recipient countries. To date investigation has focused on Chinese motivation and plans rather than OBOR impact in host nations. This paper examines the programme from the perspective of two Central Asian states - Kazakhstan and Kyrgyzstan – that are at the heart of OBOR. We identify geographical factors that constrain infrastructure, recognise geopolitical contestation between Russia and China, address historical and cultural factors and consider issues of institutional capacity and marginality that may be impediments to China's initiative. The discussion then focuses on how OBOR may play out in Central Asian landscapes and suggests how to conceive and address the unprecedented transformation in the region's built environment. Critical issues are that OBOR has not been grounded in the physical geography, practical understanding of OBOR's impacts is missing and the state-citizen-China nexus remains unexplored. As pivot nations OBOR implementation in Kazakhstan and Kyrgyzstan will showcase the Chinese programme's strengths and highlight its weaknesses.

### Key insights

- Infrastructure is threatened by climate change, posing national crises.
- Important to know what is being built, and what citizens and communities want. Overall, citizens of all countries within OBOR want railways, water, education, health, electricity.
- In terms of development, both rural and urban communities must be considered. How development is achieved will strengthen and empower, or damage, local communities.
- Great significance should be placed on culture, religion and customs in OBOR countries.
- Regarding governance, the fundamental question is whether OBOR will help or hinder efficient and equitable decision-making in regions and countries. There are three main indicators: government forms or structures; their capacity to deliver services; and the strength (or weakness) of the state apparatus.
- What types of institutions are involved in OBOR-related decisions, and what direct or indirect benefits are anticipated from OBOR infrastructure development projects?
- Five main aspects of national development must be considered to answer the question above: state and civic society; post-soviet state security; economic development; social development and services such as education and health; and border custom processes.
- Do Chinese and Central Asian socioeconomic interests align? The Chinese government has the following vision: the investment of 50 billion USD in Central Asian trade. It needs resources; it has excess industrial capacity. Investment in tourism also is anticipated.

## Central Asia on the New Silk Road: infrastructure, geography and society



Troy Sternberg  
School of Geography  
University of Oxford



SCHOOL OF GEOGRAPHY  
AND THE ENVIRONMENT



### Host nation context

- Geography
- Society – people, livelihoods, communities  
institutions, governance
- Infrastructure and geopolitics
- Outcomes – CPEC in Pakistan



## Context 'New Silk Road'

- \$1 trillion infrastructure supernova
- Many motivations, different perspectives

Reason	Citation
Internationalisation of the Yuan	ChathamHouse (2016)
Infrastructure development in Asia	Lim 2016
Consume overproduction, overcapacity, excess products	Lim 2016
Reduce unskilled unemployment in China	Tang 2015
Improve regional transport links	Lain and Pantucci 2015
Gain access to natural resources, oil, gas	Tang 2015
Increase Chinese soft power and good will	Sidaway and Woon 2017
Foreign policy initiative	Lim 2016
Sino-centric unipolar Asia	Sulekha 2017
Road to empire	Financial Times 2017
Benefits of development and prosperity	Sidaway & Woon 2017
Enhance Chinese social stability and security	Rolland 2017
Central Asia as "key areas" for China's national energy security	Rolland 2017
Integrate Eurasian continent by 2050	Rolland 2017

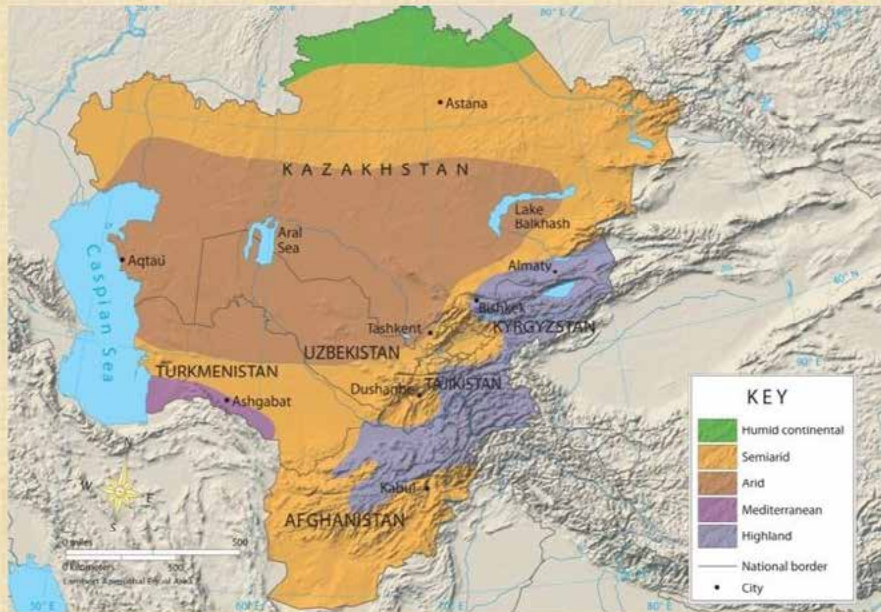
Strong message, poor explanation



## Climate, Hazards

*Infrastructure Threatened by Climate Change Poses a National Crisis*

US Government



Aridity

## Climate, Hazards

*Infrastructure Threatened by Climate Change Poses a National Crisis*

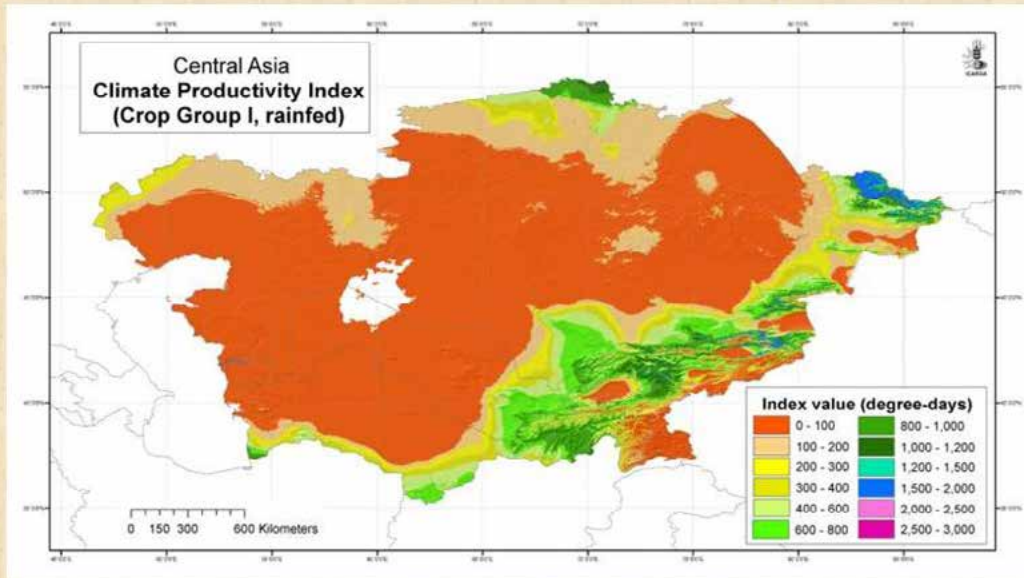
US Government

	<b>Kyrgyzstan</b>	<b>Kazakhstan</b>
Border with China - km	1063	1,765
Elevation, metres - mean	2,988	387
Temperature, annual mean	5	2.2
Precipitation, annual mean	375	275
Deserts - %	10	>80
Arable land - %	6.7	8.9
Agriculture - % of water	93	66
Population density, km <sup>2</sup>	27	6

# Climate, Hazards

*Infrastructure Threatened by Climate Change Poses a National Crisis*

US Government

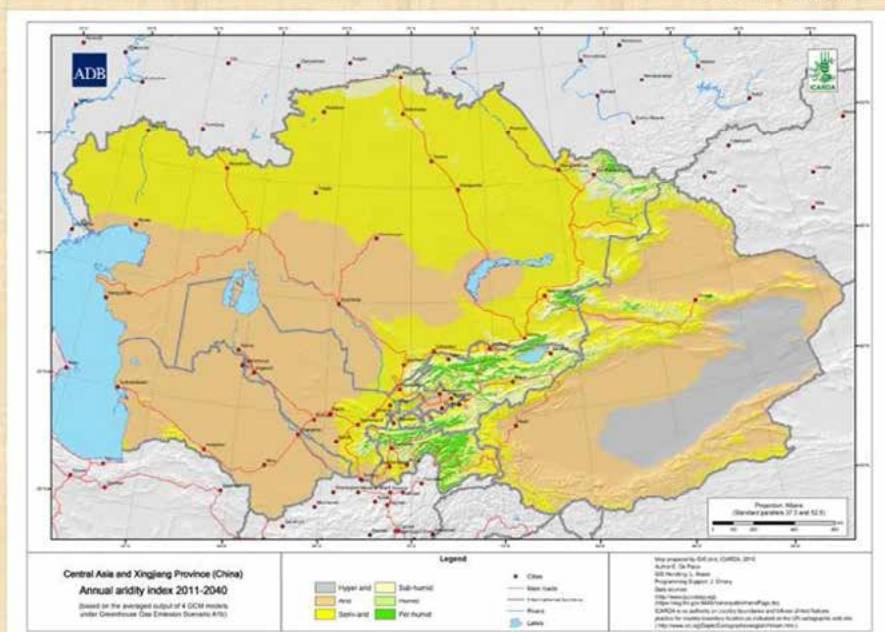


Climate productivity

# Climate, Hazards

*Infrastructure Threatened by Climate Change Poses a National Crisis*

US Government



Climate 2011-2040

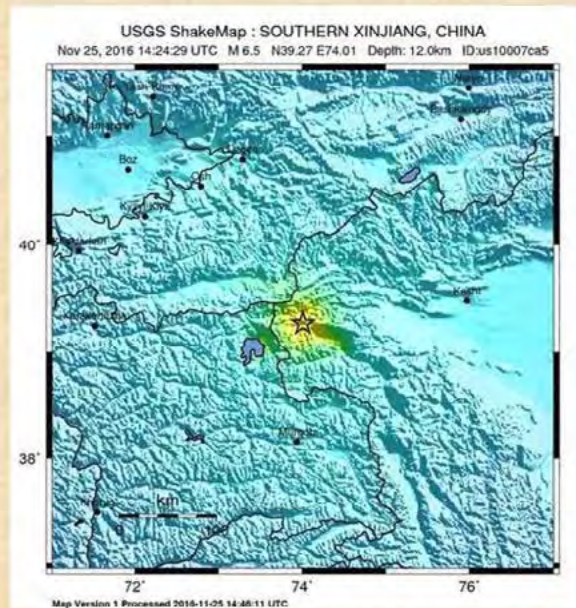
# Earthquakes, landslides, etc.

1911

2016 - 6.5 scale

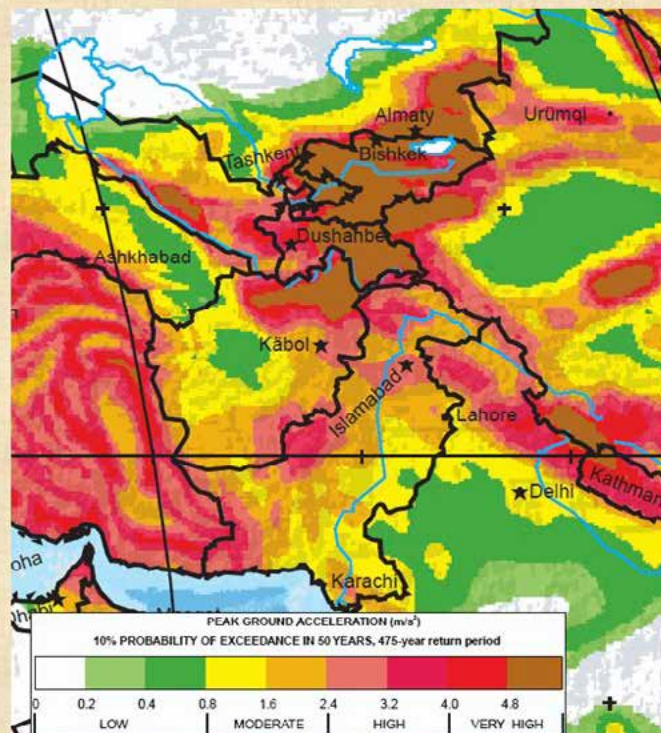


Almaty



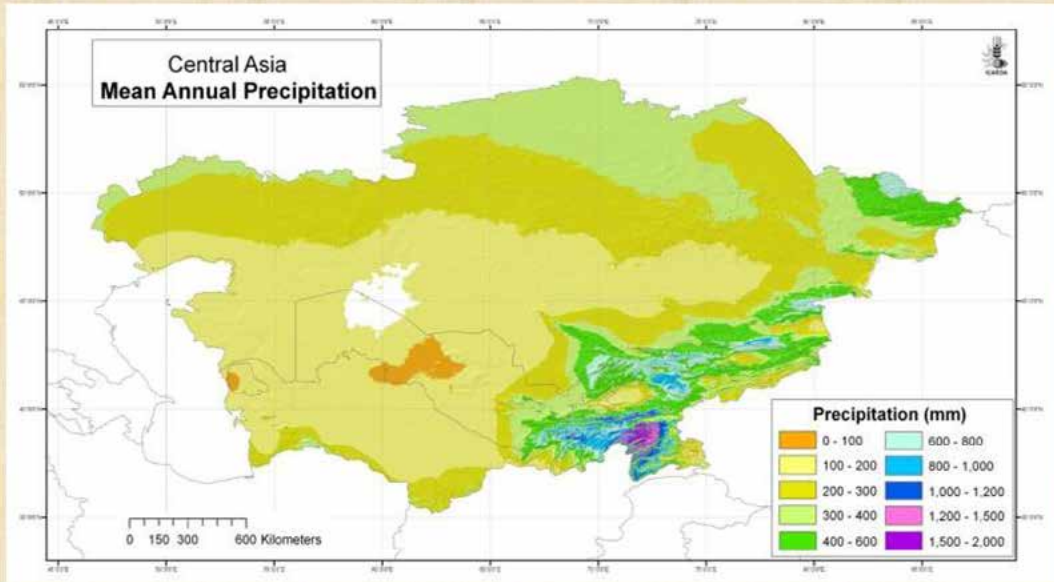
Tajik/Kyrgyz/China border

# Earthquakes, landslides, etc.

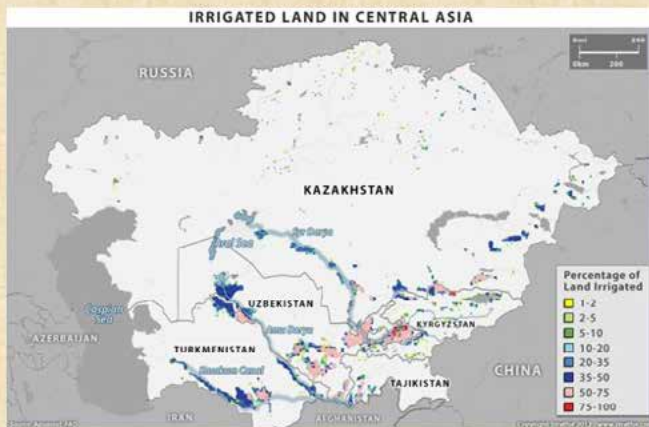


Earthquake risk –  
 brown = highest global risk

# Water, floods, irrigation



# Water, floods, irrigation



## Livelihoods



## Community

- What is being built?



- What do citizens want? Railways, water, education, health care, sanitation, electricity....



## Community

- Rural vs urban - enhance or damage local development
- Farming, livestock, service - low industrialisation



- Culture, heritage, religion, custom



## Governance

- Government form and structure
- Capacity to deliver service
- Strong or weak state apparatus



- **Does OBOR help or hinder governance?**

## Institutions

- State and civic society
- Post-Soviet, state security
- Economic development
- Social benefits – education, health
- Challenges *example* – Customs 28 days

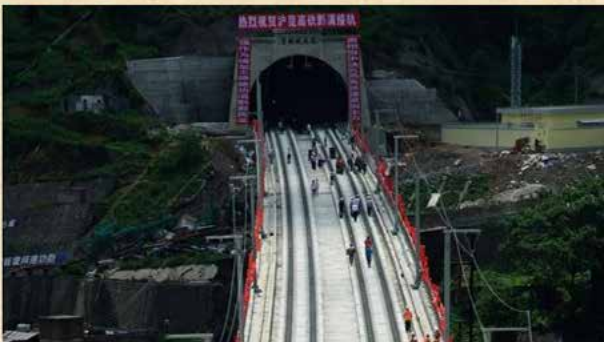


- **Direct infrastructure for what benefit?**

## Infrastructure




Special  
Economic  
Zone



Zhongda refinery

Who decides? Who benefits? Economic vs social vs cultural value

State building Standards?



**Infrastructure**

Who pays, when, how? Who builds, maintains, monitors?

Industrial (China) vs developing, rural Central Asia

## Past and future projects

Country	Project	Cost - US \$	Year signed/ implemented
Kazakhstan	Zhongfu Investment Group into oilseed processing	\$1.2 billion	2016
Kazakhstan	MangistauMunaiGas (50%)	\$2.6 billion	2009
Kazakhstan	Kazakh portion - Central A sia-China gas pipeline	\$6.7 billion	2009
Kazakhstan	Ekibastuz GRES-2 Power Plant	\$400 billion	2016
Kazakhstan	Kazakhstan-China Oil Pipeline	\$3 billion	2006
Kyrgyzstan	Zhongda Oil Refinery	\$430 million	2013
Kyrgyzstan	Kyrgyz portion - Turkmenistan-China gas pipeline	\$1.4 billion	2016
Kyrgyzstan	North-South Highway	\$400 million	2013
Kyrgyzstan	Thermal power plant	\$386 million	2014

Tang/FMSO 2015; see additional references



### Potential OBOR investments

Kazakhstan	China Central Asian pipeline	Natural gas
Kazakhstan	Eurasian Land bridge	Railway corridor
Kazakhstan	China Central Asia West Asia corridor	China to Iran rail link
Kazakhstan	Khorgos-Aktau railway	Caspian to China link
Kyrgyzstan	China-Kyrgyzstan-Uzbekistan railway	High-speed rail

Cooley 2016

## Border crossing



Tajik

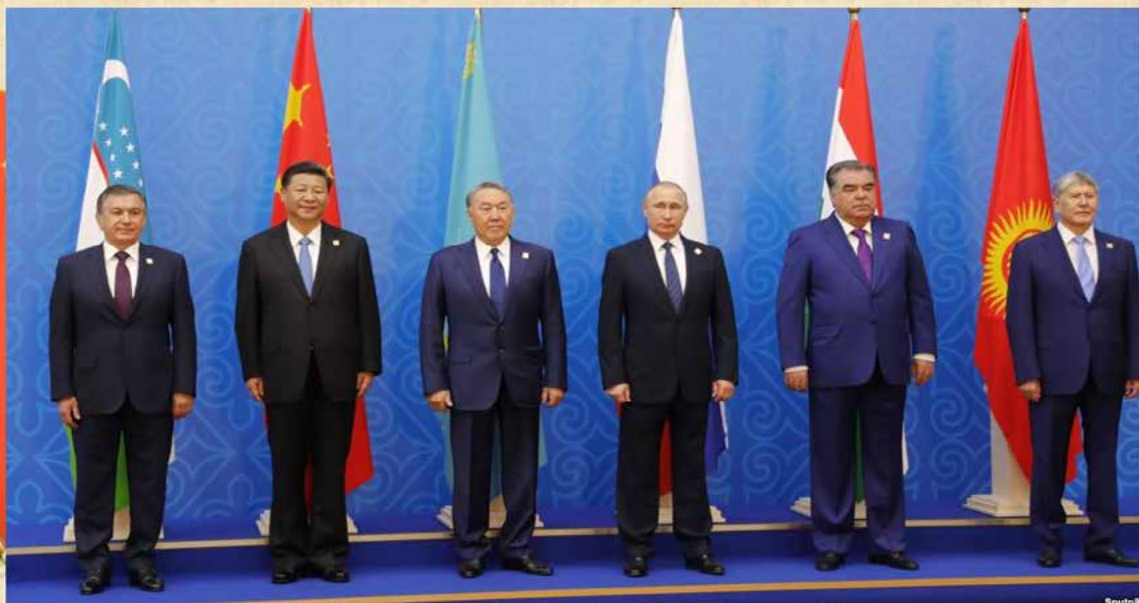
Kyrgyz



Kazakh



## Geopolitics, Economics *Gamers vs Traders* Shanghai Cooperation Organisation Great game – Russia and China



Where is US, India, EU, Japan?

## Russia

- Political, military, economic, culture
  - \* language\* - media
  - citizens, migrants
- Eurasian Economic Union – EEU
  - binding obligations
  - ‘sphere of influence’

Baikonur Launchpad



- Historical legacy

## Chinese vision

*\$50 billion in Central Asian trade*

*Needs resources*

*Excess industrial capacity*

*Economic future*



*Social capacity – tourism, investment*

*Is infrastructure needed?*

**Do Chinese and Central Asian interests align?**

## OBOR also means...

- Hambantota, Sri Lanka
  - world's emptiest airport, debt 90% budget
  - more elephants than people
- CPEC Pakistan
  - 30,000 soldiers guarding Chinese infrastructure
  - Insurgents kill Chinese workers
- Zhongda Refinery
  - Kyrgyzstan



## Outcomes: +/-

+

- 0.1-0.7 increase GDP
- Efficient – fast build
- New infrastructure
- May integrate states/  
neutralise differences  
(Afghanistan)
- bridge between the world's  
largest markets

-

- Land, food grab
- Narco-trafficking
- 50% build is 'unproductive  
assets'
- Customs – 28 day
- Environment
- Corruption
  - 30% Central Asia, 80% Pak.
- National debt

## China conundrum

- Soft power vs hard power
- Presentation, ‘hearts and minds’
- One way or two way flow of goods, resources, people
- Short term vs long term
- Infrastructure amongst equals or vassals
- Sinophobia – ‘why don’t locals like us’
- Pakistan violence – integration or disintegration?

World Economic  
Forum, 2015



## Challenges

- Country and community buy-in
- Relevant and altruistic vs pass-through and exploitive
- Perceived environmental degradation
- Cultural insensitivity
- Corporate Social Responsibility
- Standards
  - Discussion and complaint mechanism

Xi – ‘win-win’

# Governance Code of Conduct

**RISK MANAGEMENT**

**LABOR**

**RESOURCE EFFICIENCY**

**COMMUNITY**

**LAND RESETTLEMENT**

**BIODIVERSITY**

**INDIGENOUS PEOPLE**

**CULTURAL HERITAGE**

**IFC** International Finance Corporation  
WORLD BANK GROUP  
*Creating Markets. Creating Opportunities.*

**EITI** Extractive Industries Transparency Initiative

FACTSHEET  
as of May 2017

**The global standard for the good governance of oil, gas and mineral resources.**

The EITI provides the public with knowledge about their extractives sector. Information published under the EITI is used by reformers, policy makers, investors, governments, civil society actors, academics, journalists, and others to understand the sector. Through the EITI, stakeholders suggest reforms to strengthen transparency and accountability in the sector.

**3.5 billion people** live in countries rich in oil, gas or minerals. With good governance and transparent management, the revenues from extractive industries can have a transformational impact.

**Setting the Bar for Sustainable Finance**

Website: [www.eiti.org](http://www.eiti.org) | Email: [secretariat@eiti.org](mailto:secretariat@eiti.org)  
Telephone: +47 222 90 800 | Fax: +47 228 30 802  
EITI Secretariat, Rosekransveien 26, 0251 Oslo, Norway  
Twitter: @EITOrg

## OBOR Quotes

- Xi: *"a great undertaking that will benefit peoples around the world"*
- *"It's an ambitious project, the UK is the world's financial centre, so London should play an important role,"* UK government
- Central Asia was a *"rich piece of cake given to today's Chinese people by heaven"*  
*'Central Asia should thus be regarded "as territory to be recovered in our advance, not as a border region"'* PLA General Liu Yazhou
- Xi: *"What we hope to create is a big family of harmonious co-existence,"*
- *'The "One Belt, One Road" initiative can be seen as a reversal of the course of history with a Chinese power that is not only interested in its own development, but which asks what it can do for the rest of the world.'*  
J. Di Meglio, Asia Center, Paris
- Discourse Analysis – improves with distance

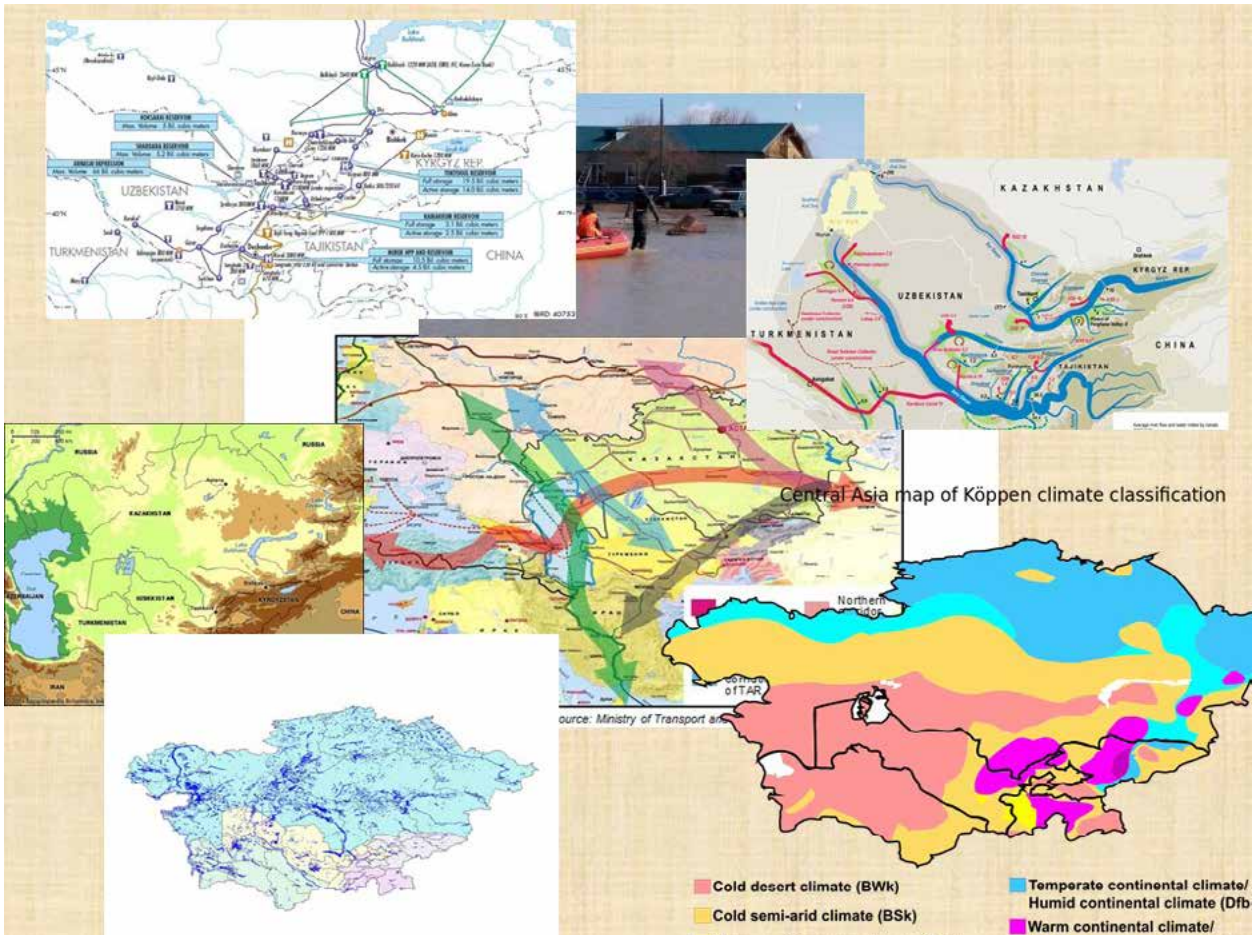


New Silk Road

‘All roads lead to China’...



...or new roads to bring the world together?



## Other Presentations

### Presentation 1.

#### Scientific cooperation linking Gansu, China, with Tajikistan and Central Asia

Speaker: Ruijun Long

#### Key insights

- The ‘One Belt One Road’ (OBOR) Initiative includes two component parts, the ‘Silk Road Economic Belt’ (on land) and the ‘Maritime Silk Road.’ It is a major development initiative of the 21st century and is recognized by the UN and over 100 countries and international organizations.
- The ‘Belt and Road’ stands for peace and cooperation, openness and inclusiveness, mutual learning, and mutual benefits.
- There are five main elements in the OBOR Initiative: (1) Policy, (2) Transport, (3) Trade, (4) Currency, and (5) People.
  - The Policy element includes strategies and policies on economic development, plans and measures for cooperation, and regional economic integration.
  - The Transport (or Roads) element includes primarily necessary improvements in cross-border transportation infrastructures, aiming to create a road network that links between Asia’s sub-regions and connects Asia with Europe and Africa.
  - The Trade element addresses issues of trade and investment, including facilitation of trade by removing barriers to trade and investment and by promoting economic circulation and unleashing trade and investment potential.
  - The Currency element includes the promotion of greater trade settlements in local currencies and encouragement for development of currencies exchange schemes.
  - The People element will promote international dialogue and exchanges in support of education, cultural awareness, scientific development, and other study tours.
- Gansu is situated in the heart of China and has a long history of Chinese civilization. In many ways, the population, climate, and landscape of Gansu are similar to countries in Central Asia, especially Tajikistan.
- A collaboration between Gansu, China and Tajikistan was approved in 2017, specifically between Gansu Institute of Business Technology (GIBT) and Academy of Sciences of Tajikistan (AST), with focus on Food Quality, Safety Inspection, and Testing Technology, with construction of a Platform for Building the Silk Road Economic Belt. Initial projects agreed include an artichoke processing project, supported by Gansu Province, China.
- The two parties also aim to collaborate on the development of water-saving farming and livestock industries, agriculture, seeds, food processing and value-add; small farming machinery, family-based biogas units, and cold water fisheries.



## **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](mailto:Ruijun.long@icimod.org); [Longrj@lzu.edu.cn](mailto:Longrj@lzu.edu.cn)**

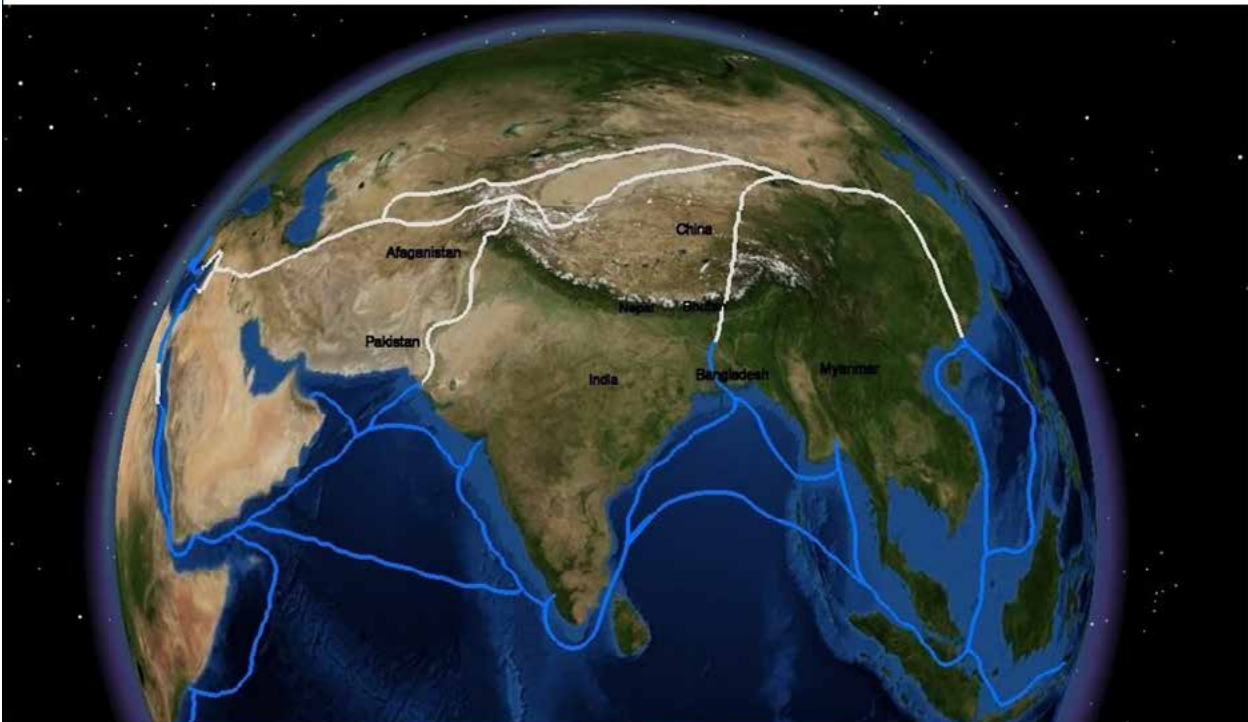
**3 Oct. 2017 Dushanbe**

## **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"?



## 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



## **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**

## **Over 10,000 scholarships every year**

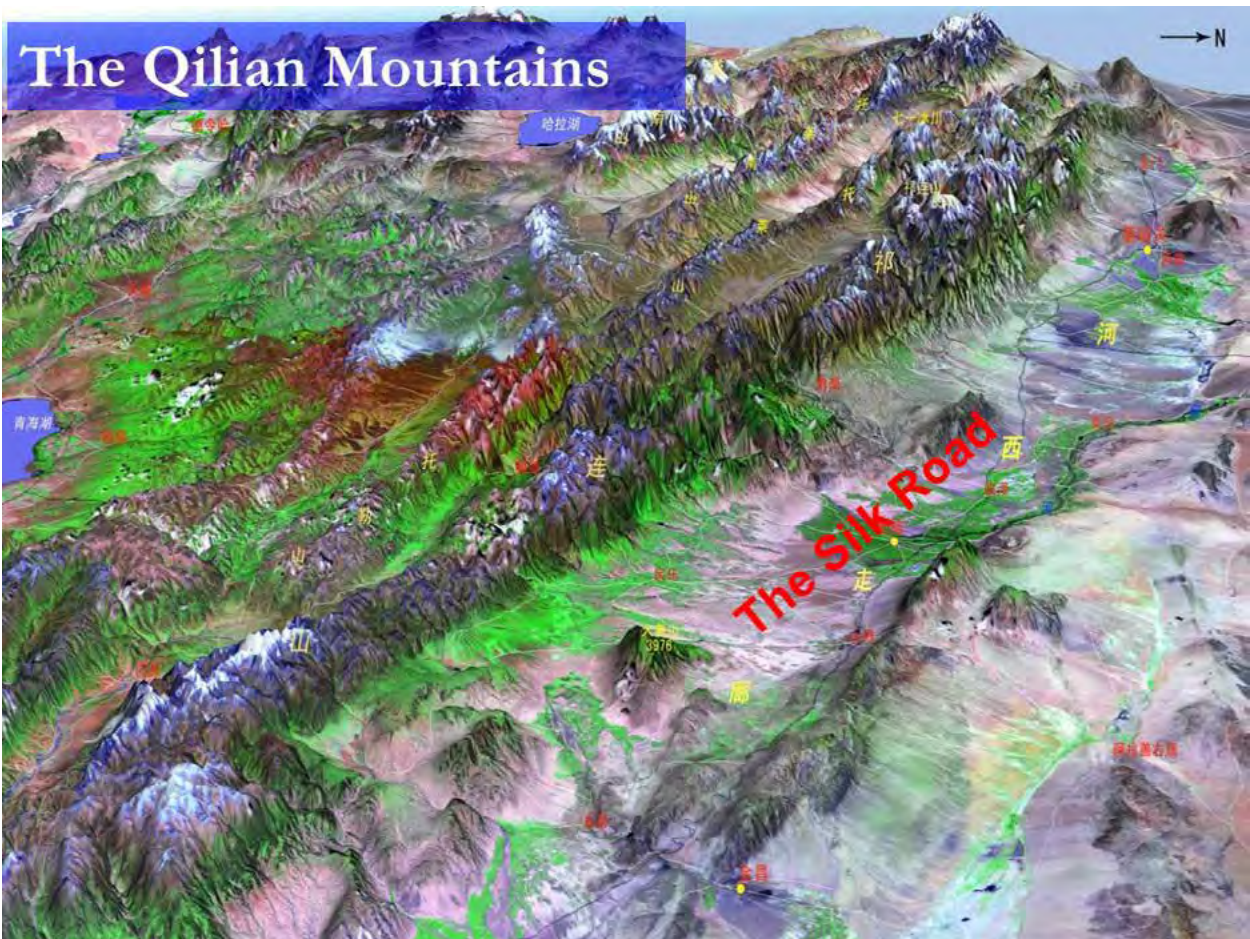
- Every year the Chinese government provides 10,000 government scholarships the relevant countries.
- China's local governments have also set up special Silk Road scholarships to encourage international cultural and educational exchanges.

# Gansu Province and Tajikistan

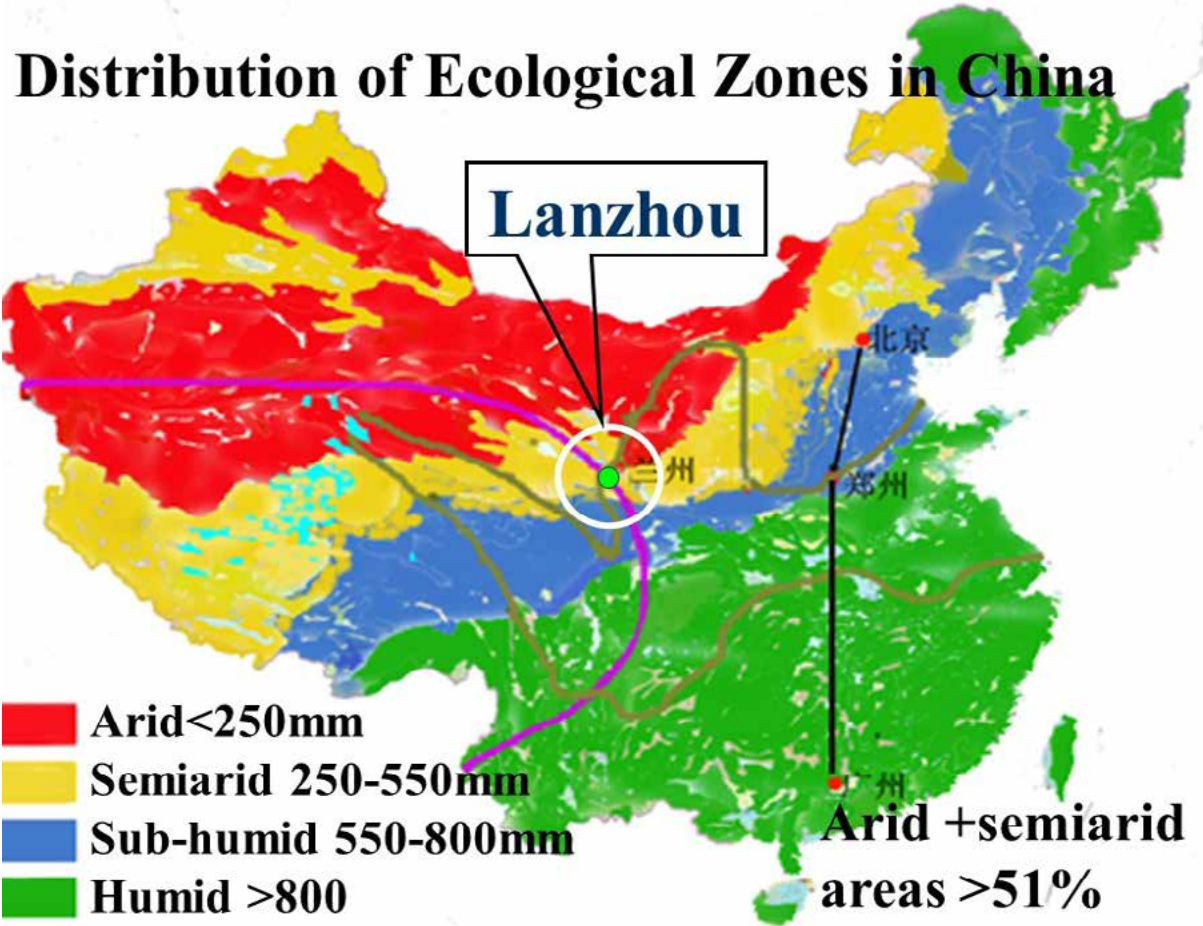


# Gansu Province & the Silk Road





## Distribution of Ecological Zones in China



## Geographical Aspect of Lanzhou Area



## 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 km<sup>2</sup> , 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

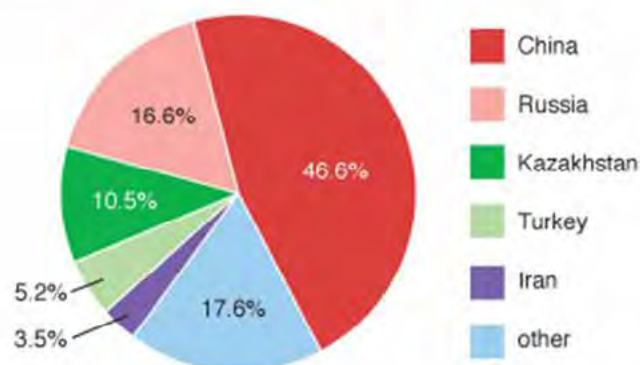


## The nature of Tajikistan

- 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

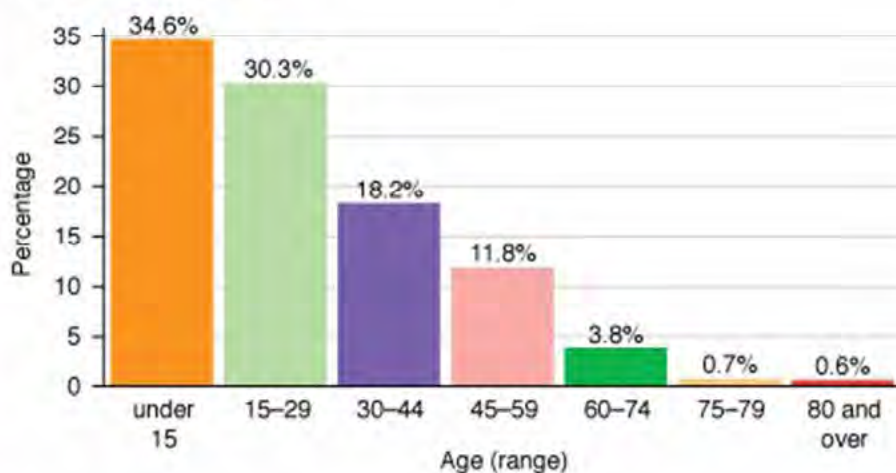
Major import sources (2014)



© Encyclopædia Britannica, Inc.

# Population structure

Age breakdown (2014)



© Encyclopædia Britannica, Inc.

# Agriculture and light industry

## Agriculture (*Irrigation*)

- Farming activities: 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 ect.

## 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**
- .....



## 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



## 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



Livestock and biogas areas

2 4:42 PM



## Yak farming and its products



## Cold water fishery

- Trout
- Salome



## Presentation 2.

### Beyond the Karakoram Range: Looking at six decades of road development in Ladakh and their impacts on mountain environment and societies

Speaker: Jonathan Demenge

Situated North of the Himalayas and South of the Karakoram, Ladakh was one linked to Kashgar, Yarkand and to the rest of the Silk Road and played a part in the Great Game. It was then considered a “crossroad of High Asia” and the gateway between Central and South Asia for some, or an impassable barrier for others. Today, clustered behind closed and contested “borders” with Pakistan and China, Ladakh is more regarded as a remote and isolated corner of India. From 1947 – when the first stretch of road up to Ladakh was built – until the present times, the development of the *roadscape* has had deep, complex, sometimes unpredictable and often contradictory impacts on the people, their livelihoods and their environment.

Located within the interdisciplinary field of political ecology, dwelling on an itinerant ethnography and a wide array of methods, the presentation will highlight some of the key findings of my research undertaken between 2003 and 2011. Grounded in the realities of Ladakh it will try to expose the complex and inherently political dimension of infrastructure development in a contested region. The presentation will identify some of the patterns of change linked to infrastructure development, and show how the road often works in association with other factors to spur socio-economic and environmental transformations that are sometimes resisted, often non-linear and always unequally distributed. Based on the geographically and historically situated case of Ladakh, it is hoped the presentation will provide some useful hints and a basis of comparison to questions raised during the workshop on the anticipated impacts of OBOR, in Central Asia and beyond...

#### Key insights

- A case study of road construction in Ladakh, India is presented.
- Ladakh is situated between the Karakoram and Himalayan mountain ranges. It is mostly dry cold desert, and its population, half Buddhist half Muslim, has been influenced by exchanges with Tibet, Central Asia, Kashmir, Persia, India and beyond.
- The first road to traverse Ladakh was opened in 1962, just prior to the Sino-Indian war.
- In Ladakh, it is said that the land and passes are so high, that its visitors are either its best friends or its worst enemies. This perception could sum up the political nature of road construction - or the absence of roads - in a contested place like Ladakh.
- Roads in Ladakh have influenced mountain communities in many ways: economically, culturally, socially, and ecologically. However, their effects are not equally distributed and not always self-evident, especially in terms of isolation and mobility.
- Non-irrigated land tends to have no value until the roads are built.



# **Beyond the Karakoram Range**

**Looking at six decades of road development  
in Ladakh and their impacts on mountain  
environment and societies**

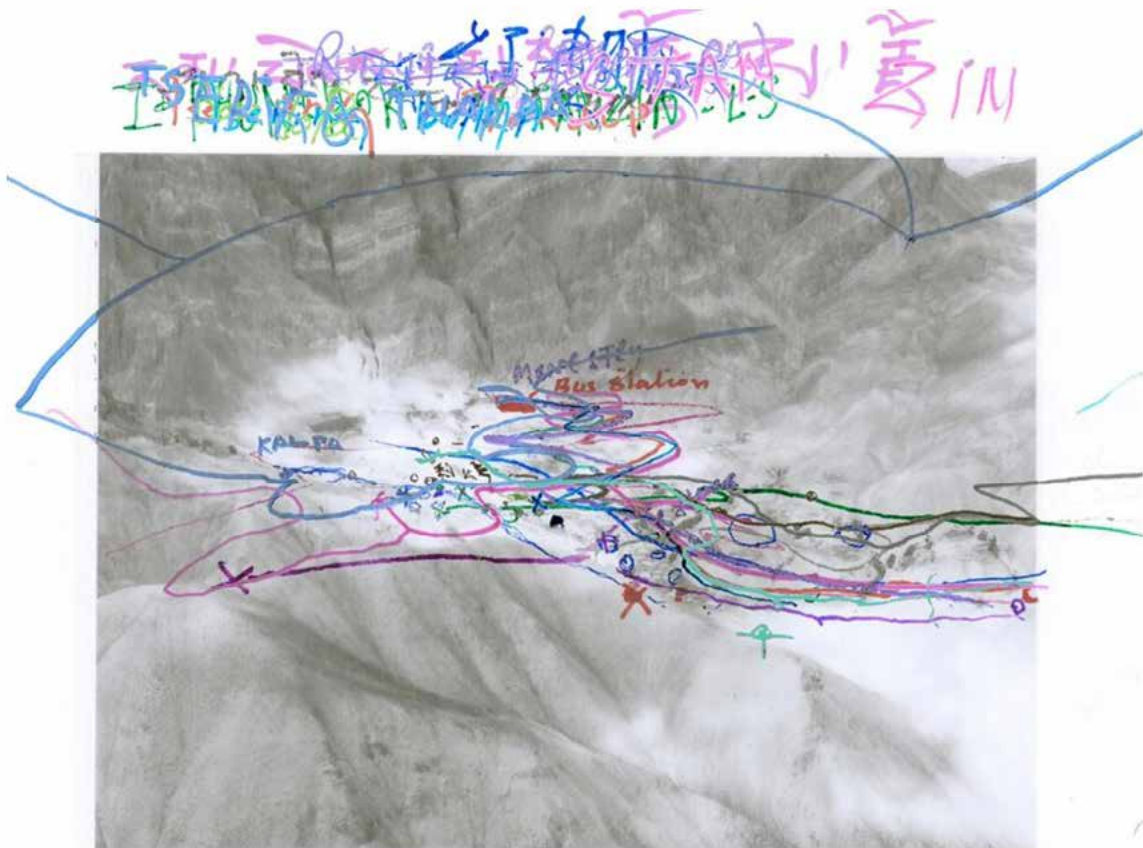
Jonathan Demenge

1. Situating Ladakh
2. Development of the Roadscape in Ladakh
3. The process of construction
4. Consequences of the road
5. Conclusions

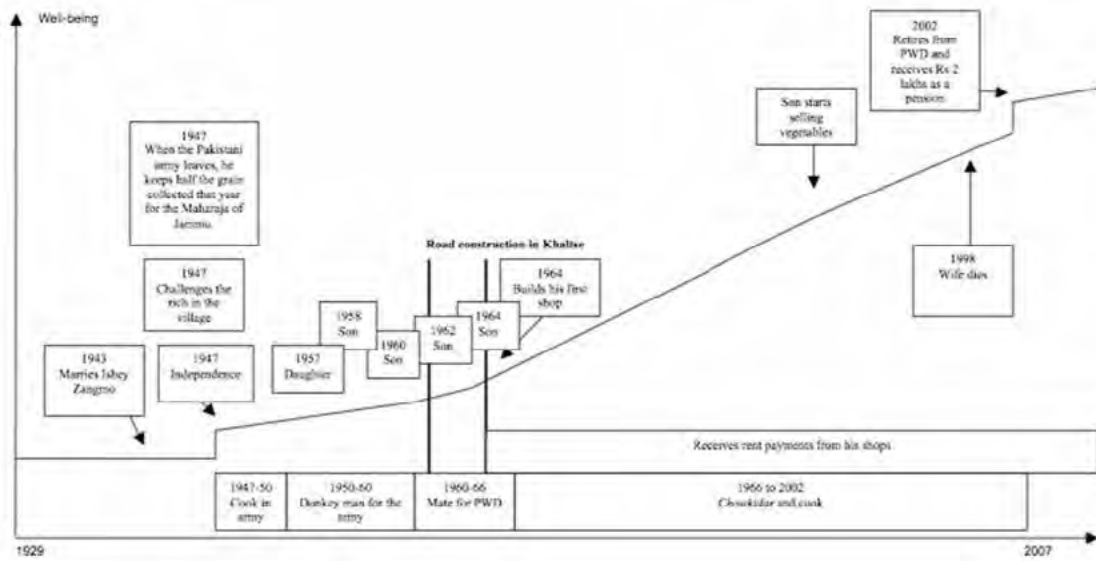


Roads and Nation-building:

Roads as the “thread that binds the nation together”  
(Central Road Research Institute 1963; India Profile).

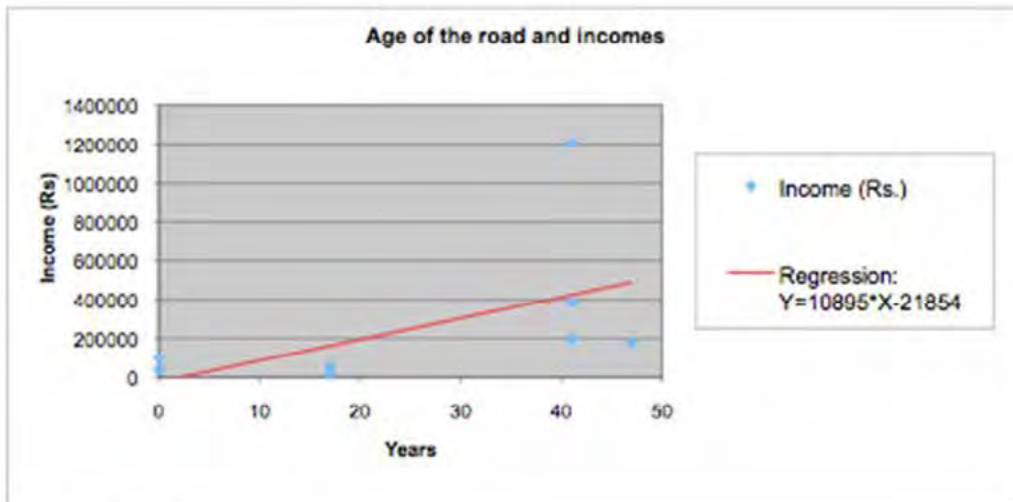






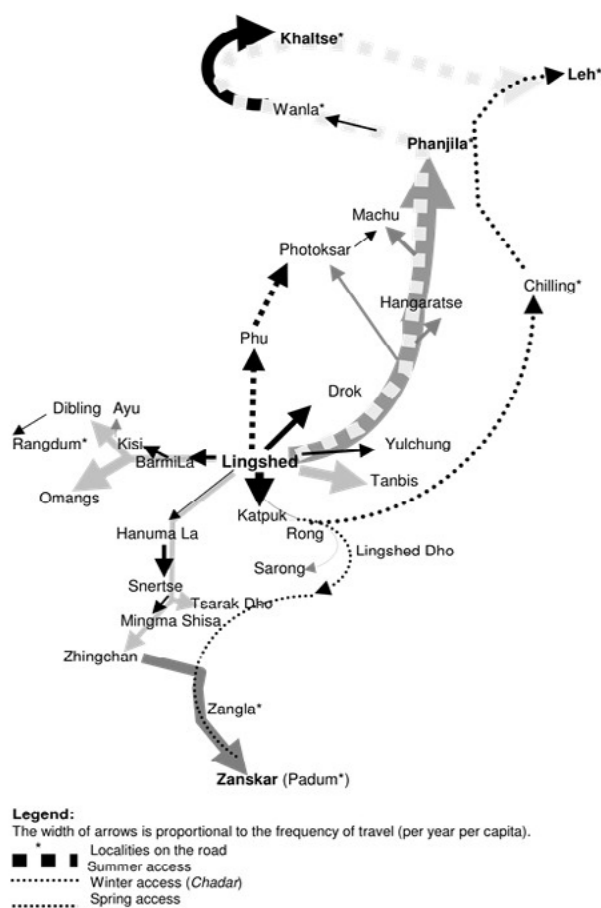
5.3. Memo Tashi's life history



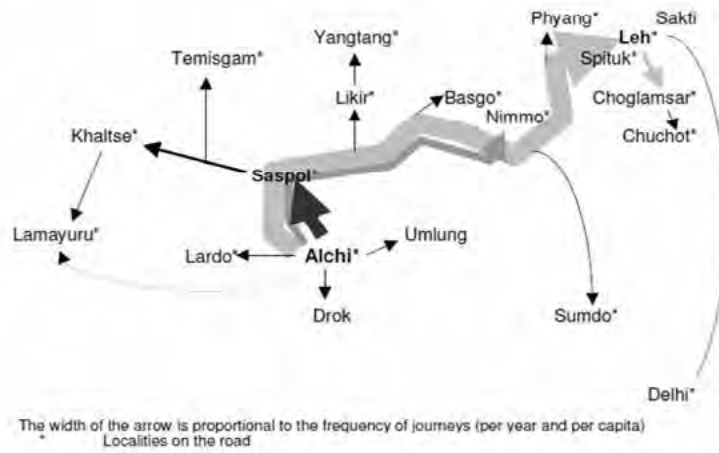


7.12. Age of the road and villagers' incomes

Mobility in Lingshed



Mobility in Alchi (on-road)

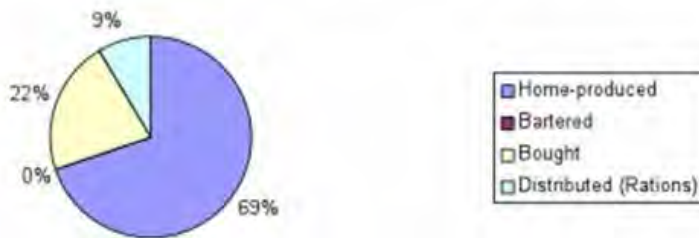


Female Mobility in Alchi (on-road)

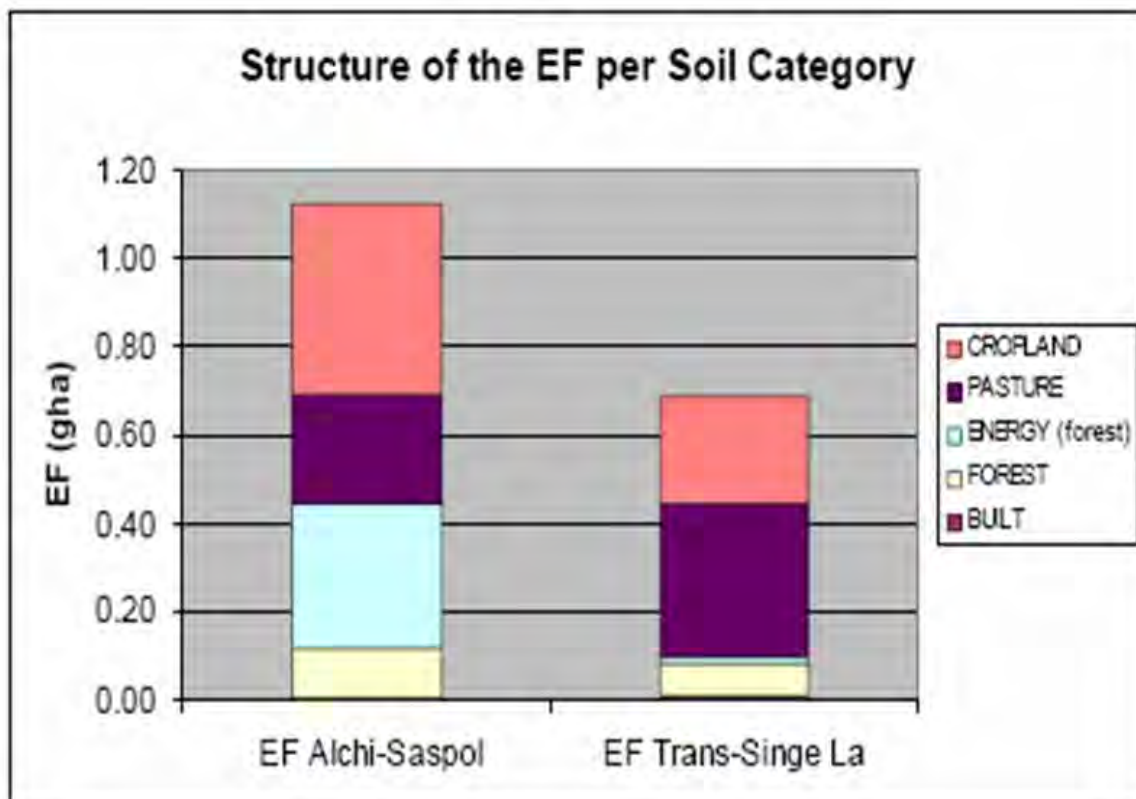
Women:



### Food Consumption and mode of acquisition in Lingshed



### Food consumption and mode of acquisition in Alchi





## Presentation 3.

### Report on the China Pakistan Economic Corridor (CPEC) by AKRSP Pakistan

Speaker: Aziz Ali Dad

#### Key insights

- In the summer of 1931, the first motor vehicle crossed the Himalaya and entered Gilgit from Kashmir as part of the 'Trans Asiatic Harrod Expedition.' The highest of the passes was over 14,000 feet above sea level, the Burzil Pass separating Kashmir and Gilgit (National Geographic Magazine, October 1931)
- The China Pakistan Economic Corridor (CPEC) is part of the large 'One Belt, One Road' Initiative and aims to enhance the connectivity, trade, communication and cooperation between the countries of Eurasia. CPEC was launched in April 2015 with the signing of 51 agreements and Memorandums of Understanding valued at \$46 billion USD.
- CPEC has much potential to improve the lives of the people and communities in Gilgit Baltistan. In order to increase the chances of success, the following recommendations are made:
  - Communicate governmental policies, programs, and projects regularly among stakeholders at all levels;
  - Make arrangements for encouraging and promoting small to large investments, public-private partnerships, and forums to facilitate investors, natural resources management and planning, and mergers to compete with Chinese market;
  - Build capacities at the grassroots level, including promotion of an entrepreneurial culture, strengthening the institutions (school and colleges), skills development, technical trainings, and introduction of new courses to help meet challenges of contemporary world;
  - Undertake public awareness campaigns on benefits and opportunities of CPEC;
  - Promote policy changes to attract investments, improve the business environment, protect local interests, improve infrastructures, reduce unemployment, educate the labor force, and improve access to credit;
  - The Government of Gilgit-Baltistan (GB) should formulate adequate legislation and regulations for potential or emerging sectors such as power-generation, tourism, manufacturing, mining, and trade;
  - Additionally, the federal Government must ensure proper decisions about issues of identity and basic rights for the people of GB, including proper representation of GB in the National Assembly and Senate;
  - Collaboration between regional universities is also to be encouraged.
- Ultimately, development projects in GB must meet growing demands for energy, water, and resources. Together with processes of urbanization, such developments will have an impact on environment and culture. Carefully developed management plans are needed for sustainable development.

‘If “One Belt, One Road” is like a symphony involving and benefiting every country, then construction of the China Pakistan Economic Corridor (CPEC) is the sweet melody of the symphony’s first movement.’  
China’s Foreign Minister, Wang Yi

## Horizons of CPEC in Gilgit-Baltistan



## Silk Road Historical Perspective

- ▶ Gilgit-Baltistan conduit for Central and South Asia
- ▶ Russian and Chinese Revolution
- ▶ Construction of KKH
- ▶ Informal trade Kilick Mintika, Chipurson
- ▶ China Pakistan Economic Corridor (CPEC)

Rock carvings  
in Chilas,  
Gilgit-Baltistan



Part of the Baltit-to-Gulmit trail hangs in mid-air. This picture must be from August/September 1931 taken between Baltit and Gulmit.



In the summer of 1931 the earliest motor transport crossed Himalaya and entered Gilgit Agency from Kashmir. It was brought by Trans Asiatic Harardt Cintrogen Expedition' over the 14,000 feet high Burzil Pass between Kashmir and Gilgit. (Published in October 1931's National Geographic Magazine)



In the summer of 1931 the earliest motor transport crossed Himalaya and entered Gilgit Agency from Kashmir. It was brought by 'Trans Asiatic Harardt-Cintrogen Expedition' over the 14,000 feet high Burzil Pass between Kashmir and Gilgit.

(Published in October 1931's National Geographic Magazine.)

THE FIRST CAR NEARS THE SUMMIT OF BURZIL PASS

Arrival of  
jeep in Gilgit.  
1950



Locals  
welcoming  
Chinese  
working  
arrival for  
constructi  
on of  
Karakoram  
Highway  
(KKH)



## Contemporary Gilgit-Baltistan

- ▶ Liminal status of Gilgit-Baltistan
- ▶ Crumbling tradition and unstable modernity
- ▶ Generation gap
- ▶ Uprooting of trained workforce
- ▶ Consumerist culture
- ▶ Lack of entrepreneur class

## China-Pakistan Economic Corridor (CPEC)

- ▶ Announced in 2013, CPEC is part of the larger One Belt One Road (OBOR) Initiative; to improve connectivity, trade, communication, and cooperation between the countries of Eurasia
- ▶ CPEC was formally launched in April 2015, with signing of 51 agreements and Memorandums of Understanding valued at \$46 billion
- ▶ The corridor constitute an array of different energy projects, transportation/infrastructure networks, and economic free zones within Pakistan
- ▶ Components of CPEC
  - ▶ \$ 33.8 billion (or 72%) investment towards energy-resource development, including renewable, gas and coal electricity generation
  - ▶ \$11 billion (or 24%) is directed toward enhancing Pakistan's transportation infrastructure, including highways and railway networks
  - ▶ Special Economic Zones (SEZs) and communication infrastructure

## Horizons of CPEC

- ▶ Broadening of horizons
- ▶ Understanding of Chinese mindset
- ▶ Communication and knowledge corridor
- ▶ Fears of openness and change
- ▶ Resilience of community
- ▶ Integration of academia, policy/decision makers and communities
- ▶ Interface between infrastructure and soft initiatives
- ▶ Knowledge society
- ▶ Local horizon of continental project
- ▶ CPEC and Civil Society

## Social/Environmental Dimensions

- ▶ Social and political liberties
- ▶ Inclusion of the local community
- ▶ Giving voice to population of Gilgit-Baltistan
- ▶ Safeguarding the local interests
- ▶ Awareness and advocacy
- ▶ Peace and security
- ▶ Protection of culture and heritage
- ▶ Health and education
- ▶ Protection of natural resources
- ▶ Climate change mitigation
- ▶ Environmental impact of the CPEC projects

## Economic Aspiration and Concerns

- ▶ Opportunities for Businesses and Investments
- ▶ National and international partnerships
- ▶ Improved administrative and legislative framework
- ▶ Strategies for the Government
- ▶ Legal process for business and international trade
- ▶ Skills Development
- ▶ Financial resources for trade and commerce
- ▶ E-commerce and information technology
- ▶ Transportation infrastructure
- ▶ Inclusion of local community mining and power generation sector

## Recommendations

- ▶ Communicate governmental policies, programs, and projects regularly among stakeholders at all levels
- ▶ Make arrangements for encouraging and promoting small to huge investments, public-private partnerships, and forums to facilitate investors, natural resources management and planning, and mergers to compete with Chinese market
- ▶ Building the capacity at grass root level that include promoting entrepreneurial culture, strengthen the institutions (school and colleges), skills development, technical trainings and introduction of new courses that must meet the challenges of contemporary world
- ▶ Awareness campaigns regarding benefits and opportunities of CPEC among the public
- ▶ Policy level changes to attract investment, improve business environment, protect local interests, improve infrastructure, reduce unemployment, educate labor force and easy access to credit
- ▶ Government of Gilgit-Baltistan needs to formulate adequate legislation and regulations for the potential sectors of power-generation, tourism, manufacturing, mining and trade
- ▶ The Federal Government must ensure proper decisions about the issue of identity and basic rights for the people of GB. Proper representation of GB in the National Assembly and Senate must be ensured
- ▶ Projects to meet the growing demands for energy, water, resources and urbanization will have an impact on environment and culture, management plans are needed for sustainable development
- ▶ Collaboration between regional universities



## Presentation 4.

### Locational Advantage of Gilgit-Baltistan: Special Economic Zones

Speaker: Babar Aman

#### Key insights

- Gilgit-Baltistan (GB) is a geographically and strategically important place that borders China, Afghanistan, and Indian administrative territory of Kashmir. It is a land of great beauty and has the largest glaciers. The area of Baltistan is more than 72,000 km<sup>2</sup>.
- Gilgit-Baltistan has much natural potential for hydropower development. According to the governmental information, the approximate potential can increase by 20,000 MW.
- The CPEC road (Karakoram Highway) was built in 1978, passing through the middle of GB; a route that in fact is part of the ancient Silk Road connecting GB to other parts of Afghanistan. Because of such connectivity, many scripts and cultures are in common.
- GB can be considered as a gateway for Central Asian countries including Afghanistan. Working together, the economic situation of all countries can be substantially improved.
- Joint initiatives for mitigating the environmental impacts can also be promoted, such as the creation of nature reserves. In GB, efforts are underway to develop facilities to protect the flora and fauna.
- Much work also is needed to mitigate natural hazards and in disaster risk reduction, for example early warning systems. Melting glaciers threaten to cause floods and destroy local infrastructure. Landslides are other hazards that affect the local communities.
- Finally, although GB uses clean energy, it also suffers from the pollution produced by other countries.

[no presentation available]

## Presentation 5.

### The ViSTA model: Predicting the impact of land use change in high-altitude deserts

Speaker: Jerome Mayaud

Desert regions are characterised by patchy vegetation and wind erosion. Such extreme dynamics are common throughout the mountainous regions of Central Asia. China's 'One Belt, One Road' (OBOR) initiative has the potential to alter the natural physical dynamics of these high-altitude deserts. It is therefore crucial to understand how changes in land use (especially those linked to infrastructure construction) could shape desert landscape evolution, and how potential negative impacts may be mitigated.

In this paper, I present the new, coupled cellular automaton Vegetation and Sediment TrAnsport model (ViSTA). ViSTA is designed to simulate the development of desert landscapes in a simple, grid-based format. It can account for changes in farming practices (e.g. grazing, fire), as well as road or railway construction. Here, the technical aspects of ViSTA are described, and its performance is compared to data collected in the Skeleton Coast Desert of Namibia. Then, I explore the potential to apply ViSTA to the Central Asian mountain deserts, particularly in the context of the OBOR initiative.

The versatility of the ViSTA model means it could be used to predict threshold-related transitions across the diverse range of desert environments that occur along the proposed OBOR routes.

#### Key insights

- The Vegetation and Sediment TrAnsport model (ViSTA) is designed to simulate the evolution of dryland landscapes in a simple, grid-based format.
- The desert landscape is modelled as a series of feedbacks. Vegetation grows and dies off as a function of water and nutrients moving through sediment. The sediment itself is redistributed across the landscape by wind. In turn, vegetation affects local wind patterns.
- Parts of the Pamirs and other Central Asian mountain ranges display some form of dryland vegetation patterning, as well as distinctive aeolian erosion features. The ViSTA model is therefore considered applicable to this region.
- Examples are provided of how different intervention strategies, such as wind breaks, can halt dune encroachment and wind erosion. ViSTA could be a useful tool for predicting the impacts of infrastructure construction on the landscape, and vice versa.



**The ViSTA model:**  
Potential for predicting the impact of land use change in high altitude deserts

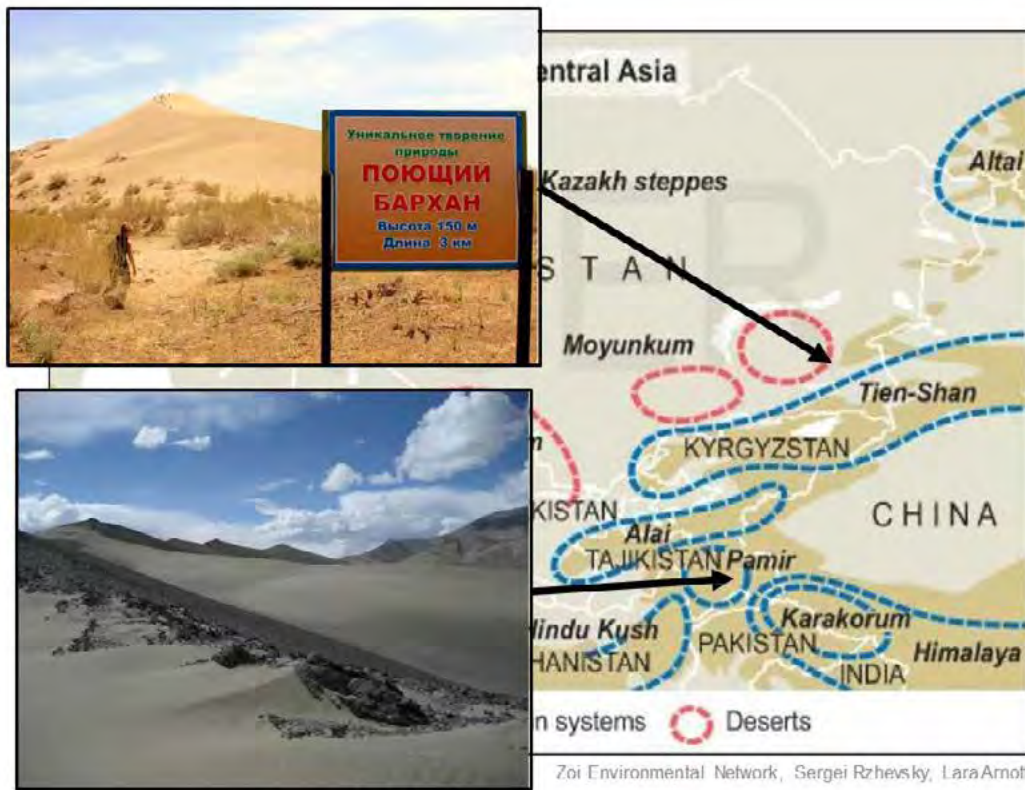
Jerome Mayaud  
Oxford University Centre for the Environment

Thanks: R. Bailey, G. Wiggs, J. Richards

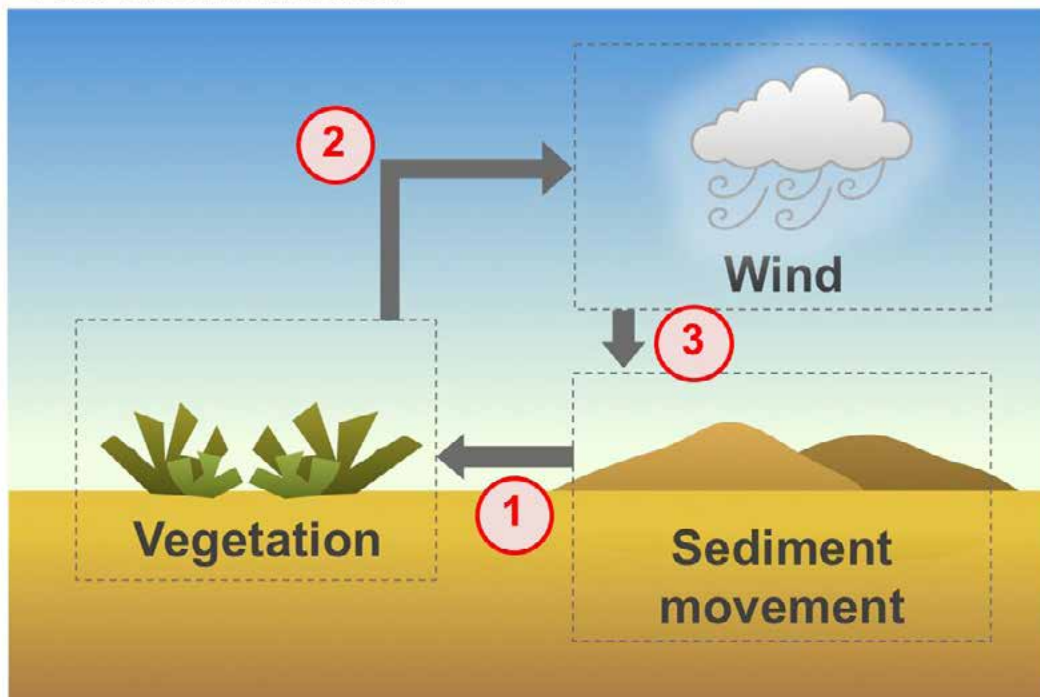
© erlagn, Flickr



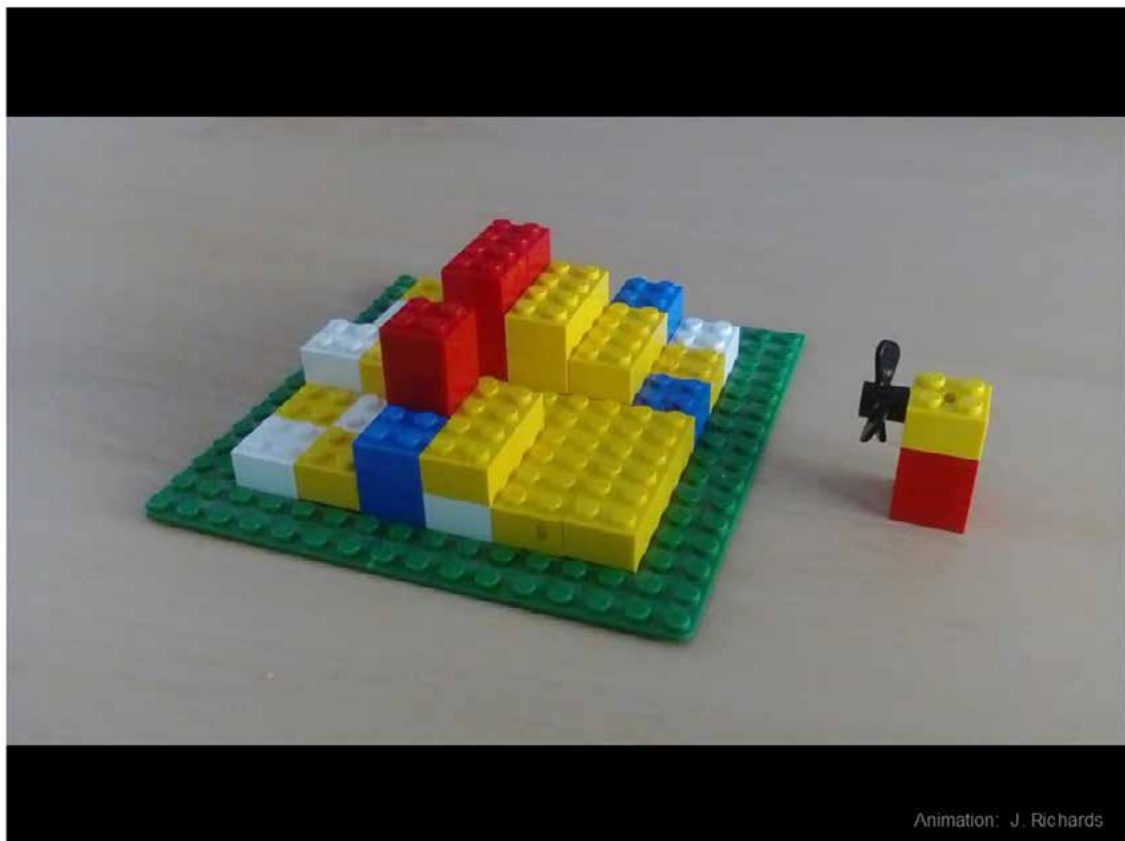
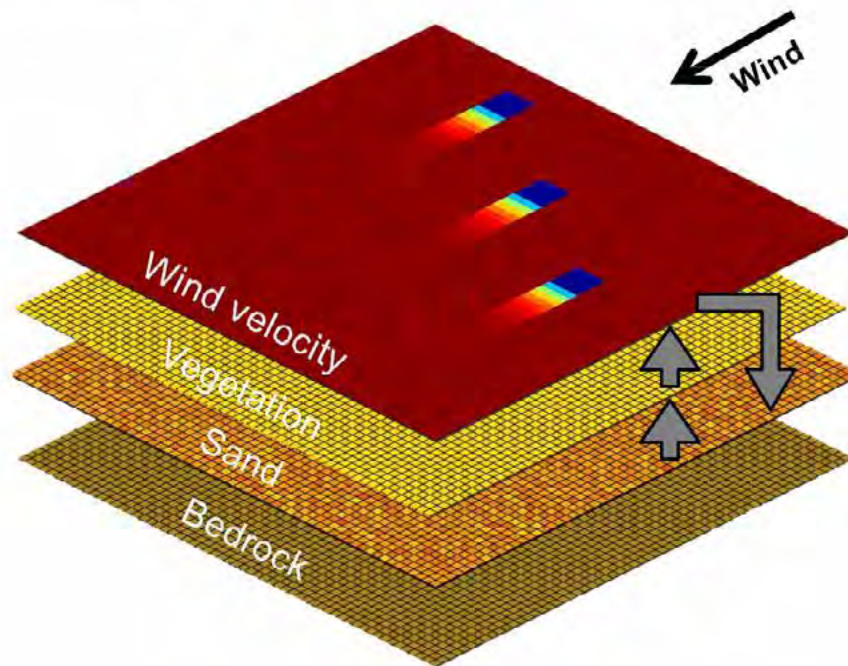
BBC News, Stanford, ContainerNews

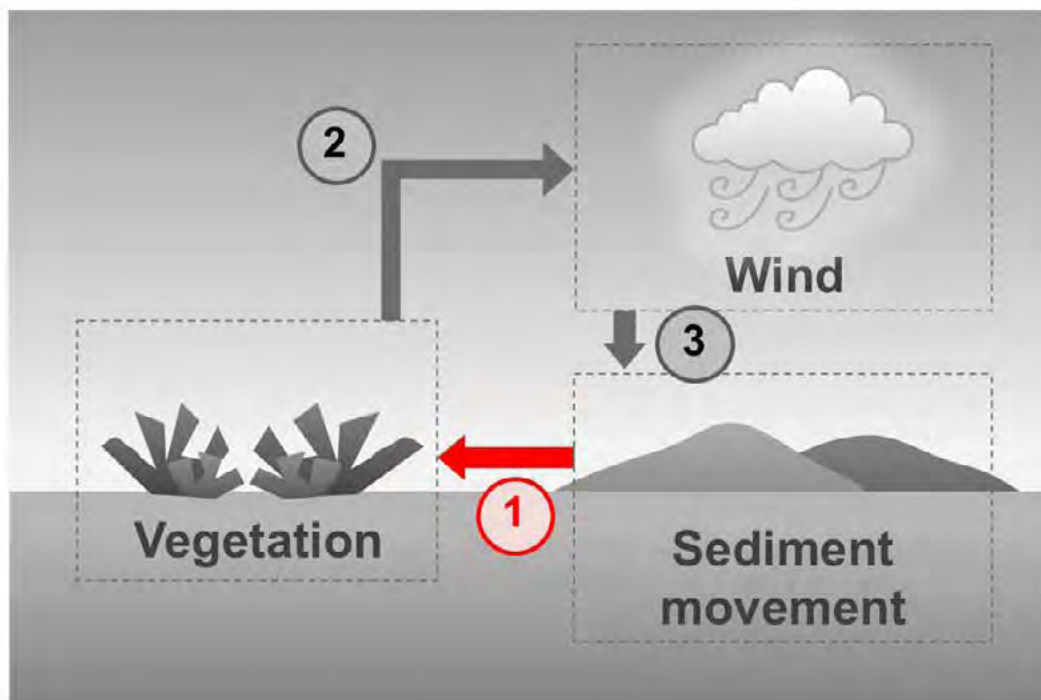


## The ViSTA model

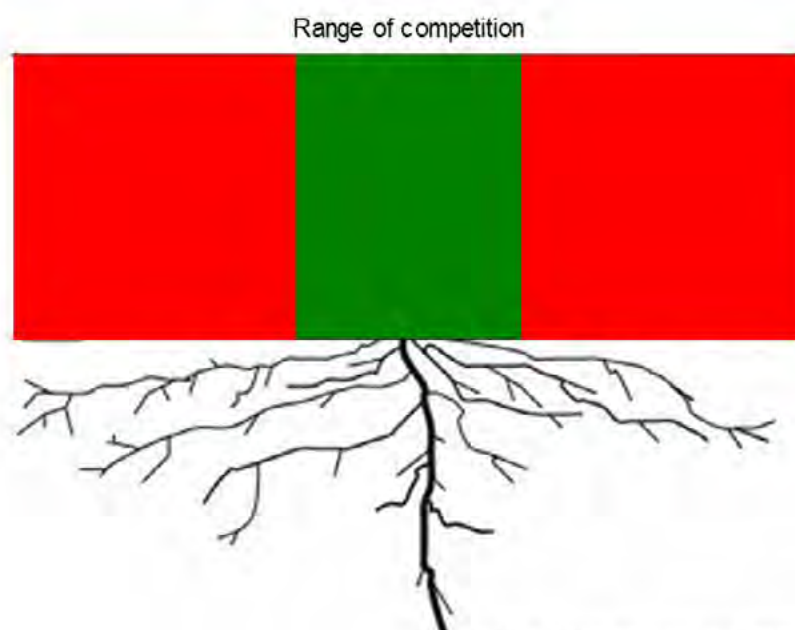


## Grid3 based approach

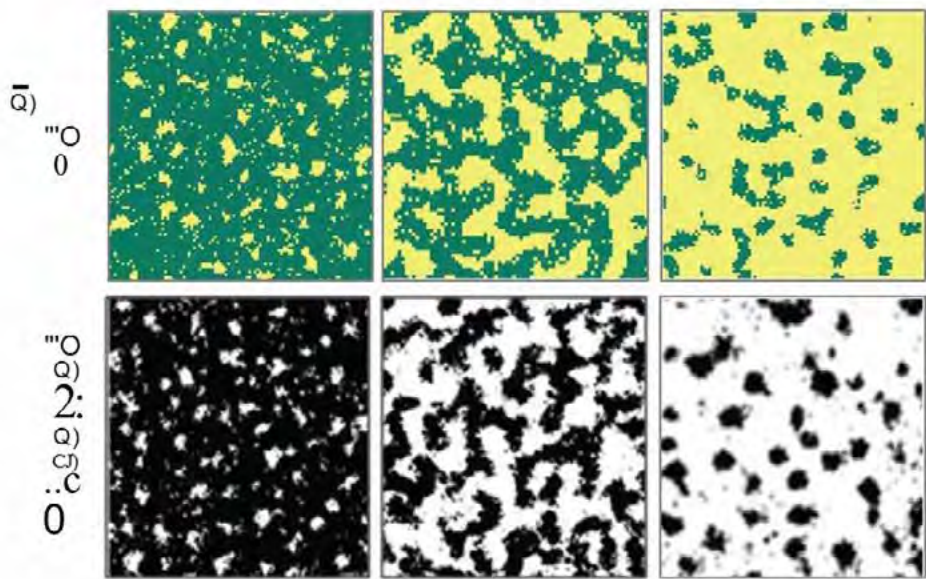
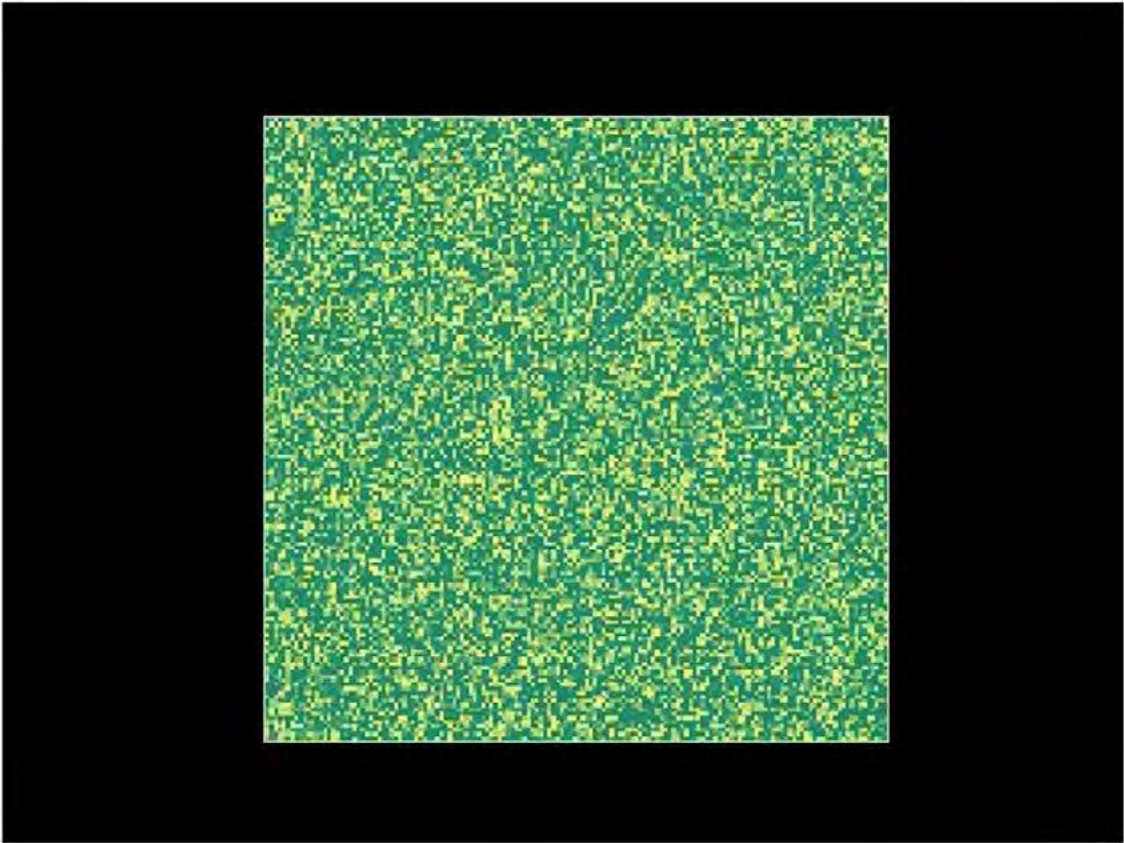




## Simple rules



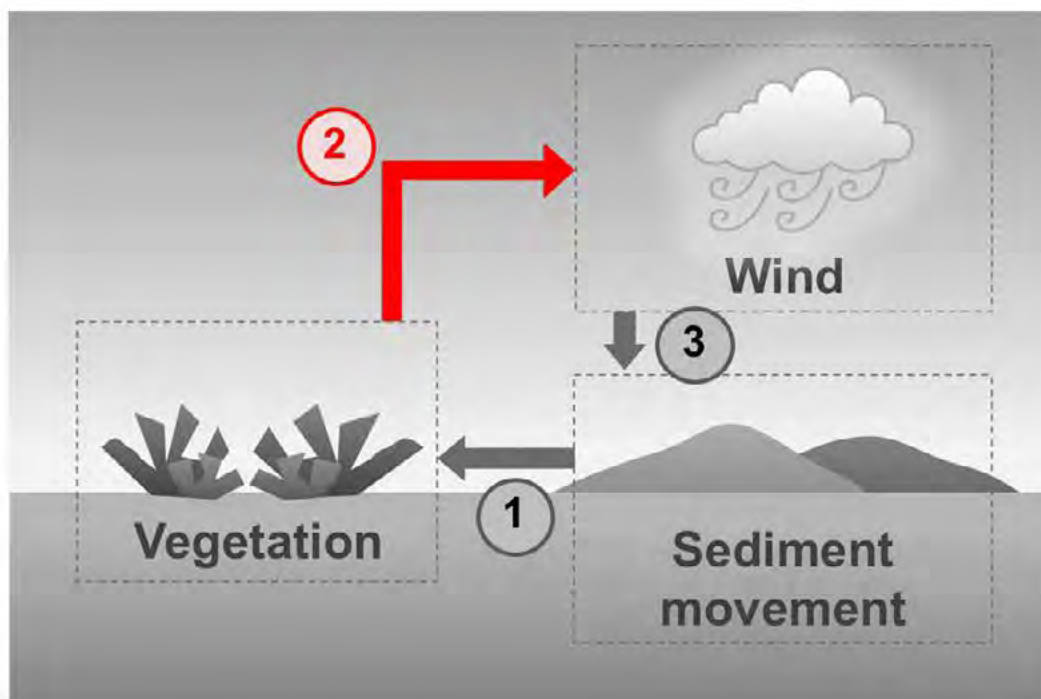
Adapted from Borgogno et al. (2009), *Rev. Geophys.*



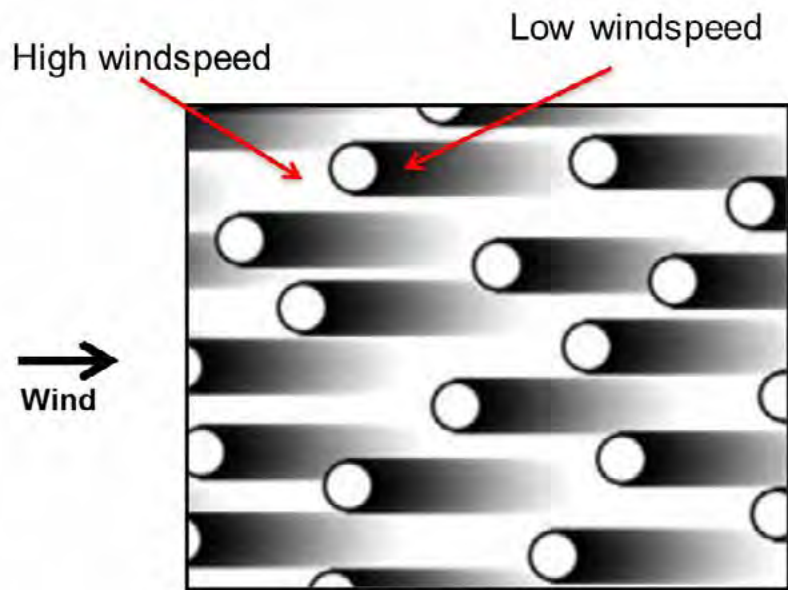
## Eastern Pamirs



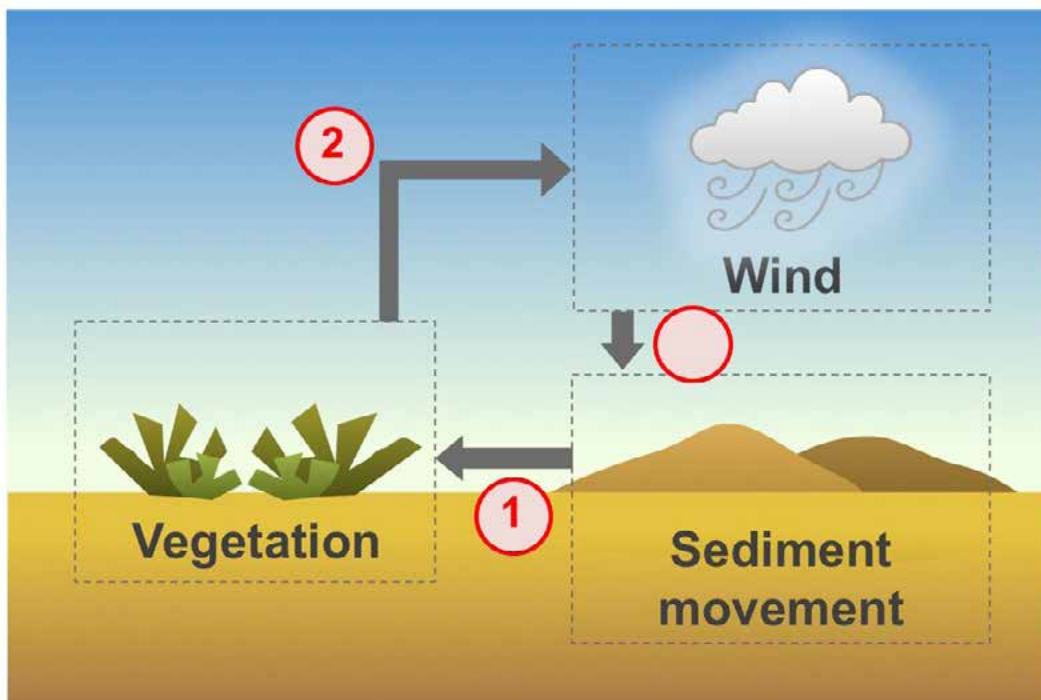
Google Earth, 2017

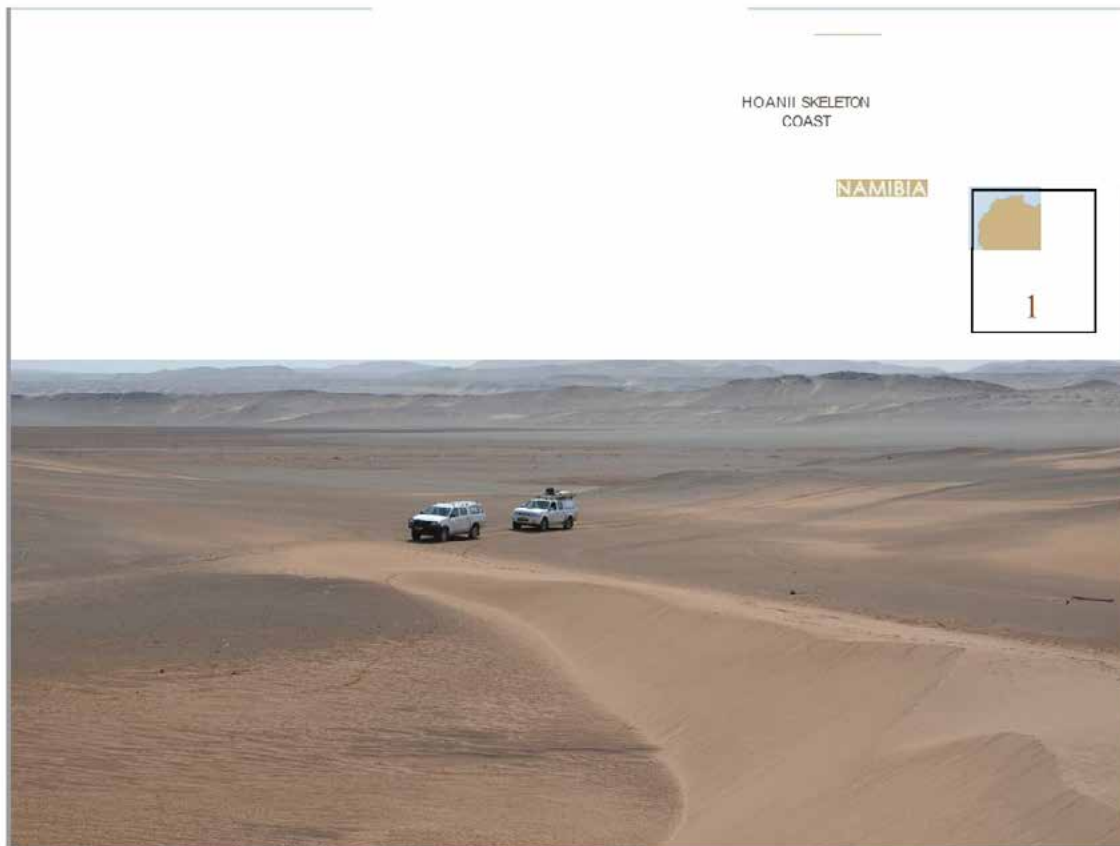




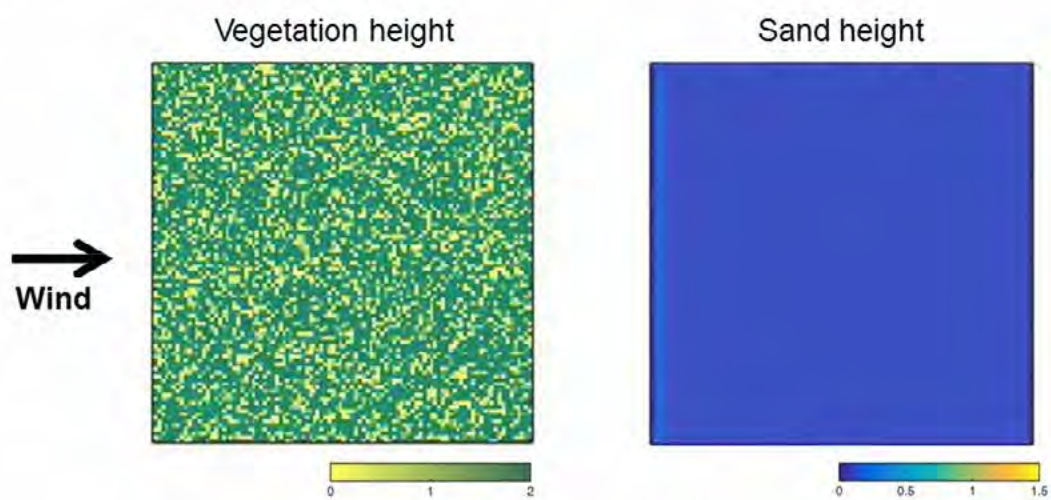


Okin (2008), *JGR*



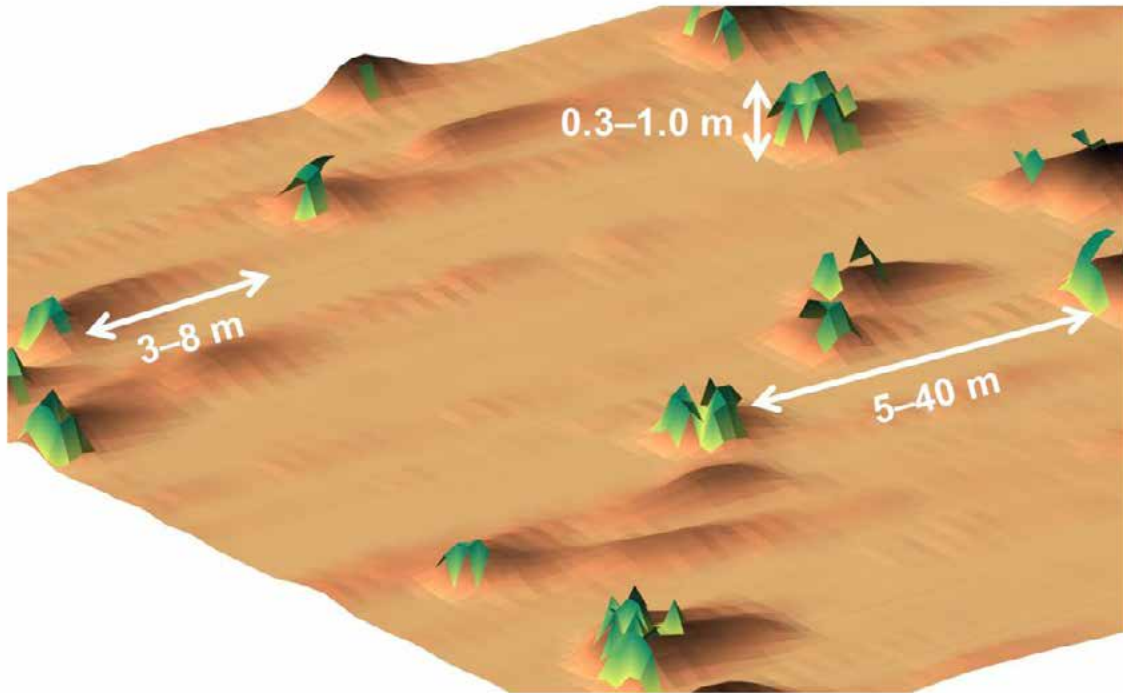


## Realistic dunes?

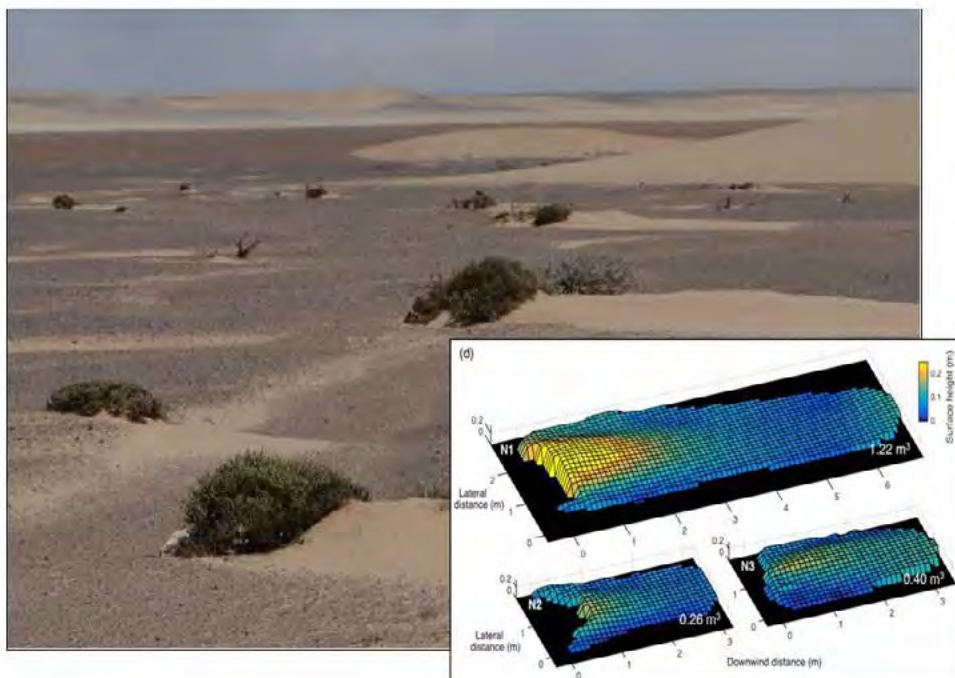


Simulation period: 25 years  
 Rainfall regime: 80 mm yr<sup>41</sup> (harsh)

## Realistic dunes?



## Realistic dunes?



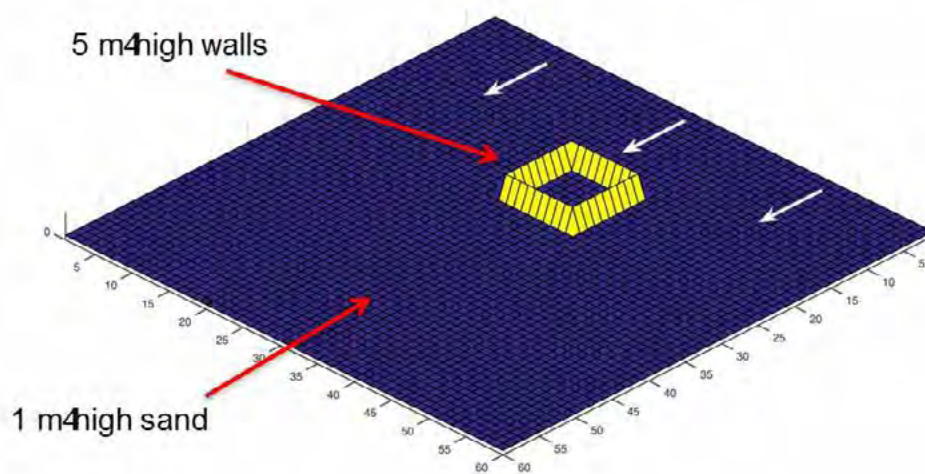
# Desert walls: Khorezm fortresses, Kyzylkum



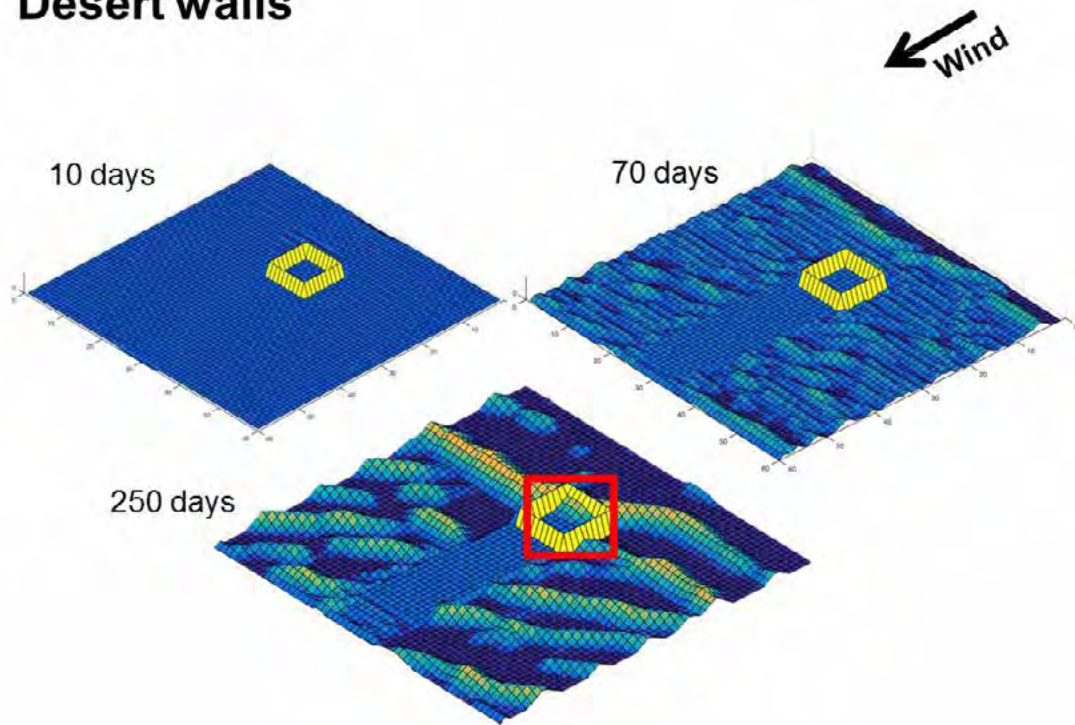
Anton Ivanov

## Desert walls

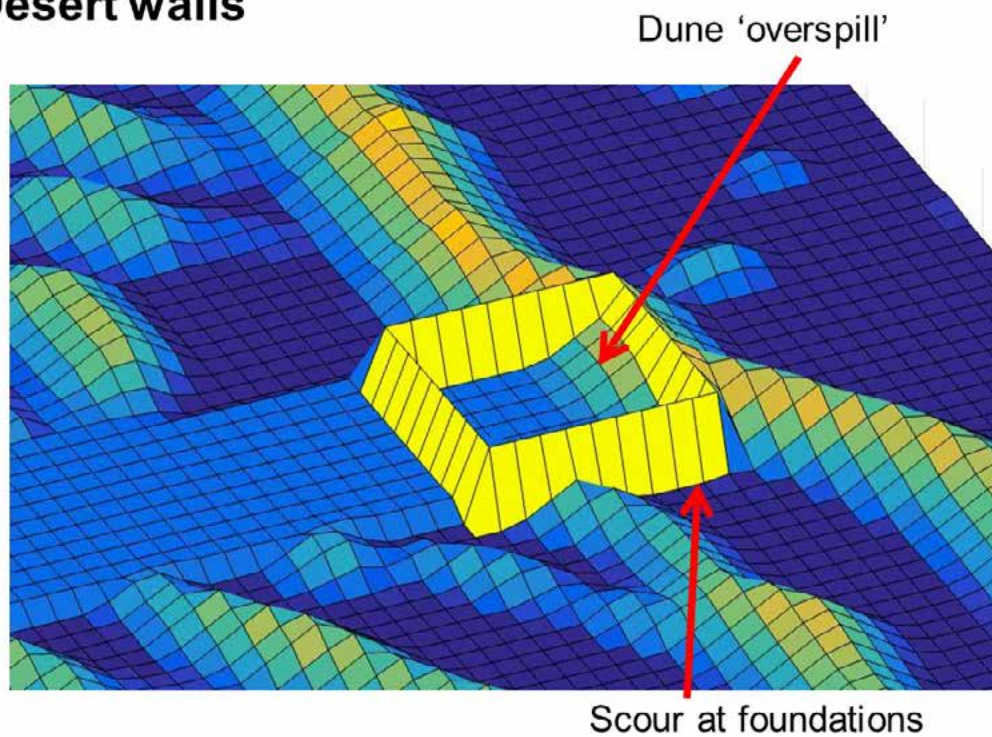
## Initial setup



## Desert walls



## Desert walls

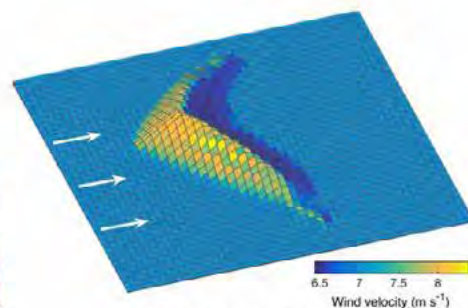


- ViSTA: **versatile** tool to predict land use change
- **Feedbacks** important
- Can be applied to **drylands** along **OBOR** route
- **Impact** of rail, roads, buildings

Model available free:  
[github.com/jeromemayaud/ViSTA](https://github.com/jeromemayaud/ViSTA)

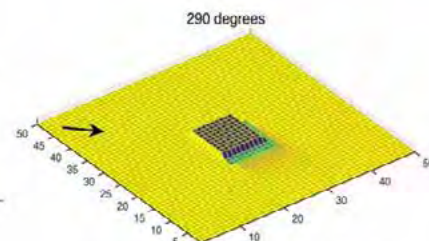
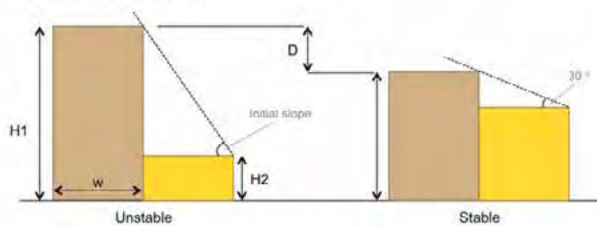
© Unusual Traveller

Shadow zones



Airflow compression

Avalanching



All wind directions

## Presentation 6:

### Great Altai: First Transboundary Biosphere Reserve in Asia - a Model of Transboundary Socio-Ecological System

Speaker: Tatyana Yashina

Firstly the idea of transboundary cooperation in the field of conservation and sustainable development in the Altai Mountains shared by Russia, Kazakhstan, Mongolia and China, was announced in 1998. After 6 years it resulted in bilateral field-level cooperation of Katunskiy Biosphere Reserve in Russian and Katon-Karagaiskity National Park in Kazakhstan. In 2017 this area was officially designated as the UNESCO's Transboundary Biosphere Reserve (TBR) "Great Altai".

The presentation describes the ecological and socio-economic context as well as managerial approach to TBR "Great Altai" It is based on the outcomes of the interdisciplinary study resulted in the management strategy of this transboundary area. Special attention will be given to the basic goals of the TBR: conservation of natural and cultural values, fostering sustainable development of local communities and monitoring of threats, targeted to provide relevant managerial responses.

This bilateral cooperation of Russia and Kazakhstan could be considered as a first practical step towards the International Altai Convention involving all four countries of the region and appealing to sustainable future of this transboundary area with its unique natural and cultural values.

#### Key insights

- The Altai Mountains are shared by Russia, Kazakhstan, Mongolia and China.
- In 2004 the bilateral field-level cooperation of Katunskiy Biosphere Reserve in Russian and Katon-Karagaiskity National Park in Kazakhstan have started.
- In 2017 this area was officially designated as the UNESCO's Transboundary Biosphere Reserve (TBR) "Great Altai".
- The TBR 'Great Altai' pays attention to the conservation of natural and cultural values, fostering sustainable development of local communities and monitoring of threats, targeted to provide relevant managerial responses.

[no presentation available]

## Presentation 7:

### Development of tourism in the transboundary Altai: influence of the project «One belt, one road»

Speaker: Alexander Dunets

Modern trends in tourism in the Altai region. Principle types of tourism. The experience of cooperation of Chinese and Russian scientists for research of tourism resources and tourism in the Altai region. The project “One belt, one way” and the main changes which will have taken place in tourism in the Altai region.

#### Key insights

- At different times in history Altai region has been a melting pot for interaction between different ethnic groups and cultures. Yet despite present-day global conditions which act to determine the social development and organization of a modern region, areas of traditional landscape and landscape have been preserved in the Region up to present times – almost untouched by human influence. The life of nomadic peoples in the area is a considerable pull for tourists visiting these enormous steppes, and their almost-inaccessible mountain hamlets in the taiga peak areas.
- For a considerable distance, the borders of this gigantic landlocked region form a natural buffer zone. The weak cross-border interactivity is influenced by the natural features - such as the high mountain ranges, where the state borders run.
- There is also the level of socio-economic development, the poorly developed transport and logistics network, and a broad range of ethnic and religious differences. Even so, there is a noticeable weakening taking place in the function of the border as a barrier – largely due to the processes of globalisation and the project “One Belt, One Road”.
- The activities of State authorities in the areas close to the border permit the formation of a cross-border economic zone in the Altai region. There is a gradual perception within the region by local communities that these bordering territories share a common ethnic, cultural, natural and historic space.
- The tourism and leisure economy is dependent in many respects on the social sphere and the economics of the region. From the moment of market reforms in Russia in the tourism industry, there have been far-reaching changes in the region.



## Presentation 7: Tourism Development

[Extended Abstract]

The Altai region is located directly at the centre of the Eurasian landmass, where the borders of four countries meet – Russia, Mongolia, Kazakhstan, and the People’s Republic of China. At different times in history it’s been a melting pot for interaction between different ethnic groups and cultures. Yet despite present-day global conditions which act to determine the social development and organisation of a modern region, areas of traditional landscape and landscape have been preserved in the Region up to present times – almost untouched by human influence. The life of nomadic peoples in the area is a considerable pull for tourists visiting these enormous steppes, and their almost-inaccessible mountain hamlets in the taiga peak areas.

For a considerable distance, the borders of this gigantic landlocked region form a natural buffer zone. The weak cross-border interactivity is influenced by the natural features - such as the high mountain ranges, where the state borders run. There is also the level of socio-economic development, the poorly-developed transport and logistics network, and a broad range of ethnic and religious differences. Even so, there is a noticeable weakening taking place in the function of the border as a barrier – largely due to the processes of globalisation and the project “One Belt, One Road”. The activities of State authorities in the areas close to the border permit the formation of a cross-border economic zone in the Altai region. There is a gradual perception within the region by local communities that these bordering territories share a common ethnic, cultural, natural and historic space. For example, the traditional way of life of the Tuvans is strongly connected with their location at the junction of the borders of Russia, Mongolia and China. While Kazakhs are to be found living in all four political states of the Altai region.

The tourism and leisure economy is dependent in many respects on the social sphere and the economics of the region. From the moment of market reforms in Russia in the tourism industry, there have been far-reaching changes in the region.

### Modern trends in tourism in the Altai region

*Leisure facilities.* The last decade has seen a great increase in the value of leisure facilities. Tourist areas capable of generating high revenue have become the objects of investment development. The significance of cultural and historic recreational facilities has increased. Scientific and practically-based conferences have discussed papers which try to value these leisure resources.

*The organisers of tourism services.* The number of organisations in the tourism market is growing. Rural tourism and ecotourism are expanding extensively. There is an increase in the range of different tourism services, both in terms of quality and provision. Tourist companies are beginning to exploit innovative technologies when providing tourist services, and in the promotion of their services – even the most remotely-located tourism centres and guest-houses now have their own websites. There’s an observable number of positive indicators which characterise the tourism industry currently. There’s considerable improvement in the equipment offered for tourists to use during their trips, particularly in the sphere of improving service and safety. Even so, many of the organisations offering tourism services are small outfits who lack the financial capacity to follow this through.

*Infrastructure.* Particular areas where there is a high concentration of tourism infrastructure services can now be identified. These contribute to the emergence of special economic zones for tourism and leisure, and of tourism clusters whose infrastructure funding is provided by the State. These areas

are booming as a result of private-public partnership projects. In addition to the simple growth in the numbers of tourist centres and hotels, there is substantive growth in such areas as entertainment, winter tourism, and roadside services for tourists in their own vehicles.

*The local population.* Local populations are playing an increasingly large role in tourism. At the population centres which are most frequently visited by tourists, local people have a clear perception of the concept of 'guests'. The chance to earn some quick money by providing services to tourists alters the perceptions of indigenous peoples towards tourists. Many try to make as much as they can from the tourists - in an attempt to put money by and avoid having to work at all until the next tourist season.

Some conflicts occur between tourists and local peoples, almost always based on perceptions of standard of living. A community of local peoples is growing, who view tourists very negatively. Many of these problems are directed towards incoming tourists. There are particularly negative feelings generated when tourist routes run through sacred sites

*Tourists.* The seasonality of tourism visits to the region is strongly delineated. For example, tourists visit the Altai primarily in summer. There are the beginnings of tourism associated with specific events, such as holidays and festivals. Tourists are now more acclimatised towards leisure visits to the mountains, and there is a large number of tourist routes for those arriving with their own vehicles. There are some areas where the volume of tourists is having a negative effect on the ecology of the area. The overall structure of tourism tends towards passive pursuits (taking a rest at tourism centres, stays at health centres). Despite this, there is growth in the sphere of excursions and active tourism too.

*Staff in the tourism industry.* There are a number of universities and colleges in the region which offer courses for those wishing to work in the tourist industry. Those taking these courses usually have Work Experience programs included in their studies, which might take place in any location within Russia, and also possibly abroad. However, many of the graduates of these courses are unwilling to work in tourism after graduation, due to the very low prevalent wages. A great percentage of tourism industry staff are placed on unpaid leave in the winter, or are laid off entirely.

Generally the level of service standards offered at tourist centres and in travel companies is rising slowly. However, the overall level of service to be found in the region is still poor.

*State Authorities.* There are State programs aimed at the development of the tourism and leisure sphere, which get a growing amount of attention. There are initiatives to promote tourism services, to bolster investment, to create new jobs in tourism, and there is budgetary support for scientific research into tourism in the area.

If we consider the primary major data about the characteristics of the growth in tourism in the Altai Region, we can see there are positive investment trends in tourism concerns, a rise in the number of travel agencies and hotels, and growing revenues in the travel sector.

There is a very positive trend throughout the region in the number of travel companies. These are primarily located in larger cities. Quite a number of tour operators in nearby areas are putting together travel programs in the Altai Region.

# Hindu Kush Karakorum Pamir Landscape Initiative (HKPL)

ICIMOD

## HKPL Team

International Centre for Integrated Mountain Development  
Kathmandu, Nepal

Dushanbe, 3 October 2017

FOR MOUNTAINS AND PEOPLE

## The Inter-Governmental Institution

ICIMOD

### The Hindu Kush Himalayan Region

- A regional mountain knowledge, learning and enabling centre devoted to sustainable mountain development for mountains and people
- Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan

Extends over 3,500 km from Afghanistan to Myanmar and home to 210 million people

# Mission

ICIMOD

To enable sustainable and resilient mountain development for improved and equitable livelihoods through knowledge and regional cooperation



# Linking Science-Policy-Practice

ICIMOD

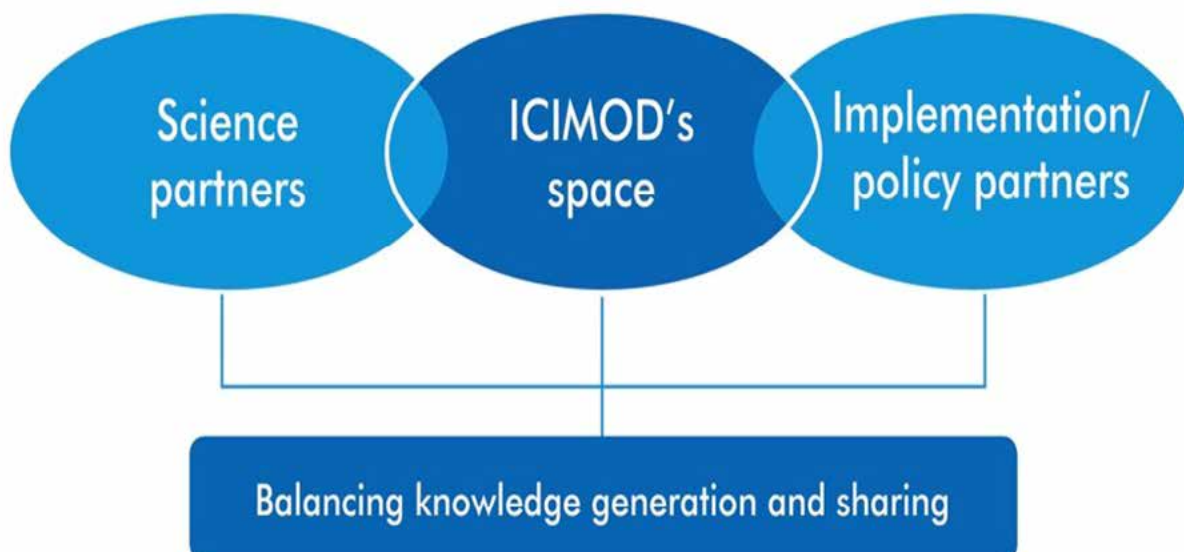
FOR MOUNTAINS AND PEOPLE

Basic science

Applied science

Knowledge sharing

Policy/practice



# Strategic Goals and Impacts

## Areas of Focus

ICIMOD

FOR MOUNTAINS AND PEOPLE

- Adoption of innovations
- Data generation and its use for policy and practice
- Human and institutional capacities
- Influencing Policies
- Regional Cooperation
- Mountains on the Global Agenda

### Strategic Impacts

Reduced poverty

Reduced physical and social vulnerability

Improved ecosystem services

## Regional Programmes

ICIMOD

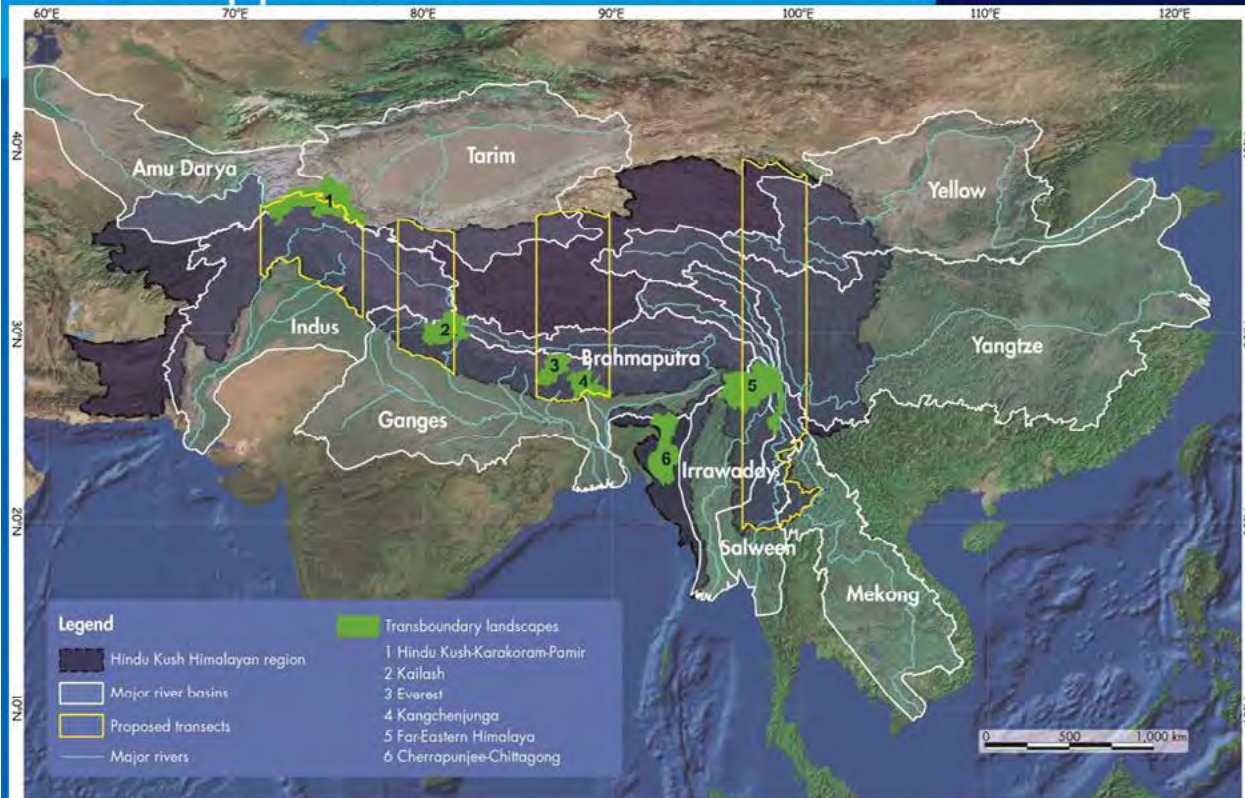
FOR MOUNTAINS AND PEOPLE

- 1) Adaptation to Change
- 2) Transboundary Landscapes
- 3) River Basins
- 4) Cryosphere and Atmosphere
- 5) Mountain Environment Regional Information System
- 6) Himalayan University Consortium

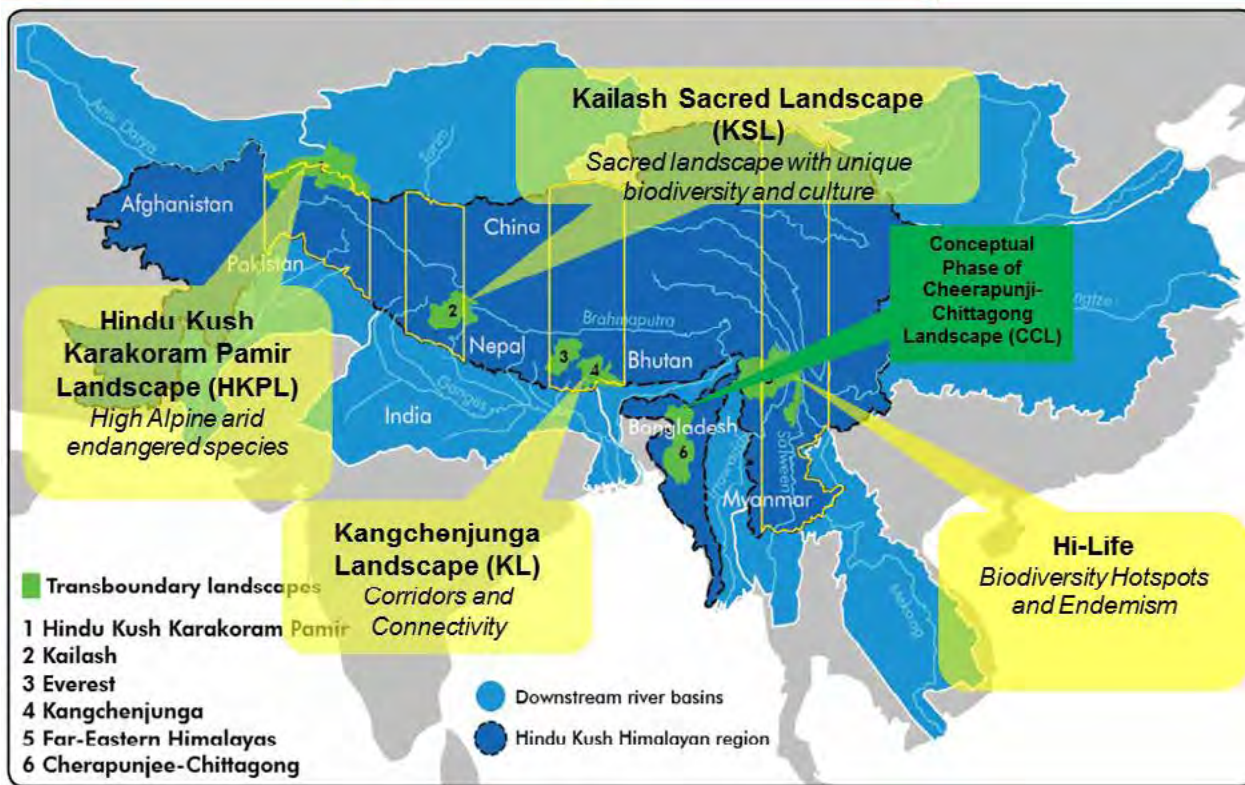


Theme: Livelihoods, Ecosystem Services, Water & Air, Geospatial Solutions

# Transboundary Landscapes & River Basin Approaches



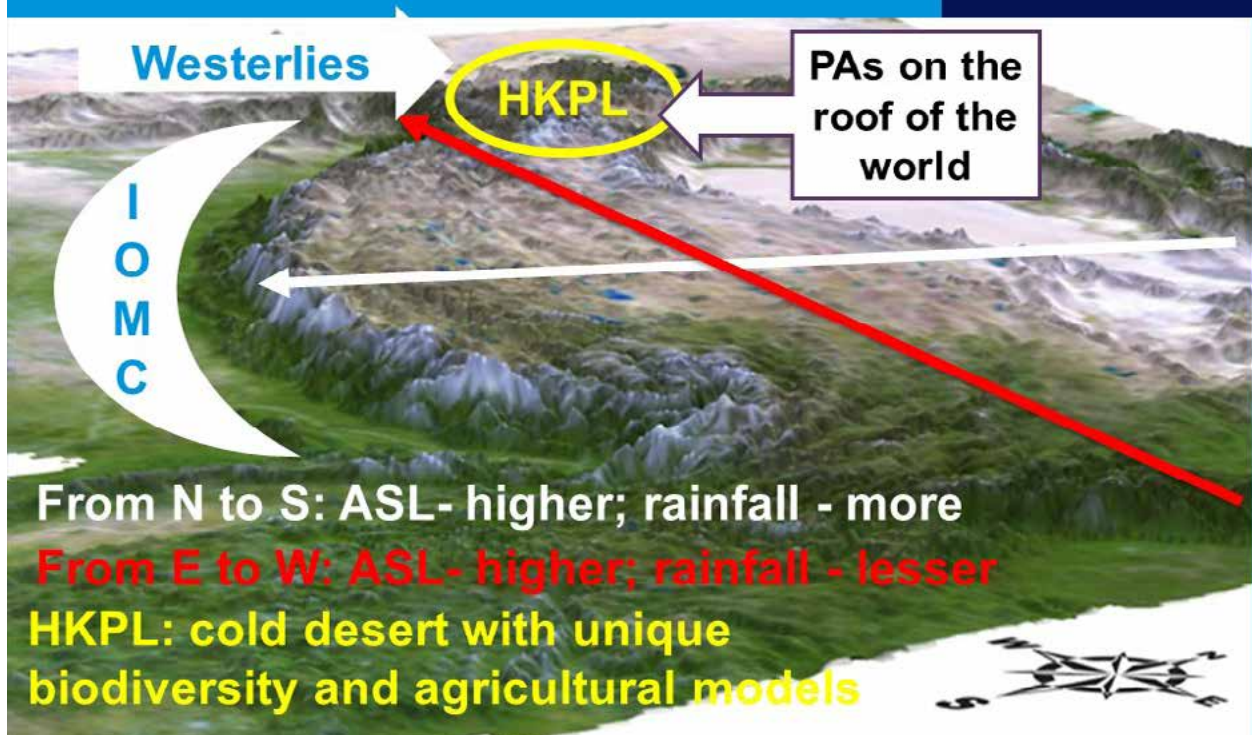
# Transboundary landscapes



# Hindu Kush Himalayas

ICIMOD

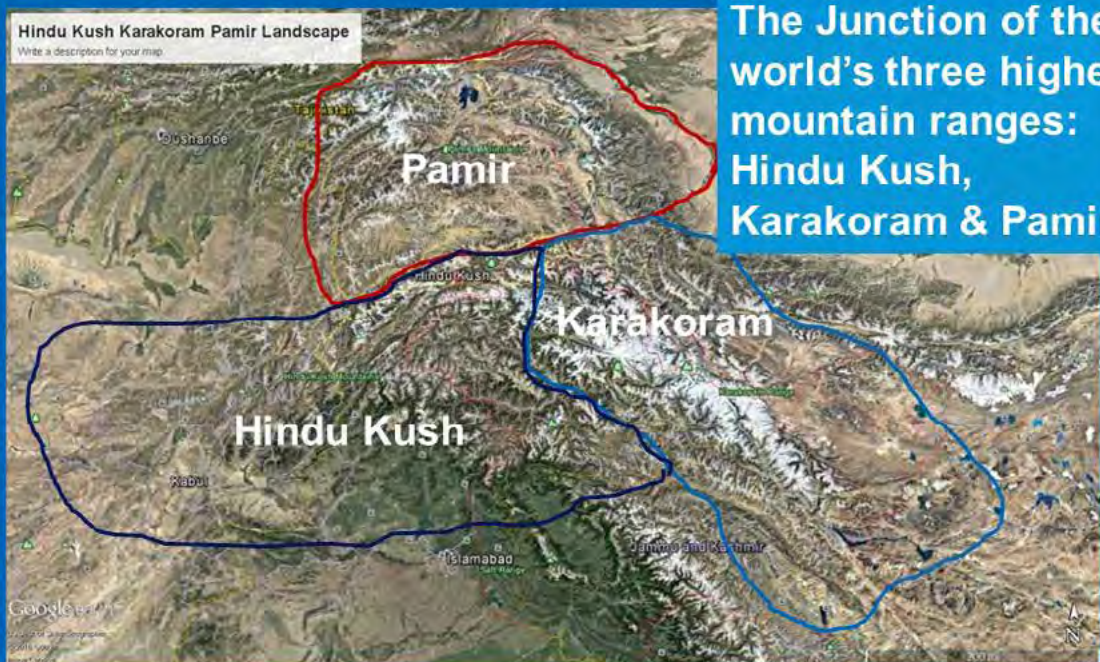
FOR MOUNTAINS AND PEOPLE



# Hindu Kush Karakoram Pamir Landscape (2011-)

ICIMOD

FOR MOUNTAINS AND PEOPLE



# The Amu darya River, Tarim River, and Indus River

ICIMOD

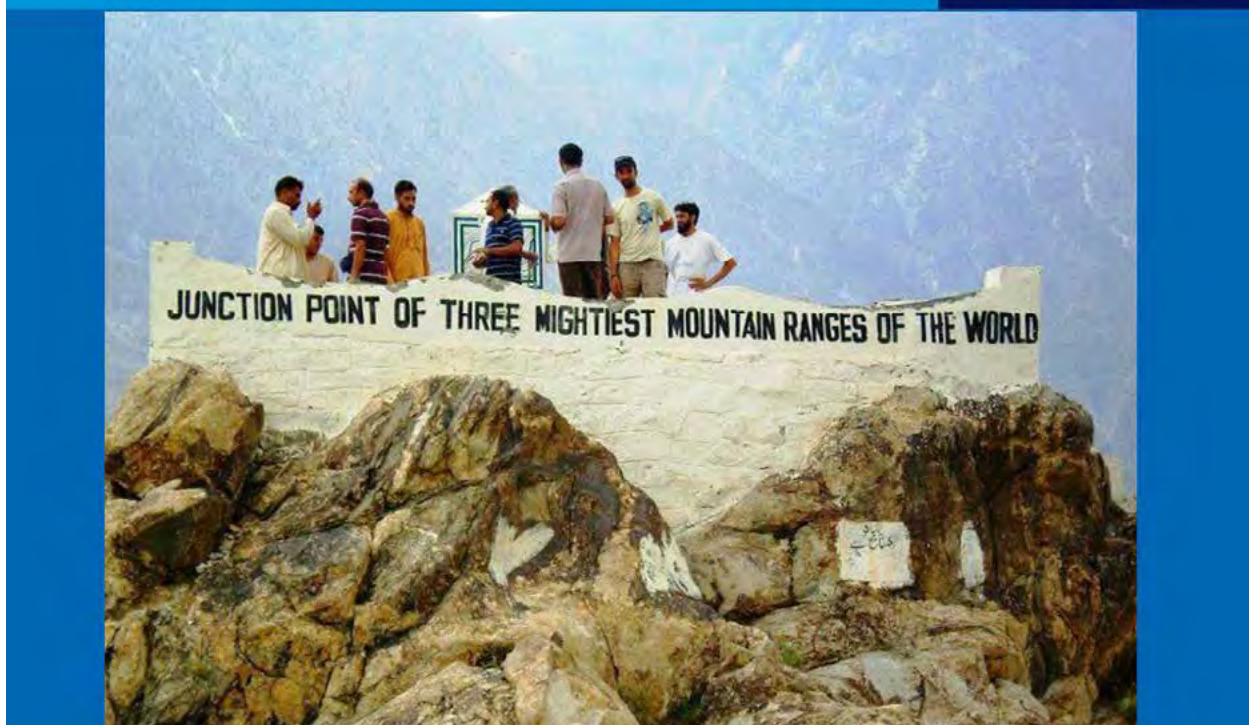
FOR MOUNTAINS AND PEOPLE



## Unique point

ICIMOD

FOR MOUNTAINS AND PEOPLE





# Key area of the ancient Silk Road



## Map of the HKPL landscape

ICIMOD

FOR MOUNTAINS AND PEOPLE



# Six interconnected Protected Areas

ICIMOD

FOR MOUNTAINS AND PEOPLE

## SEEING THE LANDSCAPE AS A WHOLE



Total area: 67,506 Sq km  
Six Protected area: 33,000 Sq km

Taxkorgan Nature Reserve (TNR)

Khunjerab National Park (KNP)

Wakhan National Park (WNP)

Broghil National Park (BNP)

Qurumbar National Park (QNP)

Zorkul Nature Reserve (ZNR)

# Information about Protected Areas

ICIMOD

Name of PA	Country	Area Sq Km	Flagship species	Pop-ulation	Geographic importance	Culture (ethnic groups)
Taxkorgan Nature Reserve (TNR)	China	15,000	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	30,000	Trade route between Pakistan and China	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow
Wakhan National Park (WNP)	Afghanistan	10,878	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	14,000	Trade route between Pakistan and Afghanistan	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow
Broghil National Park (BNP)	Pakistan	1,342	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	1,600	Trade route between Pakistan and Afghanistan	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow
Qurumbar National Park (QNP)	Pakistan	740	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	500	Trade route between Pakistan and Afghanistan	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow
Khunjerab National Park (KNP)	Pakistan	4,455	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	7,000	Trade route between Pakistan and China	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow
Zorkul Nature Reserve (ZNR)	Tajikistan	1,610	Marco-polo sheep, Snow leopard, Ibex, Golden eagle, Tibetan vulture	1,000	Trade route between Tajikistan and Afghanistan	Wakhi, Tajik, Sarakoli, Kyrgyz, Khow

# Ecosystem types: cold desert ecosystem & alpine meadow

ICIMOD

FOR MOUNTAINS AND PEOPLE

The cold desert ecosystem and alpine meadow with unique biodiversity and harbours globally threatened species, such as Marco Polo sheep and snow leopard



## Challenges

ICIMOD

FOR MOUNTAINS AND PEOPLE

### Regional level

- Lack of sufficient transboundary cooperation mechanism and policies
- Lack of landscape level information on the environmental conditions, biodiversity, ecosystem services and uses, climate change impact, and socio-economics of region
- Improper management of wildlife corridors and ecosystems

### National level

- Lack of infrastructure and capacity for utilizing existing potential for further development

### Local level

- Local communities vulnerable to climate change, natural disasters and geopolitics
- Increasing pressure on rangelands, severe energy shortage and lack of alternative energy technology
- Lack of alternative sustainable livelihood options and poor development of local niche products



**Regional cooperation to create an enabling policy environment for strategic planning:** The basis for regional cooperation:

- six climatically homogeneous protected areas are physically connected
- the landscapes have commonality of language, Muslim culture and religion
- key historical trade and cultural link between China and Europe through the ancient Silk Road, unique cultural heritage and geographic features to attract many tourists

**Livelihood diversification:**

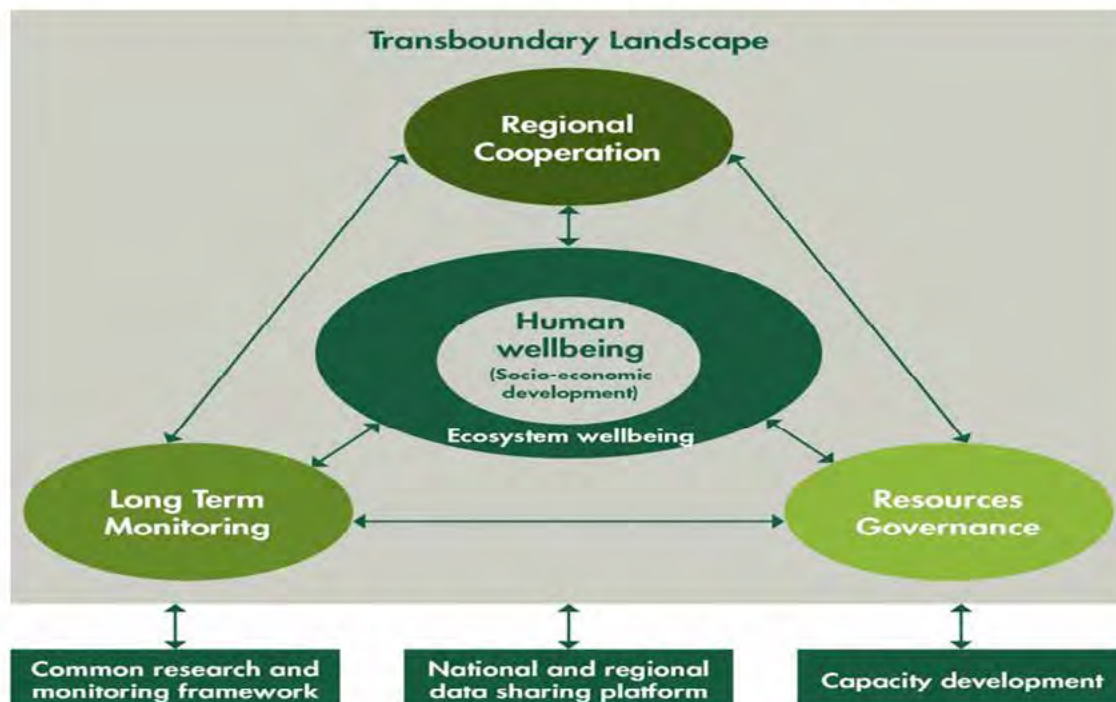
- developing a common market for cross-border trade and adding value for local products offers significant scope to increase income generation
- tremendous potentials for trans-border tourism which should be leveraged to create alternative livelihood and income options for local communities

**Strengthening capacities of the protected area authorities and local communities:**

- participatory management approach for biodiversity use and management
- promote the long-term sustainability of tourism in protected areas

**Enhance resilience and sustainability of the rangeland ecosystem:**

- restore degraded rangeland ecosystem
- diversify rural energy options
- enhance climate change adaptation



## HKPL concrete activities for next five years

ICIMOD

FOR MOUNTAINS AND PEOPLE

- Rangeland resource assessment for livelihood development
- Investigation of yak germplasm resources in the Hindu Kush Himalaya Region and identification genetic basis of yak domestication and diversity (NSFC-ICIMOD fund)
- Climate change effect on habitat suitability and transboundary migration corridor identification of Marco Polo sheep (NSFC-ICIMOD fund)
- Ground Deformation Monitoring and Geohazards Risk Assessment Based on InSAR Technologies for the China-Pakistan Economic Corridor (NSFC-ICIMOD fund)

## HKPL potential activities for next five years

ICIMOD

FOR MOUNTAINS AND PEOPLE

- Cultural heritage conservation and preservation; and linked tourism activities for livelihood development
- Technology transfer
  - Integrated Farming system and demonstration
  - Facility agriculture
  - Dry land agriculture
  - Niche products value chain
  - Cold water fish
  - Marketing and policies

## HKPL looking for partners

ICIMOD

FOR MOUNTAINS AND PEOPLE

- Food storage construction experience and building in highlands;
- Sea buckthorn planting and processing
- Handicraft trade;
- Tourism services (eco/cultural truisms);
- Warm housing and effective stoves.
- Improved Mountain farming;
- Natural Resource Management-forestry, agri and livestock;
- Climate change; Migration, Wild life management.
- Livelihood diversification, Fish (trout) farming;
- Mountain hazards;
- Cultural heritage conservation,
- Water conservation and power

## Long term opportunities

ICIMOD

FOR MOUNTAINS AND PEOPLE

- One Belt One Road Initiative
- NSFC-ICIMOD fund (30 million per year)
- China Pakistan Economic Corridor
- Pakistan, Afghanistan, Tajikistan integrated program
- Himalayan University Consortium
- Central Asia Institute

# Annexes

1. Workshop Schedule & Agenda
2. Book Launch: Yuri Badenkov
3. Book Launch: Hermann Kreutzmann
4. Maps of Central Asia
5. Workshop Participants
6. Selected References

## 1. Workshop Schedule and Agenda

### Monday, 2 October 2017 (Day 0)

Arrival of participants at Serena Hotel (all day)

Book Launch: Yuri Badenkov's new book will be presented at the Ismaili Centre Dushanbe, as part of *UCA Public Lecture Series* organized by AKHP. Details in separate announcement.

For participants who wish to attend, a minibus will depart Serena Hotel at 3:30pm.

### Tuesday, 3 October 2017 (Day 1)

Time	Activity	Participant
9.00am	Opening and introduction to the workshop	Marc Foggin
9.05am	Welcome Address (with introduction of AKDN and UCA)	Yodgor Faizov
9.15 am	<b>Keynote 1.</b> Building Mountain Resilience through Transboundary Management of Ecosystem Services	<b>Wu Ning</b>
10.00am	Introductions of the participants	Group
10.30am	Coffee break & networking	
11.00am	<b>Keynote 2.</b> Pamirian Crossroads and the New Silk Road Initiative	<b>Hermann Kreutzmann</b>
11:45am	<b>Discussion 1.</b> Stocktaking of current and planned OBOR-related investments/projects in Central Asia, by country and sub-regions	Chaired by Troy Sternberg
12.30pm	Lunch	
2.00pm	Recap of purpose and desired outcomes of workshop: Collaborative outlining of current state of knowledge, regional exchange of ideas and suggestions to maximize benefits, leading to recommended next steps	Marc Foggin
2.15pm	Presentation 1: OBOR scientific cooperation: from perspective of cooperation between Gansu, China, and Central Asian countries	Long Ruijin
2.30pm	Presentation 2: Beyond the Karakoram Range: six decades of road development in Ladakh, impacts on the environment and society	Jonathan Demenge
2.45pm	Coffee break & networking	
3.15pm	Presentation 3: Report by AKRSP in Gilgit, Pakistan on CPEC	Aziz Ali Dad
3.30pm	Presentation 4: Locational Advantage of Gilgit-Baltistan: Special Economic Zones	Babar Aman
3.45pm	Presentation 5: Predicting environmental effects of infrastructure development and land use change in high altitude deserts & steppes	Jerome Mayaud
4.00pm	<b>Discussion 2.</b> How can China's interests and plans in Central Asia, as presented through OBOR, be maximized for sustainable development? How can marginalization of mountain communities in Central Asia be averted, and anticipated benefits of OBOR's shared more widely?	Chaired by Yuri Badenkov and Hermann Kreutzmann



5.00pm	<b>ICIMOD mini-event</b> (1 hour): Long Ruijun and Ismail Muhammad to introduce the Hindu Kush – Karakoram – Pamir Landscape (HKPL) conservation programme, which encompasses six protected areas (PAs) and surrounding regions in four countries. Also an introduction of recently facilitated exchanges with Chinese scholars, related to the OBOR program, together with a discussion about types of opportunities that could be promoted or found between countries, for OBOR related scientific cooperation.	
6.30pm	<b>Supper</b>	
8.00pm	<u>Book launch</u> : “Wakhan Quadrangle: Exploration and Espionage During and After the Great Game” – will be held at Serena Hotel	Hermann Kreutzmann

### Wednesday, 4 October 2017 (Day 2)

Time	Activity	Participant
9.00am	<b>Keynote 3.</b> The Silk Road in High Asia: Geography, Environment & Sustainability in Altai	<b>Yuri Badenkov</b>
9.45am	Presentation 6: History and prospects for UNESCO’s transboundary Greater Altay Biosphere Reserve	Tatyana Yashina
10.00am	Presentation 7: Development of tourism in the transboundary Altai: influence of the project «One belt, one road»	Alexander Dunets
10.15am	Coffee break & networking	
10.45am	<b>Keynote 4.</b> The role of landscape and politics of infrastructure for China’s New Silk Road programme in Central Asia	<b>Troy Sternberg</b>
11.30am	Local/national perspectives: What does OBOR mean for ‘us’ – here in Central Asia? What are the possibilities, what are the challenges? What would we like to see OBOR develop? How to engage w/ China?  Hearing from Tajik, Kyrgyz, Afghan, and other voices and perspectives.	‘Open floor’ for thoughts, inputs and suggestions – from a range of perspectives
12.30pm	<b>Lunch</b>	
2.00pm	<b>Discussion 3.</b> Stock-taking revisited – further additions? Additionally, what gaps identified? What research needs? (and introduction of GCRF)	Chaired by Troy Sternberg
2:30pm	<b>Discussion 4.</b> Anticipated impacts of OBOR in mountains of Central Asia including policy matters, as well as discussion of governance issues, local and regional economic perspectives and implications, environmental and societal impacts, etc. Three breakout groups.  (A) Transitioning from ‘transport routes to ‘development corridors’ (B) Environmental considerations of infrastructure and land projects (C) Sociocultural impacts of OBOR related projects in mountain regions	Chaired by Marc Foggin and Wu Ning
3.30pm	Feedback Session	Group
4.00pm	Coffee break & networking	

4.30pm	<p><b>Panel Session:</b> What are some economic/sociocultural/environmental benefits and/or challenges arising from OBOR? What disparities (if any) in local vs regional vs Chinese benefits/challenges? Who wins, who loses?</p> <ul style="list-style-type: none"> <li>- Tatjana Yashina (Alta, Russia) – integrating culture in development, including opportunities for community-beneficial tourism in OBOR</li> <li>- Talantbek Aldashev (Kyrgyzstan) – changing markets and impacts on livestock husbandry sector (i.e. pastoralism and rangelands)</li> <li>- Kishwar Abdulalishoev (Tajikistan) – agriculture &amp; food security</li> <li>- Aziz Ali Dad (Gilgit--Baltistan) – maximizing economic benefits for communities, moving beyond ‘transport routes’ to ‘development’</li> <li>- Wu Ning (China) – environmental challenges, safeguards needed</li> </ul>	Chaired by Hermann Kreutzmann
5.30pm	<b>Final discussion:</b> Future directions / Where do we go from here?	Troy Sternberg et al.
6.15pm	Closing remarks and thanks	
6.30pm	– end –	

### Post-workshop tour (option)

5 October 2017	Dushanbe – Darvaz
6 October 2017	Darvaz – Khorog
7 October 2017	Khorog – Langar
8 October 2017	Langar – Khorog
9 October 2017	Khorog – Dushanbe

### Silk Roads in Mountains of Central Asia International Workshop



#### Proposed Itinerary for the five day trip through the Pamirs

Start Day: October 5, 2017

End Day: October 9, 2017

Number of Travelers: 11

**Vehicle provided:** 4X4 (Toyota Land Cruiser)

## Trip Description

Day 1: Drive from Dushanbe to Khorog (6-7hours) to Kalai Khumb. Karon Fortress sightseeing in the evening. Overnight in Darwaz guest-house in Kalai Khumb (20 USD per person for bed and breakfast)

Day 2: Drive to Khorog (6-7 hours). Check-in in the hotels, lunch in the Khorog Central Park Serena Restaurant. Short trip to the Botanical garden and University of Central Asia campus site, dinner in the dining hall of the university.

Day 3: Drive to Wakhan (5-6 hours). On the way we will stop in the Ishkashim Afghan Market if it works, otherwise we will drive until Kah-Kaha and Yamchun fortresses, pre-Islamic shrines, Bibi Fotima Hot-spring (Great view to the famous Wakhan Corridor and old Silk Road). Overnight in a home-stay (20 USD per person)

Day 4: Drive to Khorog through Khargush pass to the Ghund Valley (7-8 hours). Stops in the Jelondy Hotspring, Pamir I HPP, China-Khorog Terminal, and Barsem debris flow sites, Overnight in Khorog.

Day 5: Drive from Khorog to Dushanbe ( 12-13 hours). overnight in Dushanbe



## 2. Book Launch: Yuri Badenkov



UNIVERSITY  
OF CENTRAL ASIA

### AKHP\MSRI Public Lecture Series

02 October 2017, 16:00

*The University of Central Asia is pleased to announce the next event in its public lecture series held in Dushanbe, Tajikistan, organized in partnership with the Russian Geographic Society of Academy of Science of Russian Federation and the Geographic Society of Tajikistan. This lecture will be conducted in the framework of developing inter-disciplinary discourse between intellectuals, academics and students in disciplines of humanities and the sciences.*

### Book Launch "Life in the Mountains: Environmental and Cultural Diversity – Diversity of Development Models" by Dr Yuri Badenkov

with presentations by

**Dr. Yuri Badenkov**  
Senior Research Scientist  
Institute of Geography  
Russian Academy of Sciences

**Dr. KhoInazar Mukhabatov**  
President  
Geographical Society of Tajikistan

#### ***Book Abstract***

The book "Life in the Mountains" describes the diversity of life and of development models in mountain areas in the context of their historical heritage, and environmental and ethno-cultural diversity. Referring to the cases of European Alps, Karakorum, Himalaya, Andes, mountains of Central Asia, East Africa, Northern Appalachians, Caucasus and Altai the author discusses the issues of political inequality in mountain regions, the effects of their peripheral locations and dependence of the urban and lowland centers having more advanced economies.

The book's intended audience includes politicians, researchers, students, organizations and practitioners of strategic planning in the area of sustainable mountain development. The book is co-published by the Russian Geographical Society (founded 1845) and University of Central Asia.

A reception will be held after the two presentations, during which time the author will be available to sign copies of the book.

***Author's Biography***

Dr. Yuri Badenkov is a leading scientist in the field of sustainable mountain development and adaptation strategies for global change, with experience working in North Eurasia, Central Asia, North and South Caucasus and the Sudet Mountains in Poland. Dr. Yuri Badenkov was a core member of the founding commission of University of Central Asia (UCA) and is member of the Advisory Committee for UCA's Mountain Societies Research Institute (MSRI). From 1983 to 2013, he led the Mountain Group MAB-6 at the Russian Academy of Science Institute of Geography. He also has contributed to UNESCO's work on sustainable mountain development, and the Man and the Biosphere Programme (MAB), working to preserve mountain biosphere reserves. Dr. Badenkov received a medal of honour from the Commission of the Russian Federation for UNESCO Affairs for his contribution in promoting Russian cooperation with UNESCO. Dr. Badenkov holds degree in Geology from the University of Moscow and in Geochemistry from the University of St. Petersburg.

***Moderator***

Pulat Shozimov, FDP Manager\Acting Director  
Aga Khan Humanities Project of the University of Central Asia

***Language***

The presentation will be conducted in Russian

***Location***

Ismaili Centre, Dushanbe  
47 Ismail Somoni Street  
Dushanbe, Tajikistan

***Registration***

Please RSVP to [marifat.alifbekova@ucentralasia.org](mailto:marifat.alifbekova@ucentralasia.org) with your name and affiliation.  
Please indicate if you require English translation.

*\* Ideas presented in this lecture reflect the personal opinion of the speaker and do not necessarily represent the views of the University of Central Asia and/or its employees.*

**Central Administration Office**

138 Toktogul Street, Bishkek, 720001, Kyrgyz Republic  
Tel.: +996 (312) 910 822 Fax: +996 (312) 910 835  
[info@ucentralasia.org](mailto:info@ucentralasia.org)

### 3. Book Launch: Hermann Kreutzmann



UNIVERSITY  
OF CENTRAL ASIA

**03 October 2017, 20:00**

*The University of Central Asia is pleased to announce the book launch lecture held in Dushanbe, Tajikistan, organized in partnership with the Centre for Development Studies - Geographic Sciences, Free University of Berlin. This lecture will be conducted in the framework of developing inter-disciplinary discourse between intellectuals, academics and students in disciplines of humanities and the sciences.*

#### **Book Launch** **“Wakhan Quadrangle: Exploration and Espionage** **During and After the Great Game” by Dr Hermann** **Kreutzmann**

with presentation by

**Dr. Hermann Kreutzmann**

Professor

Centre for Development Studies - Geographic Sciences

Free University of Berlin

#### ***Book Abstract***

The Wakhan Quadrangle became an arena of colonial competition and international interest when four powers – Afghanistan, China, Great Britain and Russia – struggled for dominance in a remote mountain region where only scattered communities lived in a challenging environment. At the end of the ‘Great Game’ international boundaries were agreed upon and established on the ground. Prior to this, half a century of exploration and reconnaissance had augmented and enhanced the ethnographical, geographical and linguistic knowledge about the people living there by sending various international travellers commissioned to record routes, military details and strategic information for the respective parties in the contest. Among the diverse explorers were so-called indigenous intermediaries who were trained in measuring geodetic parameters and who noted down their observations about the customs, culture and economy of the people. They were expected to be knowledgeable in terms of linguistic skills and cultural practices; they were less likely than their colonial masters to arouse suspicion. Munshi Abdul Rahim was an explorer who was sent to Wakhan and Badakhshan in 1879-1880 by the first British Political Agent in Gilgit, John Biddulph. Hard to find and long-disregarded, his report is the centrepiece of this book and is reprinted in facsimile. This authentic and informative report was written during a crucial period for Wakhan that resulted in the imperial division of the formerly independent principality into two parts and the flight and migration of a large share of its inhabitants to neighbouring countries. His account is preceded by an introduction to the Great Game and its implications for the Central Asian interface and especially Badakhshan and the Pamirs, an elaboration of the context in which exploration and reconnaissance took place, and a presentation of the actors from the perspective of ‘native explorers’. Munshi Abdul Rahim’s narrative is a case in point to discuss the function of

providers of 'political' and 'non-political' information, i.e. the distinction between exploration and espionage from colonial times to the present day. The comments and interpretations are embedded in archival research and fieldwork in the region; within a span of 40 years, the author has retraced all the steps of Munshi Abdul Rahim.

#### ***Author's Biography***

Hermann Kreutzmann has been Chair of Human Geography and Director of the Centre for Development Studies at the Freie Universität Berlin since 2005. Previously he held the Chair of Cultural Geography and Development Studies, and was the Director of the Institute of Geography at the Friedrich-Alexander-Universität Erlangen-Nuernberg since 1996. He studied physics, geography and anthropology at the universities of Hannover and Freiburg/Brsg., received his Dr. rer. nat. in 1989 from the Freie Universität Berlin, acted afterwards as the field director of the DFG-funded special research programme "Culture Area Karakorum", was awarded postdoctoral habilitation degree from Bonn University in 1994 and became a visiting professor at the Henry M. Jackson School of International Studies at the University of Washington in Seattle in 1995. He received a Heisenberg Fellowship in 1995 and was awarded the Tianshan Prize China in 2010. Empirical research was conducted in Afghanistan, Pakistan, Tajikistan, Kyrgyzstan, India, Nepal, Tibet and Xinjiang since 1977 and spanning a fieldwork period of nearly a decade resulting in more than 200 publications including more than twenty authored and edited books. Principle Investigator in the Berlin Graduate School "Muslim Culture and Societies" and board member of the BMBF programme "Crossroads Asia".

#### ***Moderator***

Marc Foggin, Acting Director, Mountain Societies Research Institute, UCA

#### ***Language***

The presentation will be conducted in English

#### ***Location***

Serena Hotel, Dushanbe  
Rudaki Avenue 14,  
Dushanbe, Tajikistan

#### ***Registration***

Please RSVP to [lnura.omurbekova@ucentralasia.org](mailto:lnura.omurbekova@ucentralasia.org) with your name and affiliation.

*\* Ideas presented in this lecture reflect the personal opinion of the speaker and do not necessarily represent the views of the University of Central Asia and/or its employees.*

#### **Central Administration Office**

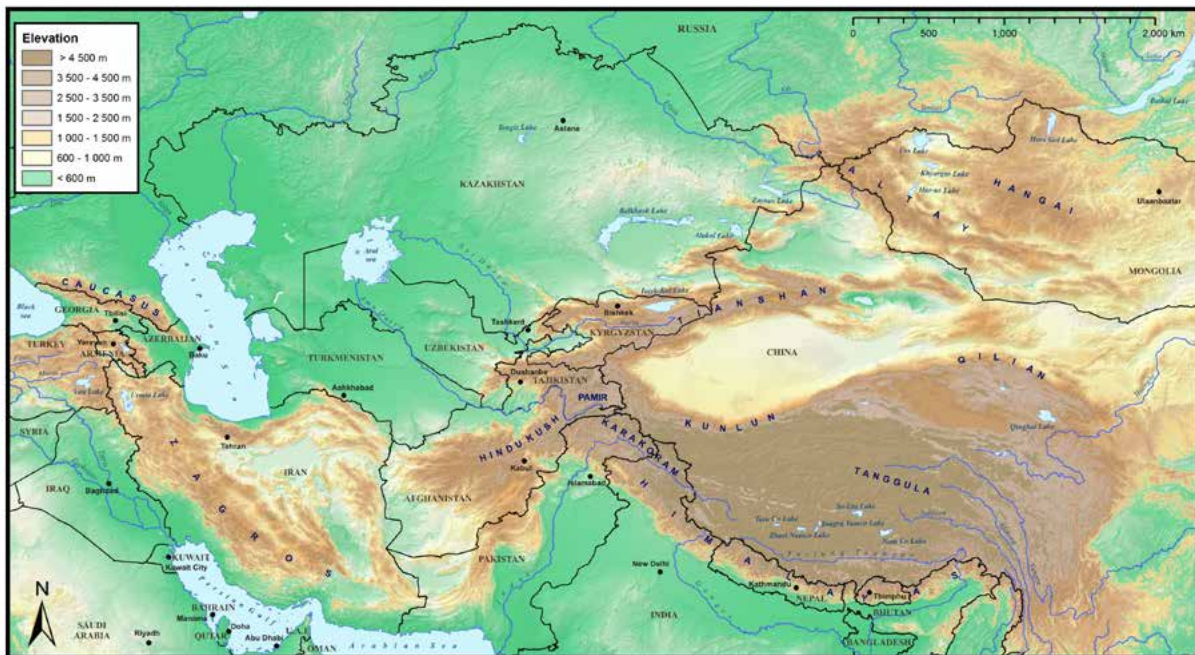
138 Toktogul Street, Bishkek, 720001, Kyrgyz Republic  
Tel.: +996 (312) 910 822 Fax: +996 (312) 910 835  
[info@ucentralasia.org](mailto:info@ucentralasia.org)

#### 4. Maps of Central Asia

## CENTRAL ASIA AND CHINA



## Mountains of Central Asia





## 5. Workshop Participants

# Silk Roads in the Mountains of Central Asia

## Ancient Routes & Modern Challenges in Times of Global Change

### List of workshop participants

#	Name	Affiliation	Country	Email
<b>Keynote Speakers</b>				
1	Hermann Kreutzmann	Free University of Berlin	multiple	h.kreutzmann@fu-berlin.de
2	Wu Ning	ICIMOD	multiple	Wu.Ning@icimod.org
3	Yuri Badenkov	Russian Academy of Science	multiple	yubaden@mail.ru
4	Troy Sternberg	University of Oxford	multiple	troy.sternberg@geog.ox.ac.uk
<b>Other Participants</b>				
5	Imatbek Nikhmonov	AKDN Afghanistan	Afghanistan	imatbek.nikhmonov@akdn.org
6	Shams Ali Shams	AKF Afghanistan - Badakhshan	Afghanistan	shamsali.shams@akdn.org
7	Long Ruijun	ICIMOD - HKPL	China	ruijun.long@icimod.org
8	Tuo Chaoqun	Lanzhou University	China	tuochq07@163.com
9	Yang Zhigang	Lanzhou University	China	yangzg@lzu.edu.cn
10	Zhang Dongju	Lanzhou University	China	djzhang@lzu.edu.cn
11	Zhang Lixun	Lanzhou University	China	zhanglixun@lzu.edu.cn
12	Zhang Tao	Lanzhou University	China	tzhang2014@lzu.edu.cn
13	Yongdrol Tsongkha	Lanzhou University	China	ists@lzu.edu.cn
14	Jonathan Demange	independent	India	jon.demenge@gmail.com
15	Talantbek Aldashev	AKF Kyrgyzstan	Kyrgyzstan	talantbek.aldashov@akdn.org
16	Aziz Ali Dad	AKRSP Gilgit-Baltistan, Pakistan	Pakistan	azizalidad@gmail.com
17	Babar Aman	Gov't of Gilgit-Baltistan, Pakistan	Pakistan	babaramanbabar1@gmail.com
18	Alexander Dunets	Altai University	Russia	dunets@mail.ru
19	Tatjana Yashina	Altai University	Russia	altai-yashina@yandex.ru
20	Bakhtiyor Azizmamadov	AKDN Tajikistan	Tajikistan	bakhtiyor.azizmamadov@akdn.org
21	Kishwar Abdulalishoev	MSDSP Tajikistan	Tajikistan	kishwar.abdulalishoev@akdn.org
22	Amin Virani	AKF Tajikistan	Tajikistan	amin.virani@akdn.org
23	Mamadsho Ilolov	Center of Innovation, TAS	Tajikistan	ilolov.mamadsho@gmail.com
24	Umarov Kh	Tajik National University	Tajikistan	umarov2000@mail.ru
25	Mona Sadat Khonsari	German Embassy in Tajikistan	Tajikistan	wz-hosp1@dusc.auswaertiges-amt.de
26	Kurt Strasser	KfW Development Bank	Tajikistan	Kurt.Strasser@kfw.de
27	Kristin Laabs	KfW Development Bank	Tajikistan	Kerstin.Laabs@kfw.de
28	Davlatbek Davlatov	CAMP Kuhiston	Tajikistan	davlatbeg1982@gmail.com
29	Nusrat Nasab	AKAH Global	multiple	nusrat.nasab@akdn.org
30	Shiraz Hajiani	University of Chicago	multiple	hajiani@uchicago.edu
31	Muhammad Ismail	ICIMOD - HKPL	multiple	Muhammad.Ismail@icimod.org
32	Srijana Joshi Rijal	ICIMOD - HKPL	multiple	Srijana.Joshi@icimod.org
33	Neha Bisht	ICIMOD - HKPL	multiple	Neha.Bisht@icimod.org
34	Jerome Mayaud	University of Oxford	multiple	jerome.mayaud@gmail.com
35	Jerzy Wasilewsky	University of Poland	multiple	jswasilewski@uw.edu.pl
36	Alma Uzbekova	University of Central Asia - MP	multiple	alma.uzbekova@ucentralasia.org
37	Elbegzaya Batjargal	University of Central Asia - MP	multiple	elbegzaya.batjargal@ucentralasia.org
38	Shodigul Mamadyorbekova	University of Central Asia - MSRI	multiple	shodigul.mamadyorbekova@ucentralasia.org
39	Murodbek Laljebaev	University of Central Asia - MSRI	multiple	murodbek.laljebaev@ucentralasia.org
40	Marc Foggin	University of Central Asia - MSRI	multiple	marc.foggin@ucentralasia.org

## 6. Selected References

- Ansar, A., et al. 2016. Does infrastructure investment lead to economic growth or economic fragility? Evidence from China. *Oxford Review of Economic Policy*, 32(3), pp.360-390.
- Asongu, S. and Ssozi, J., 2016. Sino-African relations: some solutions and strategies to the policy syndromes. *Journal of African Business*, 17(1), pp.33-51.
- Ayub Mehar (2017) Infrastructure development, CPEC and FDI in Pakistan: is there any connection?, *Transnational Corporations Review*, 9:3, 232-241
- Barry, A. Infrastructure and the earth. In *Infrastructure and Social Complexity*; Harvey, P., Jensen, C., Morita, A., Eds.; Routledge: London, UK, 2016.
- Blanchard, J.; Flint, C. The Geopolitics of China's Maritime Silk Road Initiative. *Geopolitics* 2017, 22, 223–245.
- Callaghan, Mike & Paul Hubbard (2016) The Asian Infrastructure Investment Bank: Multilateralism on the Silk Road, *China Economic Journal*, 9:2, 116-139
- CAO (Compliance Advisor Ombudsman, IFC). 2017a. CAO Mediation in Mongolia Leads to Agreement Related to Oyu Tolgoi Mine. 2017. CAO #8: [cao-ombudsman.org/cases/case\\_detail.aspx?id=191](http://cao-ombudsman.org/cases/case_detail.aspx?id=191)
- Casarini, N. When All Roads Lead to Beijing. Assessing China's New Silk Road and its Implications for Europe. *Int. Spect.* 2016, 51, 95–108.
- Casarini, N. When All Roads Lead to Beijing. Assessing China's New Silk Road and its Implications for Europe. *Int. Spect.* 2016, 51, 95–108
- Changhoon, C.H.A., 2017. China's Westward March. *The Korean Journal of International Studies*, 15(3), pp.483-500.
- Chatham House The 'Belt and Road' Initiative and the London Market—The Next Steps in Renminbi Internationalization Part 2: The View from London. 2017.
- Cooley, A. The Emerging Political Economy of OBOR: The Challenges of Promoting Connectivity in Central Asia and Beyond. Center for Strategic and International Studies. Available online: [www.csis.org/analysis/emerging-political-economy-obor](http://www.csis.org/analysis/emerging-political-economy-obor) (accessed on 16 March 2017).
- Cooley, A. The Emerging Political Economy of OBOR: The challenges of promoting connectivity in Central Asia and beyond. Center for Strategic and International Studies. Available online: [www.csis.org/analysis/emerging-political-economy-obor](http://www.csis.org/analysis/emerging-political-economy-obor) (accessed on 16 March 2017).
- Déry, S., Leimgruber, W. and Zsilincsar, W., 2012. Understanding marginality: Recent insights from a geographical perspective. *Hrvatski geografski glasnik*, 74(1.), pp.5-18.
- Diener, A. Parsing mobilities in Central Eurasia: border management and new Silk Roads. *Eurasian Geogr. Econ.* 2015, 56, 376-404.
- Financial Times. China's Great Game: Road to a New Empire. Available online: <https://www.ft.com/content/6e098274-587a-11e5-a28b-50226830d644> (accessed on 5 April 2017).
- Francopan, P. *The Silk Roads: A New History of the World*; Bloomsbury: London, UK, 2015.
- Gerber, N., Nkonya, E. and von Braun, J., 2014. Land degradation, poverty and marginality. In

Marginality (pp. 181-202). Springer, Dordrecht.

Ghiasi, Richard and Jiayi Zhou. 2017. The Silk Road economic belt. Considering security implications and EU–China cooperation prospects. Solna: Stockholm International Peace Research Institute, 56 pp.

Guluzian, C.R. Making Inroads: China's New Silk Road Initiative. *Cato J.* 2017, 37, 135.

Hofman, I., 2017. Soft budgets and elastic debt: farm liabilities in the agrarian political economy of post-Soviet Tajikistan. *The Journal of Peasant Studies*, pp.1-21.

Hong Yu (2017) Motivation behind China's 'One Belt, One Road' Initiatives and Establishment of the Asian Infrastructure Investment Bank, *Journal of Contemporary China*, 26:105, 353-368

Honjiang, C. (2016). The Belt and Road Initiative and its impact on Asia-Europe connectivity (Beijing, PR China: China Institute of International Studies).

Howard, K.W.; Howard, K.K. The new "Silk Road Economic Belt" as a threat to the sustainable management of Central Asia's transboundary water resources. *Environ. Earth Sci.* 2016, 75, 1–12. [CrossRef]

Karaganov, S.; Bordachev, T.; Barabanov, O.; Bezborodov, A.; Gabuev, A.; Kuzovkov, K.; Lukin, A.; Suslov, D.; Likhacheva, A.; Makarov, I.; et al. Creating Central Eurasia: The Silk Road Economic Belt and the Priorities of the Eurasian States' Joint Development. *Russ. Stud.* 2015, 3, 002.

Kassenova, N. China's Silk Road and Kazakhstan's Bright Path: Linking Dreams of Prosperity. *Asian Policy* 2017, 24, 110–116.

Kreutzmann, H., 2003. Ethnic minorities and marginality in the Pamirian Knot: survival of Wakhi and Kirghiz in a harsh environment and global contexts. *The Geographical Journal*, 169(3), pp.215-235.

Kreutzmann, Hermann and Teiji Watanabe, eds. 2016. Mapping transition in the Pamirs. Changing human-environmental landscapes. Cham: Springer, 274 pp.

Kreutzmann, Hermann. 2013. The significance of geopolitical issues for internal development and intervention in mountainous areas of Crossroads Asia. *Crossroads Asia Working Paper Series 7*: 1-31

Kreutzmann, Hermann. 2015. Pamirian crossroads. Kirghiz and Wakhi of High Asia. Wiesbaden: Harrassowitz, 559 pp.

Lain, S. 2018. The Potential and Pitfalls of Connectivity along the Silk Road Economic Belt. In: Laruelle (ed), *China's Belt and Road Initiative - impact in Central Asia*. GWU, Wash., D.C.

Lain, S.; Pantucci, R. The Economics of the Silk Road Economic Belt. 2015. Available online: [www.rusi.org/publication/conference-reports/economics-silk-road-economic-belt?page=4MarcoPolo](http://www.rusi.org/publication/conference-reports/economics-silk-road-economic-belt?page=4MarcoPolo) (accessed on 11 February 2017).

Laruelle, M. (ed.) *China's Belt and Road Initiative and its impact in Central Asia*. Washington, D.C.: The George Washington University, Central Asia Program. 2018. Available online: [http://centralasiaprogram.org/wp-content/uploads/2017/12/OBOR\\_Book\\_.pdf](http://centralasiaprogram.org/wp-content/uploads/2017/12/OBOR_Book_.pdf) (accessed 7 February 2018).

Laruelle, M. Russia and Central Asia. In *The New Central Asia: The Regional Impact of International Actors*; World Scientific: London, UK, 2010; pp. 149–176.

Laurence, W.F., and Arrea, I.B. 2017. Roads to riches or ruin? Global infrastructure expansion must balance social benefits and environmental hazards. *Science* 358(6362):442-444.

- Lechner, A. M., Chan, F.K.S., and Campos-Arceiz, A. 2018. Biodiversity conservation should be a core value of China's Belt and Road Initiative. *Nature Ecology & Evolution*, published online 15 January 2018, <https://doi.org/10.1038/s41559-017-0452-8>.
- Lim, T.W.; Chan, H.H.; Tseng, K.H.; Lim, W.X. *China's One Belt One Road Initiative*; Imperial College Press: London, UK, 2016.
- Ma, H., Zeng, S., Lin, H., Chen, H. and Shi, J.J., 2017. The societal governance of megaproject social responsibility. *International Journal of Project Management*, 35(7), pp.1365-1377.
- Mackinder, H.J., 1904. *The geographical pivot of history*. Royal Geographical Society.
- Magnus Marsden (2016) Crossing Eurasia: trans-regional Afghan trading networks in China and beyond, *Central Asian Survey*, 35:1, 1-15
- Merics 2016. Beijing's New Silk Road to Europe. *Der Spiegel*. [www.spiegel.de/international/world/bild-1110148-1042788.html](http://www.spiegel.de/international/world/bild-1110148-1042788.html)
- Mingjiang Li (2016) From Look-West to Act-West: Xinjiang's role in China–Central Asian relations, *Journal of Contemporary China*, 25:100, 515-528
- NY Times. Behind China's \$1 Trillion Plan to Shake Up the Economic Order. 2017. Available online: [https://www.nytimes.com/2017/05/13/business/china-railway-one-belt-one-road-1-trillion-plan.html?\\_r=0](https://www.nytimes.com/2017/05/13/business/china-railway-one-belt-one-road-1-trillion-plan.html?_r=0) (accessed on 13 May 2017).
- Pantucci, R. Looking West: China and Central Asia. 2015. Available online: <http://chinaincentralasia.com/2015/04/16/looking-west-china-and-central-asia/> (accessed on 16 March 2017).
- Parham, Steven (2016) The bridge that divides: local perceptions of the connected state in the Kyrgyzstan–Tajikistan–China borderlands, *Central Asian Survey*, 35:3, 351-368
- Pelc, S., 2018. Marginality and sustainability. In *Nature, Tourism and Ethnicity as Drivers of (De) Marginalization* (pp. 31-42). Springer, Cham.
- Peyrouse, S. 2016. Discussing China: Sinophilia and Sinophobia in Central Asia. *J. Eurasian Stud.*, 7.
- Peyrouse, S.; Raballand, G. 2015. Central Asia: The new Silk Road initiative's questionable economic rationality. *Eurasian Geogr. Econ.*, 56, 405–420.
- Peyrouse, S.; Raballand, G. Central Asia: The new Silk Road initiative's questionable economic rationality. *Eurasian Geogr. Econ.* 2015, 56, 405–420.
- Rolland, N. *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative*; NBR: Seattle, WA, USA, 2017.
- Rolland, N. *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative*; NBR: Seattle, WA, USA, 2017.
- Schiek, S. 2017: Movement on the Silk Road. China's "Belt and Road" Initiative as an Incentive for Intergovernmental Cooperation and Reforms at Central Asia's Borders. Berlin: SWP RP 12
- Shinn, D.H., 2016. The Environmental Impact of China's Investment in Africa. *Cornell Int'l LJ*, 49, p.25.
- Sidaway, J.; Woon, C. Chinese Narratives on "One Belt, One Road" in Geopolitical and Imperial Contexts. *Prof. Geogr.* 2017, 1–13, doi:10.1080/00330124.2017.1288576.

- Sidaway, J.;Woon, C. Chinese Narratives on “One Belt, One Road” in Geopolitical and Imperial Contexts. *Prof. Geogr.* 2017, 1–13.
- Sternberg, T. and Edwards, M., 2017. Desert Dust and Health: A Central Asian Review and Steppe Case Study. *International journal of environmental research and public health*, 14(11), p.1342.
- Sternberg, T., et al. 2017. Central Asian ‘characteristics’ on China’s new Silk Road: The role of landscape and the politics of infrastructure. *Land*, 6(3), p.55.
- Sternberg, T.; Ahearn, A.; McConnell, F. Central Asian ‘Characteristics’ on China’s New Silk Road: The Role of Landscape and the Politics of Infrastructure. *Land* 2017, 6, 55. <http://dx.doi.org/10.3390/land6030055>
- Summers, T. China’s ‘New Silk Roads’: Sub-National regions and networks of global political economy. *Third World Quart.* 2017, 37, 1628–1643.
- Summers, T. China’s ‘New Silk Roads’: Sub-National regions and networks of global political economy. *Third World Quart.* 2017, 37, 1628–1643.
- Tang, D. China’s Investment in the Central Asian Republics. Foreign Military Studies Office, 2015.
- Toktomushev, K. Central Asia and the Silk Road Economic Belt. Policy Brief 2016-1. 2016. Available online: <http://ucentralasia.org/Resources/Item/1218> (accessed on 11 August 2017).
- Tracy, E. et al. 2017. China’s new Eurasian ambitions: the environmental risks of the Silk Road Economic Belt. *Eurasian Geography and Economics*, 58(1), pp.56-88.
- US State Department. U.S. Support for the New Silk Road. 2015. Available online: <https://2009-2017.state.gov/p/sca/ci/af/newsilkroad/index.htm> (accessed on 5 June 2017).
- Wu Ning, Muhammad Ismail, Srijana Joshi, Faisal M. Qamar, Karma Phuntsho, Yang Weikang, Babar Khan, Yi Shaoliang, et al. 2014. Understanding the transboundary Karakoram-Pamir landscape. Kathmandu: Icimod, 84 pp.
- Xinhua. President Xi’s speech at opening of Belt and Road forum. 2017. Available online: [news.xinhuanet.com/english/20USD17-05/14/c\\_136282982.htm](http://news.xinhuanet.com/english/20USD17-05/14/c_136282982.htm).
- Yong Wang (2016) Offensive for defensive: the belt and road initiative and China’s new grand strategy, *The Pacific Review*, 29:3, 455-463
- Zhang, H., 2015. Building the silk road economic belt: Challenges in Central Asia. *Cambridge Journal of China Studies*. 17-33.

## **Silk Roads in the Mountains of Central Asia**

### *Ancient Routes and Modern Challenges in Times of Global Change*



Mountain Societies Research Institute  
138 Toktogul Street, Bishkek, 720001, Kyrgyz Republic  
Tel.: +996 (312) 910 822, Fax: +996 (312) 910 835  
[msri.uceentralasia.org](http://msri.uceentralasia.org)