

Building Partnerships for Conservation and Development in HKH

Exploring Complementary Opportunities for Improving HKPL
Transboundary Cooperation from One Belt, One Road Initiative, China



About ICIMOD

The International Centre for Integrated Mountain Development (ICIMOD) is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalayas (HKH) – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – based in Kathmandu, Nepal. Globalization and climate change have an increasing influence on 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 and downstream issues. ICIMOD supports regional transboundary programmes through partnerships with regional partner institutions, facilitates the exchange of experiences, and serves as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop economically and environmentally-sound mountain ecosystems to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now and in the future.



ICIMOD gratefully acknowledges the support of its core donors:

The governments of Afghanistan, Australia, Austria, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Norway, Pakistan, Switzerland, and the United Kingdom.

Building Partnerships for Conservation and Development in HKH

Exploring Complementary Opportunities for Improving HKPL
Transboundary Cooperation from One Belt, One Road Initiative, China

1–12 December 2016, Lanzhou, China

Published by

International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Nepal

Copyright © 2017

International Centre for Integrated Mountain Development
All rights reserved. Published 2017

Compiled by

Neha Bisht, Srijana Joshi, Long Ruijun, Muhammad Ismail

Production team

Christopher Butler (Editor)
Punam Pradhan (Graphic designer)
Asha Kaji Thaku (Editorial assistant)

Photos: Srijana Joshi, Neha Bisht, Long Ruijun

Note

This publication may be reproduced in whole or in part and in any form for educational or nonprofit purposes without special permission from the copyright holder, provided acknowledgement of the source is made. ICIMOD would appreciate receiving a copy of any publication that uses this publication as a source. No use of this publication may be made for resale or for any other commercial purpose whatsoever without prior permission in writing from ICIMOD.

The views and interpretations in this publication are those of the author(s). They are not attributable to ICIMOD and do not imply the expression of any opinion concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries, or the endorsement of any product.

This publication is available in electronic form at www.icimod.org/himaldoc

Citation: ICIMOD (2017) *Building partnerships conservation and development in HKH. Exploring complementary opportunities for improving HKPL transboundary cooperation for one belt, one road initiative, China*. ICIMOD Proceedings 2017/4. Kathmandu: ICIMOD

Contents

Executive Summary	v
Background	1
Objectives	2
Review and Planning	3
Day 1	3
Opening Sessions	3
Technical Session I: Review and Planning for HKPLCDI 2016 and 2017	4
Country Presentations	6
Closing Remarks	6
Day 2	7
Opening Sessions	7
Technical Session I: Partners Presentations	8
Technical Session II: Opportunities from China	9
Day 3	11
Technical Session I: NSFC-ICIMOD Project	11
Technical Session II: Presentations on Collaborations and Planning for 2017	11
Closing Session	11
Field Trips	8
Cold Water Fisheries, Gansu Fisheries Research Institute (GFRI), Linxia	13
Dryland Agriculture, Dingxi	14
Highland Livestock Management, Tianzhu Tibeatan Autonomous Country	14
Meetings for Building Partnerships	17
Qinghai Normal University and ICIMOD – Programme on Academic Activities of Qinghai Provincial Silk Road Economic Belt Research Institute	17
Shaanxi Provincial Cultural Relics Bureau	18
Meeting with Vice President, North West University	18
ICOMOS International Conservation Center (IICC)	18
October 3D	18
China City Guard	19
Ningxia University	19
Annexes	21
Annex I: Programme Agenda – HKPL Regional Review and Planning Meeting	21
Annex II: Programme Agenda – Building Partnerships for Conservation and Development in HKH	22
Annex III: Agenda of Science and Technology Cooperation Forum between QHNU and ICIMOD	24
Annex IV: Agenda for ICIMOD Delegation to Visit to Xi'an	25
Annex V: List of Participants	26

Executive Summary

The Hindu Kush Karakoram Pamir Landscape Conservation and Development Initiative (HKPL-CDI) is a regional transboundary initiative to enhance cooperation between Afghanistan, China, Pakistan, and Tajikistan for biodiversity conservation and mountain sustainable development. The HKPL team visited China and fulfilled various purposes: (i) They conducted the HKPL review and planning meeting involving all four countries and were able to bring on board for the first time relevant participants from Afghanistan; (ii) jointly organized with Lanzhou University (LU) a two-day event on sharing rangeland resources work and presentation from potential partners; (iii) provided a platform for three NSFC-ICIMOD project participants to initiate discussions and plan their future activities; and (iv) established potential collaborations with the provincial government, bureaus, universities, and other relevant institutions from China involved in the One Belt, One Road (OBOR) initiative.

- For Artichoke (*Cynara cardunculus*) and sea buckthorn (*Hippophae rhamnoides*): Commercial Lanzhou Research Institute and the Center of Innovation Development of Science, Academy of Science, Republic of Tajikistan. Support for this technology transfer and training of about 75000 USD to be given by the Gansu Provincial Department of Science and Technology, Gansu, China for two years.
- Cold Water Fisheries technology transfer from Gansu Fisheries Research Institute (GFRI) to Hindu Kush Heights Company, Chitral, Pakistan and National Agricultural Research Council (NARC), Nepal. Support for this technology transfer and training of about 750000 USD to be given by the Gansu Provincial Department of Science and Technology, Gansu, China for three years.
- Potato breeding and germplasm exchange between NARC and Gansu Agricultural University. Support for this technology transfer and training of about 45000 USD to be given by the Gansu Provincial Department of Science and Technology, Gansu, China.

Based on these meetings, some MoUs have already been signed and a few are in process, to be finalized in early 2017. Great interest was shown by different organizations to collaborate with ICIMOD and to work for development and conservation (ecology and culture) in the HKPL region. ICIMOD and the communities and institutions which currently lack international cooperation opportunities can lead this collaborative work by capacity building, technology transfer, and leveraging funds from the Chinese partners.



Background

ICIMOD's mission is "to enable sustainable and resilient mountain development for improved and equitable livelihoods through knowledge generation and regional cooperation". ICIMOD is a knowledge, learning, and enabling centre developing and sharing information and using innovation and effective communication to empower the eight regional member countries (RMCs) of the HKH – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and their people.

The Hindu Kush Karakoram Pamir Landscape Conservation and Development Initiative (HKPL-CDI) is a regional transboundary initiative to enhance cooperation between Afghanistan, China, Pakistan, and Tajikistan for biodiversity conservation and mountain sustainable development. The HKPL lies at the convergence of several important biogeographical regions and possesses a unique and rich assemblage of floral, faunal, and cultural diversity. It has been listed as an important ecoregion and biodiversity hotspot, as well as a cultural heritage conservation by several international organizations. It is a key link in the ancient Silk Road and an important corridor through which many influential ethnic groups migrated across Eurasia, resulting in an extremely diverse and rich cultural mix and regional history.

The **One Belt, One Road (OBOR)** initiative aims to create an economic land belt that includes countries on the original Silk Road through Central Asia, West Asia, the Middle East, and Europe, as well as a maritime road that links China's port facilities with the African coast, pushing up through the Suez Canal into the Mediterranean. The initiative intends to promote the orderly and free flow of economic factors, highly efficient allocation of resources, and deep integration of markets by enhancing the connectivity of Asian, European, and African continents and their adjacent seas.

The OBOR initiative that is working to restore the original Silk Road for economic and cultural development and the HKPL initiative that aims to promote conservation and sustainable management of the transboundary landscape have the potential to do complementary work and promote cultural and technology exchange amongst the member nations.

To conserve and sustainably manage the natural and cultural resources while providing diversified opportunities to the local communities of the HKPL region and also integrate these options at the HKH level, the HKPL team, along with Lanzhou University, planned to organize a technology sharing and adoption workshop for government officials, practitioners, and development organisations from HKH, along with an exposure visit planned for the HKPL team and its partners. This field trip served as a learning platform to examine technologies and management options for rangelands, livestock, and dryland agriculture, as well as cultural heritage conservation.

Objectives

1. Improving transboundary cooperation through innovative partnerships and exploring opportunities to leverage funds for the HKPL countries, especially through already existing initiatives like OBOR and China Pakistan Economic Corridor (CPEC).
2. Knowledge sharing amongst partners of HKH on cold water fisheries, dry land agriculture, livestock, rangeland management, and cultural heritage conservation and their potential upscaling/ outscaling.
3. Involve provincial governments of China, universities, and other relevant organizations in the technology transfer to other HKH countries.
4. Bring together partners from the various NSFC-ICIMOD projects to plan future activities for implementation in HKPL countries.
5. HKPL Review for 2016 and planning 2017-2019.
6. Promote ICIMOD and HKPL to relevant institutions and organizations for future collaboration.

Review and Planning

Day 1

Opening Session

Dr Long Ruijun: He warmly welcomed everyone for the workshop at Lanzhou. Funds allocated to different countries for rangeland work, and the current research shows good ground work by all the partners. Today we review our work over the past few months and see what we can do beyond this to improve our field presence and the livelihoods of the local communities. This is also a platform for building new partnerships, particularly from China, for further collaboration. The HKPL region is a very important part of the Silk Road and thus there are opportunities to work with the OBOR and seek new opportunities.

Dr Liu Wenjiang: He thanked ICIMOD and Lanzhou University for the opportunity. The OBOR initiative is an important tie between China and Pakistan. Xinjiang is an important province for the Silk Road and also borders Pakistan. Incredible progress has been made this year. Taxkorgan Nature Reserve has made a request to Kashgar University to set up a research center for Pamir ecosystem. The rangeland research work along with ICIMOD needs discussion; this is an important point for the review and also for how we can proceed.

Dr Bahadar Khattak: The HKPL region, its issues, and human resources are not well understood. There is a great potential to explore new ways and opportunities for research collaborations. ICIMOD and LU have been proactive in bringing research organizations and development agencies together. There is also growing interest in doing more research work in the mountains. Karakoram International University has a new department on High Mountains to increase their work area. In the following three-day deliberations and field work, we should be able to come out with concrete actions and possible work areas for the future.

Mr Shonazar Gulyazov: People living in the high altitude Pamir region have many issues and problems. The workshop will provide a platform for making new partners to work together and resolve the issues in the Tajik Pamir.

Introduction of Participants

Dr Srijana Joshi initiated a round of introductions of each participant to share their name and their area of work.

Introduction of Workshop Objectives, Agenda, and Expected Outcomes

Dr Yi Shaoliang talked about the content of the workshop and what is expected at the end of the three days. The sessions are designed in a way that ICIMOD along with its partners will review the activities of 2016 and look at what new activities can be done in 2017 and beyond. Concrete ideas and plan for 2017 and beyond will be discussed. The meetings will also be a platform to build new partnerships and seek linkages with the ongoing initiatives in China and other countries from where funds can be leveraged for HKPL. Potential partners to present their ongoing work and where can ICIMOD and ICIMOD member countries contribute and converge resources and research. There is seen an increasing interest in the HKPL area which offers a good opportunity for building new partnerships.

Technical Session I: Review and planning for HKPLCDI 2016 and 2017

Chair: **Dr Yi Shaoliang**

Overall review and progress of HKPL by Srijana Joshi and Muhammad Ismail	<p>Initiated as Karakoram Pamir Landscape involving China and Pakistan.</p> <p>2013: Work started on the Wakhan Landscape in Tajikistan and Afghanistan.</p> <p>The two initiatives were merged in 2015: Connectivity between the two landscapes and similarities in geography, culture, and flora and fauna.</p> <p>December 2015: The landscape was renamed the Hindu Kush Karakoram Pamir Landscape (HKPL).</p>	<p>2016: Research initiated on rangelands in three countries.</p> <p>Capacity-building events like Training for management for ecosystem services organized.</p> <p>Challenge: Take this learning to field; research to policy, and from classroom teaching to community use.</p>
ICIMOD and HKPL by Long Ruijun	<p>Introduction to ICIMOD and its transboundary landscapes programme.</p> <p>HKPL links the Karakoram, Pamir, and Hindu Kush mountains with a cold, dry desert-type ecosystem promoting unique and specialized floral and faunal diversity. It is an important region, with the ancient Silk Road passing through it. Shows a high potential for cultural tourism.</p> <p>Challenges: Lack of information at a landscape scale; no well-developed transboundary network; improper management of protected areas and wildlife from country to country.</p> <p>National level: Lack of infrastructure and capacity to utilize the existing potential and a high level of vulnerability exists among the local communities, with increasing pressure on rangelands.</p> <p>Opportunities: Common language, culture, and a historically significant area; potential to establish common cross-border markets, local niche products, alternative livelihood, mobilizing local communities to work together, and enhance rangeland resilience and sustainability.</p>	<p>New opportunities: Work on rangelands (ICIMOD), yaks, Marco Polo, and hazards assessment through the NSFC-ICIMOD projects.</p> <p>Technology transfer: Cold water fisheries, dry land agriculture, facility farming, integrated farming system, niche products value chain, and marketing and policies. Cultural heritage conservation and development, and link associated tourism activities for livelihood development.</p> <p>Long term opportunities: OBOR; CPEC; Pakistan, Afghanistan, Tajikistan integrated program; Himalayan University Consortium (HUC) and Central Asia Institute.</p> <p>Potential to work with Nepal on rangelands (gene projects). In Nepal, yak herding and tourism must be looked at holistically for any study or intervention.</p> <p>Energy and house-warming technology needs in the Afghan and Tajik Pamirs. Replication of already existing technologies in China. Yak herding and tourism should be analysed in relation to each other and not as separate entities.</p> <p>An opportunity to use NSFC platform; find partners and apply together for projects and funding.</p>
Rangeland research assessment progress in China by Xu Wenxuan	<p>Qualitative research work done for the rangeland study. Found classical mountain nomadism amongst the Tajik and Kyrgyz communities living in the area. Artificial pastures being used during the winter months. Change in pasture use by wildlife and livestock.</p>	<p>Questionnaires and protocols developed are easy to use at the field sites. Preliminary analysis in China shows that there is very fierce competition for fodder, especially in winter pastures.</p> <p>Potential to explore research opportunities in genetics on Argali and Nepali sheep, having similar chromosomes.</p>
Research opportunities in the HKH by Bahadar Nawab Khattak	<p>HKPL and CPEC offer multiple opportunities. Scope for regional organizations to reduce the data deficit gap.</p> <p>In Pakistan, reduced water availability has led to migration and the government investing in constructing big dams that have environmental and cultural challenges. KKH: Regional connectivity; increased trade; strengthening strategic partnership. There is an immediate need for baseline data on cultural and ecological information, documentation on change due to developmental intervention, and research and education collaboration.</p> <p>New opportunities for capacity-building: academia and government institutions.</p>	<p>CPEC to have negative and positive impact. The workshop offers a platform to seek potential opportunities, especially with Xi'an for cultural heritage preservation.</p> <p>Time to redirect the HKPL programme and steer it in the right direction.</p>

<p>Discussions on development and research opportunities by Yi Shaoliang and Srijana Joshi</p>	<p>YAKS: There is transboundary cross over by yaks between China and Pakistan (KNP), between Pakistan and Afghanistan (WNP), and similarly among Tajikistan, Big Pamirs, and Afghanistan (ZNP) especially in winter season when the forage is reduced.</p> <p>We need to look into the issue of increasing border security as it creates issue for local yak herders.</p> <p>POLO: This is a popular sport in Chitral, Wakhan, and Taxkorgan. This offers an opportunity to have a transboundary event. "People to people connect is an important on-the-ground mechanism to build relationship".</p> <p>TOURISM: Exploring tourism opportunities, especially for livelihood benefits, can be a key feature of the landscape. In HKPL we can look at how local people capture such opportunities, through building people's capacity, considering the security aspect, especially when looking at developing this as an international tourism destination. Pakistan has immense potential for ecotourism, but political decisions can be a big factor.</p> <p>Culture and heritage is an important and valuable aspect for HKPL, combining cultural heritage site conservation with ecology for community development. HKPL is part of the ancient Silk Road and there is a need to explore opportunities to list it in World Heritage Sites together. Xi'an has shown an interest in this collaboration. Tourism is as an important livelihood opportunity, along with value chains and energy shortage in the area.</p> <p>Cultural festival at Khunjerab can be a platform to promote animal/germplasm exchange and not just as a visit for officials. This festival should be held in a different nature reserve every year.</p> <p>Possibility of joint management and information sharing between Tajikistan and Afghanistan for the Zorkul lake, which is shared by the two countries.</p>
<p>Planning for 2017 on regional activities by Muhammad Ismail</p>	<p>Transfer of knowledge to young people by involving them in field studies.</p> <p>Rangeland is the main activity for our partners, and there will be capacity-building opportunities for partners. Use available communication platforms to interact regularly, such as Wechat, Whatsapp, and collaborative platform at the ICIMOD website.</p> <p>Field visits should be encouraged to build networks; looking at donors, potential collaborations, and activities. It is important that country partners show interest and share their requirements for the kind of collaborations required, and ICIMOD will try to find partners.</p>

Country Presentations

Country participants presented the areas they are working in and those where there is potential for collaboration and support from ICIMOD and other countries.

Country	Point Raised
Afghanistan	(1) Looking for partnership related to food storage construction experience and building (at very high altitudes, storage is difficult); (2) Sea buckthorn planting and processing (income generation); (3) Fishing ponds (Afghan Pamir has a high potential for fisheries); (4) Handicraft trade; (5) Tourism services; (6) Warm housing and effective stoves.
China	(1) April 2017 field work start date; July to August rangeland resources assessment; GIS maps of rangelands, wildlife, and domestic animals; (2) ICIMOD to provide platform to share our knowledge with other partners; (3) Using NSFC funds to continue the activities.
Pakistan	(1) Improved mountain farming; (2) Eco-tourism; (3) Cultural tourism; (4) Natural Resource Management – forestry, agriculture, and livestock; (5) Trout farming; (6) Climate change; (7) Migration, (8) Livelihood diversification, (9) Mountain hazards; (10) Cultural heritage conservation, (11) Water conservation and power.
Tajikistan	(1) There is a need for proper management of the park to avoid conflicts between the park and the local communities regarding overlap of animal grazing in the summer pasture. (2) Poaching – fishing in the lake and nearby rivers. (3) Numbers of a new, brutal breed of wolf are increasing; it kills both other wolves, humans, and domestic livestock. (4) Lack of infrastructure; equipment for conducting research; need to develop ecotourism/tourism; need to conduct some research on development of the yaks. (5) Almost 10,000 Marco Polo sheep coming to Zorkul area; degradation of the land; research needed on how to manage the crossing. (6) Artichoke and sea buckthorn planting and processing.

Closing Remarks

Dr. Long Ruijun: For each of the issues raised here, we would like to have a key contact person for future communication. ICIMOD is trying to leverage funds for various activities. We can have space on ICIMOD website to provide contacts.

Day 2

Opening Session

Welcome remarks by Prof. Baotian Pan, Vice President of Lanzhou University (LU), China: Two-thirds of the national land in China is mountainous region. LU works in the mountains located in western China, with the research focused on ecology and environmental issues. This is a good opportunity to share our experiences and to increase our research profile by being a part of these meetings.

Opening remarks by Long Ruijun, ICIMOD: The workshop started with the HKPL meeting on Day One, and the coming two days offer an opportunity for face-to-face meetings to build partnerships and good cooperation between different organizations.

Opening remarks by Ghulam M. Malikyar, Afghanistan: Afghanistan is rich in biodiversity, but there has been environmental degradation due to conflicts over the past years. MAIL has just started working over the past 10 years. There are areas where partners can work together. Wakhan is the second national park in the country, but we are working to declare more areas under protection. Management plans need to be developed. "Transboundary issue: Work can be done in a collaborative group". Afghanistan will support discussions and implementation of this initiative".

Opening remarks by Siraj Ulmuk, Pakistan: There is a lot of commonality in the HKPL countries, and ICIMOD has selected the right people from Pakistan for this workshop, who belong to the region and who work in the region. Some of the area is still very isolated and can be explored as an untouched site for trekking and tourism. Tourism can be used as a tool to develop the area, connecting the four countries and improving the livelihoods of the people.

Opening remarks by Marc Foggin, Tajikistan: UCA is endorsed by three countries, as part of the AKDN network working in Pakistan and Afghanistan. Looking forward to working with everyone, especially on topics of cultural heritage and tourism. He mentioned that UCA is based on local level to conserve the livelihood of mountain communities.

Muhammad Ismail briefed participants about workshop objectives and the agenda. He also explained about the knowledge exchange, potential partnerships, concrete planned activities, and leveraging resources and funds from

Technical Session I: Partners' Presentations

Chair: **Dr. Liu Wenjiang**

Conservation and Development in Northern Pakistan and Collaboration Opportunities by Muhammad Darjat	<p>Park management: Participatory in approach and involves the local community. There is an urgent need for collaboration between the different national parks/countries for best practices and integration of lessons across the landscape, as commonalities exist amongst the four countries, offering possibilities for music exchange and festivals. Issues of winter feed for the yaks and other domestic livestock. Drip irrigation in the area introduced by ICIMOD.</p> <p>Government initiatives focus on energy requirements, fodder, and fuelwood needs and clean energy.</p>
Wakhan National Park and Collaboration Opportunities by Ahmad Zia Mirzada	Teggermansu Wildlife Reserve, located at the Little Pamir, Wakhan, and inhabited by a large population of Marco Polo sheep. The management plan for the reserve has already been prepared and is currently under approval process. Possibilities of having a comprehensive mammal survey in collaboration with Tajikistan and China. The reserve is located in a remote and inaccessible area, posing management challenges. The reserve lies at the international borders with China and Tajikistan, thus effective management is only possible through a transboundary initiative.
Pamirs of Afghanistan by Imatbek Nikhmonov	Kyrgyz communities living in the Afghan Pamirs face serious social and economic challenges: high mortality rates, isolation – both geographically and from development activities, and high animal deaths due to lack of feed in winters. These challenges have led to a total reduction in population by about six-to-seven percent annually. There is an immediate need to build the communities' resilience by investing in health, winter feed, efficient housing (warm), and other livelihood diversification options.
TNR – Collaboration Opportunities by Zhu Lin	TNR was established in 1984. It has a high variability in life forms – ibex, blue sheep, and Marco Polo. It borders Tajikistan, Afghanistan, and Pakistan. Survey was conducted in protected area for vegetation types and mapping of wildlife. Since the establishment of TNR conservation and management measures have been taken such as wildlife protection, wildlife rescue, administrative law enforcement, wild animal breeding and management, scientific and technological training, epidemic disease surveillance. The population of wildlife has increased significantly
Tajikistan Pamir and Opportunities for Collaboration by Marc Foggin	UCA is well suited for doing research and development work in the Pamirs. It works at the local, meso, and regional scale. With the establishment of three campuses across Central Asia, UCA is well poised to collaborate with varied organizations working in the area on NRM, ecosystem services, climate change, and cultural and traditional practices.
Zorkul Nature Reserve by Shonazar Gulyazov	The Zorkul nature reserve, established in 2000, covers two districts. It offers opportunities for eco-tourism but lacks infrastructure to support tourism. Would appreciate if there were research institutes to conduct holistic research at the nature reserve.
Highland Agriculture and Collaboration Opportunities in Bhutan by Tashi Dorji	Yak herding in Bhutan is practised in ten districts, but in harsh environments it is no more attractive to the young population, leading to a reduction in the number of herders. There is inbreeding, limited access to germplasm, lack of motivation for yak herding, and alternative high revenue generation options (collecting Cordyceps). Cooperation is needed to investigate genetic variation, capacity building, technologies, and innovation.
Highland Agriculture and Collaboration Opportunities in Nepal by Neena Amatya Gorkhali	Livestock, particularly the yak, plays a vital role in highland agriculture. There is a decline in population due to inbreeding, tourism, migration, lack of labour force, and declining feeding resources. The highland area needs a comprehensive population census, new technologies for artificial insemination, capacity building of herders, formation of herders association, declining feed and collaboration to introduce exotic forage, and technology transfer.
Dialogue, Cooperation, Development, Nomination, and Conservation of World Heritage, Prompting Region Prosperity Along the Silk Roads by Feng Jian	ICOMOS role in nomination of Silk Road. Progress was made from 1988-2014. During the preparation phase in 1988, UNESCO launched the "Dialogue Road: Silk Road Integrity Study". A steering committee and working group was formed with 13 countries along the Silk Road. ICOMOS focused on the protection and research work on the Silk Road cultural heritage through the efforts of countries, institutions, experts, and scholars along the line, to jointly promote the work of the protection and to contribute to the regional exchanges and cooperation of the countries along the Silk Road.

Technical Session II: Opportunities from China

Session Chair: **Siraj Ulmulk**

China's OBOR Initiative: Policies and Opportunities by Long Ruijun and others	OBOR was initiated by President Xi Jinping for economic development of the relevant counties, including five links of road, people, culture, currency, and benefit with different countries in an inclusive manner. The HKPL region is part of the Silk Road that allows for collaboration with partners for environmental conservation and also to promote local livelihoods.
Initiatives of Gansu Province in Science and Technology Cooperation Related to International Cooperation, with Focus on Central and South Asia by Ouyang Chunguang	Introduced Chinese concept of technology and innovation for sustainable development. The Department of Science and Technology (DOST)'s mission is to draft Gansu Science and Technology program to serve socioeconomic growth by coordinating basic research; 100 million RMB have been spent for international cooperation in Gansu during the past decades. They have 19 key international cooperation projects, which is the second largest project in China after Beijing, and trained around 800 people from the countries along OROB. Spent around 10 million RMB from 2010-2015 for training workshops on Chinese medicine and new energy (solar and wind), which are very important characteristics for China, as it is very dry in China and the highland. Cooperation is ongoing with Israel, Cambodia, and Pakistan, and we signed an agreement with Israel in 2016. Planning in 2017: Cooperation with countries of OROB to organize research and workshop and set up collaboration on research and technology along OROB to support young scientists. The total funding in Gansu DOST for international cooperation in 2017 is 15 million RMB.
Opportunities for Technology Transfer, Lanzhou University by Zhao Changming, Shang Zhanhuan, and An Xian	LU was established more than 100 years ago and has a large number of international programs. Cooperation with ICIMOD: Rangeland work, HUC, capacity building. Increased cooperation/potential in HKH: ecology; bioenergy research; rural development; medical science; mountain climate and ecosystem management; simulation of mountain weather over arid and semi-arid areas; and transcontinental cultural exchange and its important role in development.
Opportunities for Technology Transfer from Qinghai Normal University/Qinghai Province by CUI Wei	Qinghai Province is linked to neighboring countries and a lot of work has been done by the Qinghai Normal University. It has many institutions related to mountainous conservation and development whose main purpose is introducing scientific groups that can be of interest to different participants. Collaboration is possible through the international cooperation body. "Strong will to cooperate and exchange from management level". There is potential to work outside the Qinghai Tibetan Plateau and there are many exchange programs (scholarships for international students).
Digital Cultural Relics Conservation and Environmental Monitoring and Assessment by Sun Zheng	Archaeological sites (10) digitized; digital restoration of Taxkorgan Fortification; Kirzurgan site, Taxkorgan.
How to Guard UNESCO World Heritage? Three Successful Cases in Shaanxi Province, China by Dong Feng	Three important and successful cases in Shaanxi of cultural heritage and their protection. HKPL: Key link in the Silk Road, important corridor of ethnic migration; diverse culturally. Private organization looking at cultural heritage protection. Mausoleum of the first Qin emperor; Shaanxi history museum; Yangling emperor mausoleum.

Day 3

Technical Session I: NSFC- ICIMOD project

Investigation of Yak Germplasm Resources in HKH and Identification of Genetic Basis of Yak Domestication and Diversity by Han Jin (on behalf of Qiu Qiang)	Yak is a flagship species of the highland areas and has thus been selected as a research topic for the NSFC-ICIMOD project. It plays an important role in the socioeconomic and cultural life of the local communities. The present research would mainly focus on DNA sequencing.	China is interested in genetic diversity, but other countries need improvement in livelihood and breed, so this needs to be examined. Country laws on genetic exchange should also be considered. There is a need to look into demographic figures and see if any change is a regional phenomenon, because of climate change or societal change.
Climate Change Effect on Habitat Suitability and Transboundary Migration Corridor Identification of Marco Polo Sheep (<i>Ovis ammon Polii</i>) in Pamir Plateau by Yang Weikang	Marco Polo sheep is unique to the Pamirs. Largest population currently in Tajikistan (7000–8600), Kyrgyzstan (6000–7000), China (2600–3700), Afghanistan (1000), Pakistan (150). It is associated with trophy hunting (40–50000 USD). There are 9–10 subspecies of <i>Ovis ammon</i> , Marco Polo sheep one of the subspecies. The project will look at the suitable habitat for the Marco Polo sheep and then see how to carry out TB work to manage Marco Polo sheep? Increased livestock creating fierce competition for MPS. Identify the potential transboundary migration corridor of Marco Polo Sheep under climate change and human disturbance. Results to be shared with the government officials and park managers.	Focus of the study on China and Pakistan, because of existing relations and needed due to the fencing issues. Based on population number we need to look into Tajikistan and Afghanistan as well (landscape level study) Possibility of including Markhor in the HKPL research as the number of the Markhor is also going down. There are strict environmental protection rules in China, EIA is the first step to be done. Under CIPEC different corridors are built for wildlife crossing.
Ground Deformation Monitoring and Geohazards Risk Assessment Based on InSAR Technologies for the China-Pakistan Economic Corridor by Meng Xingmin	The economic corridor/road under investigation falls at the Pamir Hindu Kush and Karakoram meeting point. Geologically, this is a very soft area, with a lot of loose material, high relative relief, uneven rainfall distribution, landslides, and debris flow. No regional assessment has been carried out. Geo-tectonic movement: increase in debris flow and landslides when the work for pipelines and train starts. Two major reasons to work on this project. Use LIDAR for work. Early warning systems. Risk assessment for the whole area.	Opportunities for participants to look at potential projects with other partners for the coming year.

Technical Session II: Presentations on Collaborations and Planning for 2017

Disaster Management	<p>Signed agreement with partners with a focus on working along the Karakoram highway. The area is politically sensitive.</p> <p>Project financial arrangement: Payment only for Chinese researchers, with no overseas partner to be funded. Joint field work for which funding to be given and other sources will be sought to support Pakistan scientists coming to China for meetings. Chinese government to also provide scholarships to three-to-four PhD students from Pakistan.</p> <p>Workplan</p> <p>January-May: Purchase data and collate other information and data from China and Pakistan</p> <p>May 2017: meeting in Pakistan to find more partners and identify sites (those more affected and those safer).</p> <p>June 2018: Rigorous research will be started. Field work to be done across borders at Khunjerab and Kashgar; Chinese students will work on Pakistan side.</p> <p>2019:</p> <p>Beneficial to have early discussions about partnerships for smooth implementation of work</p>
Marco Polo	<p>Key stakeholders: XIEG, ICIMOD, FWED; joint study along with the HKPL rangeland assessment. Through this assessment there is a potential to explore working in other HKPL countries. Upcoming workshop in March 2017 where participants from a wider range of organizations working in Marco Polo (such as WWF and IUCN) will be invited.</p>
Afghanistan /Tajikistan	<p>Focus on development of Community Ecotourism in the HKPL area, particularly through launch of regional Ecotourism Festival in 2017. Organize Regional Ecotourism Festival in three parts – in Chitral (Pakistan) and Wakhan (Afghanistan, Tajikistan) between June and September. ICIMOD could support the launch of the regional Ecotourism Festival through publicity, seed fund for capacity development, and homestay, as well as preparing a map for adventurous, cultural, trekking for long term.</p>
Xian	<p>HKPL comprehensive research should include tangible and intangible cultural heritage conservation and preservation. Xi'an delegation to work closely with Dr. Yang Weikang to understand the region and research. Planned visit to Taxkorgan in March 2017. Request ICIMOD to support, and to send ecologists as delegates to the visit.</p> <p>First time for ICIMOD through HKPL to introduce archaeology and cultural heritage conservation. This is a lesson learnt for other landscapes, as culture is a common asset in all landscapes.</p>
Pakistan	<p>There is a need for technology transfer, particularly on cereal crops. Bring in farmers and train them on technologies related to housing, energy saving, and water heating.</p>

Closing Session

Long Ruijun: This is the meeting to plan, build collaborations, and seek opportunities for technology transfer and exchange programs that brought all four country partners from HKPL. We aim to work in the HKPL area, for which the Chinese partners from different regions were invited to explore the role of China in building partnerships. It has been a good platform to exchange and build partnerships; Xi'an can contribute a lot to build partnerships for HKPL and even the HKH region. Also, this is the first time for the ICIMOD-NSFC projects, three from the HKPL for which the leading investigator and researchers were invited to develop a concrete working design. The focus of HKPL team is to do ground work by working together with the local people. In the coming days, field visits have been planned for the partners to observe cold water fish, dryland agriculture, and highland yak farming technologies, some of which have an uptake potential in the partner countries.

Ahmad Zia Mirzada, Afghanistan: Thankful to ICIMOD for providing the opportunity to be present at the workshop, share experiences, build partnerships, and work together. We look forward to seeing more activities being implemented in Afghanistan and Tajikistan.

Siraj Ulmulk, Pakistan: Thanks to Lanzhou University and ICIMOD for organizing this workshop. We will contribute personally and professionally for working in HKPL. We would like to take the lessons we learn from the upcoming field work here in China and explore possible replication of the technologies.

Shonazar Gulyazov, Tajikistan: Grateful for the opportunity to come to China and interact with everyone and discuss issues related to Tajikistan that can be worked out as part of HKPL. We hope to increase the involvement of Tajikistan in future activities.

Meng Xingmin, China: Thanks to ICIMOD and Lanzhou University for providing the platform. Excellent organization done by the Lanzhou University students. We wish to do more work in the HKPL area and will engage in this.

Sayed Ibrahim Mawzoon, AKF: It has been a great pleasure to be a part of this workshop and the HKPL. ICIMOD has signed a MoU with AKF-Geneva to work in Tajikistan. AKF values such a solid partnership and would like to take this opportunity to thank the HKPL team for their effort and support. We are looking forward to active participation in more activities in the future.

Li Tao, Xi'an: Represented the Xi'an province, which is a major part of the Silk Road. The HKPL area occupies a prominent place in the Silk Road and thus this workshop can be a great stepping stone towards future cooperation and collaboration to get some work done on the ground. Xi'an delegation is highly interested to work.

Han Jin, LU: Lanzhou University had this great opportunity to host the event and we are looking forward to having a long-term collaboration with all the partners. The joint project through NSFC and ICIMOD will also provide future opportunities for collaboration with different member countries. LU is happy to provide additional information on the different themes they are working on if required by any partners. We are looking forward to a good working relationship.

Neha Bisht: On behalf of ICIMOD and LU, we appreciate everyone's contribution to the workshop. We look forward to enhanced collaborations amongst the participants.

Field Trips

These trips were organized for the participants at various sites for possible upscaling to their region.

Cold Water Fisheries, Gansu Fisheries Research Institute (GFRI), Linxia

5 December 2016

Our visit to GFRI on 5 December 2016 was facilitated by Dr. Zhang Yanping, Director of GFRI. We visited the key laboratory of cold water fisheries, germplasm, and genetic breeding centre, whose research fields are focused on application of basic research and applied technique research for the technology of cold water fisheries. It is the only public welfare institute engaged in the research of cold water fisheries and has carried out the rainbow trout selective breeding in China. The Gansu golden trout taste delicious, grow quickly, and have high edible value, and it is highly appreciated by customers. The Institute also does some research work to solve the problem of the low survival of fry culture, as well as work on the cultivation techniques of larvae breeding, seedling production, and adult fish culture. The construction of the farm is designed in the proper way, with proper water quality regulation, breeding density, feeding, and disease control.

We also had the opportunity to visit Yong Jing Hongda Salmon Co., Ltd., where different research is being done on triploid trout hatching, seedling cultivation technology, net culture technique, fish farming capacity, disease prevention, and triploid trout penetrating process research. We could observe the step-by-step production, from cultivation to processing for rainbow trout and salmon. The salmon industry has reached the annual output of about 200 tonnes and has become a new highlight of characteristic fishery for Gansu Province. The partners showed great interest in adopting these technologies, and a few MoUs and field trips have already been finalized with the Gansu Provincial Department of Fisheries in 2017.

Production of rainbow trout and salmon aquaculture and processing



Dryland Agriculture, Dingxi

6 December 2016

A field visit was made to Dingxi Dryland Agricultural Center of Gansu Province to learn different types of dry land agriculture systems and see how local farmers' livelihood has been raised using rain-harvesting farming technology. The team observed the technology of room heating and cooking through charcoal and biogas installed in farmers' houses. The field guide took us to the demonstration area of efficient rainwater harvesting agriculture on Whole Plastic Film Mulching on Double Ridges. He briefed us about mulching technology, which changes the soil water content and temperature so that it has better drought resistance and water use efficiency. It can increase the yield of plants, especially in semi-arid regions.

Dingxi Dryland Agriculture: plastic film mulched ridge-furrow technologies



We also visited Modpra Gansu Modern Prataculture Development Co. Ltd. The company is engaged in the production, processing, and marketing of forage products for the domestic Chinese animal feed and animal husbandry markets. Their products mainly include homebred and imported alfalfa hay, alfalfa pellet, oat hay, and silo corn. The Chinese company was positive about the future establishment of a similar grass industry in other countries; Pakistan and Tajikistan have shown interest.

Modpra Company in Dingxi Prefecture, which produces alfalfa pellets used as forage for livestock



Highland Livestock Management, Tianzhu Tibetan Autonomous County

6 December 2016

This visit examined the ex-closure method for fodder management in rangelands, particularly for yaks and sheep. Greenhouse technology, along with a water boiler, is used for house warming and cooking. This was of particular interest to the participants from Tajikistan, Afghanistan, and Pakistan, and the partners requested a demonstration site to be established at HKPL project area for upscaling. We also observed milk processing equipment that can be used in highland areas to make cheese, butter, and yogurt.

The day started with a visit to a rangeland site to observe the ex-closure method of grazing used for fodder management (sheep and yak). Several challenges exist for the rangelands due to grazers and grazing. Lack of alternative energy production forces the yak grazers to collect all the dung in the area, leading to a total reduction in nutrient enrichment in soils and also gives rise to bare ground prone to erosion. A mix of sheep and yak promotes nutrient enrichment through sheep dung (which cannot be collected), which is spread over the grazing site. The rangelands also face problems due to rodents/rotifers that dig up soil at several spaces, reducing overall vegetation.

Ex-closure method of grazing used for fodder management



The second site visited was a yak herding family's dwelling. The house is constructed using the greenhouse technology that warms up the house and reduces the need for fuel burning. A water boiler using this technology allows them to cook and use the energy generated to warm up the house. The participants interacted with the family to learn about the effectiveness of the technology and also the various products obtained by them using yak milk. The participants from Tajikistan and Afghanistan showed interest in the house-warming technology and requested that the same be replicated in their countries (as a demonstration site). We also had a taste of yak butter and yogurt, offered to us by the locals.

Greenhouse technology and water boiler technology for room heating and milk processing equipment



The day's visit ended with a visit to a yak products supplier, showcasing the finished products obtained through the yak value chain, a highly developed market in China. The products ranged from milk tablets, dried meat, cured meat, and pickled meat to using the bones to make accessories like bracelets, combs, and pendants.

The various yak products were highly appreciated by the participants. There was interest in being trained in the yak value chain development so that the other countries could also use and make yak products for livelihood diversification and income improvement in the local communities.

Yak products



Meetings for Building Partnerships

Qinghai Normal University and ICIMOD – Programme on Academic Activities of Qinghai Provincial Silk Road Economic Belt Research Institute

8 December 2016

Prof. Cui Wei, Vice President, QHNU, introduced the university. The university has separate departments for Chinese and Tibetan Languages, Science and Technology, Computer Science, Environmental Protection-Water Resources and Highland Environmental Protection, and Qinghai Tibetan Cultural Research. He also emphasized the relationship that has already been established with ICIMOD through HUC. He attended the HUC-ICIMOD meeting in India and looks forward to future cooperation with HKPL.

Prof. Long Ruijun introduced ICIMOD's vision, mission, and activities, as well as the Hindu Kush Karakoram Pamir Landscape (HKPL) initiative. He highlighted the importance of sharing knowledge and building regional cooperation in generating scientific evidence and making an impact in HKPL. He also discussed the challenges and issues in partner countries and future areas of intervention in HKPL.

Dr Marc Foggini presented Research-for-Development (R4D) in the "Mountains of Central Asia", the Tajikistan Pamirs, and surrounding regions.

Prof Zhao Xia presented on Scientific Concern and Technical Solutions of Long-Term Hydrologic Impact Assessment: A Case Study of Beichuan River Watershed in Qinghai Province.

Dr Palden Choying presented on the Role of Pika in Qinghai Tibetan Plateau.

Dr Jiao Shu Yun, Deputy Director, International Science and Technology Cooperation Division, Qinghai Provincial Science and Technology Department, introduced the division and its work, along with possible areas of cooperation with ICIMOD. Collaboration can be attained in three possible ways. The first way is a special project from ministries; if there is a need for science-related work, it can be discussed. Second, One Belt One Road showed interest in cooperating with countries along the road. Third, the division could collaborate with ICIMOD through projects already implemented and successful in Qinghai, such as yak husbandry funded by the science ministry and agriculture-related projects, especially on crops such as vegetables and barley. He stressed that they would be interested in cooperating, or need cooperation, for the protection of desert plants, highland sports, Tibetan medicine and herbs, and Halal food.

Zhao Haixing, Vice President, QHNU, extended his thanks to ICIMOD and the HKPL team for their efforts, stating that the life and geography researchers can closely work with ICIMOD in future. He emphasized cooperation with Qinghai Life and Geography Department and the intention to apply for international cooperation in the future through annual projects from Science and Technology. He stated that under the guidance of Prof. Jiao, they can initiate cooperation through training and technology transfer with two-to-three projects from Science and Technology, which funds the minimum, starting at 400000 RMB. He reiterated that ICIMOD is devoted to working in the highland environmental ecosystem along eight countries. Accordingly, he is looking forward to continued cooperation and making additional progress with ICIMOD in the long term.

Shaanxi Provincial Cultural Relics Bureau

9 December 2016

Zhao Rong, Director General, Shaanxi Provincial Cultural Relics Bureau, gave a brief introduction to the history of Xi'an, which is the capital and starting point of the Silk Road. He mentioned that they have already started work in the Western Himalaya next to Ladakh and Kailash. North West University is also working on cultural heritage and ecology and has begun a collaboration with HKPL. He offered the example of Qinghai, Western Gansu Inner Mongolia, an area rich in farming land and now damaged due to overpopulation. Climate change made the area more arid, and human activities led to disaster. Therefore, study on archaeology together with HKPL will provide an advantage in the area. Most importantly, he explained that they will start working on issues of the China Pakistan Economic Corridor (CPEC) and have planned a visit by a large delegation in the near future from China to Pakistan to discuss CPEC issues.

Meeting with Vice President, North West University

9 December 2016

Jia Mingde, vice president mentioned that the university is happy to host everyone who came from different countries to study different disciplines. He briefed us about the university's basic situation and various international cooperation arrangements with research institutes in Europe, the USA, Japan, and other countries. He expressed that the university has the experience to establish cooperation with several international institutions and that it will be a good experience to set up cooperation with ICIMOD.

ICOMOS International Conservation Center (IICC)

10 December 2016

IICC was established in 2005 to work on the Silk Road. They work on conservation and preservation of cultural heritage sites in China and other countries. From 2009, their work concentrated on nomination of cultural heritage sites. Working with local governments, they organize stakeholder meetings and provide opportunities for school children to promote the culture. Silk Road information is available in three languages -- Chinese, English, and Russian (www.silkroad.org.cn).

Future collaboration: Draft MoU between ICIMOD and NWU and also between IICC and ICIMOD. ICIMOD to provide a general plan for the project. IICC can collaborate with other institutes and assist in nomination of potential sites. MoU needs to be finalized by Feb 2017. Two transboundary lines – HKPL, One Belt One Road Policy (channel for trade along the Silk Road), and CPEC road network. ICIMOD to play an important role in coordinating and establishing working groups.

October 3D

10 December 2016

A visit was made to October 3D, based in Xi'an and working in the field of 3D high resolution digital imaging of cultural heritage relics and museums. They showed the latest technology in scanning hardware and data processing software. 3D data is increasingly preferred as a method of preserving cultural heritage artifacts. It provides an easy way to get in touch with them and significantly reduces the need for physical storage space, offering to museums and related organizations a portable and accessible platform to exchange information and to researchers the possibility to easily browse and review the materials.

China City Guard

11 December 2016

Meeting with delegation from the China City Guard at the Shaanxi Museum. The security company is responsible for safeguarding museums and historical sites in Xi'an. The HKPL team was given a tour of the Shaanxi Museum and the Terracotta Warriors Historical Site to look at how well the security agency runs. Collaboration could be looked into to provide trainings to different countries on historical site security.

Ningxia University

12 December 2016

Prof Xie Yingzhong, Vice President, highlighted the work of the university in the field of rangeland, livestock (lamb, sheep) keeping, and dairy production. He also stated that the university is working on the issue to improve the livelihood of farmers. He further elaborated on the mountain region facing many challenges and the two campuses working together for management. They have good techniques for dryland agriculture, rangeland resource management, and livestock, and mainly work on land degradation and ecological restoration, including rangeland and agriculture. The university provides an opportunity to foreign scholars to teach, giving them a five-year contract. International cooperation with the Science and Technology Department, under the China Ministry of Science and Technology (MOST) has established three centres in China:

- China Arabic Technology Transfer -- Ningxia Province
- South East Asia- Indonesia, Malaysia -- Technology Transfer -- Gansu Province, and
- China and South Asia Centre – Kunming.

There is an opportunity for the younger generation (under 45 years old) to be part of the exchange program, where they receive a stipend of \$2000USD per month. The university has an institute for Fish Research in Yellow River and a Hazard and Disaster Institute to build earthquake-resistant houses.

Prof Chao, School of Agriculture, Ningxia University, in his brief remarks about the campuses, mentioned that the research focusses on the local agriculture industry, such as crop research (rice, corn, and potato), introduced breeding, new variety crops, and sowing pasture in natural grassland. He explained that they have used fertigation technique to grow vegetables in greenhouses and produce local agriculture products, such as medicinal plants, gujiberry, and jujuba. He also highlighted some future opportunities, such as applying for the project. They can provide training on dryland agriculture, ecological protection and restoration, interaction and visits by professor's expert in sea buckthorn, training on poultry for participants from Afghanistan and Pakistan (this can be supported by AKF), and a training on Halal food processing. NSFC proposals can be jointly developed on medicinal plants.

Challenges and Opportunities in Partner Countries: Possible Areas of Work and Intervention

Country	Issues With Potential Partnership Options
Afghanistan	<ul style="list-style-type: none"> Looking for partnership related to food storage construction experience and building (at very high altitudes storage is very difficult) Sea buckthorn planting and processing for income generation Fishing ponds (Afghan Pamir has a high potential for fisheries) Handicraft trade
China	<ul style="list-style-type: none"> Support from ICIMOD to provide a platform for knowledge sharing with other partners Using NSFC funds to continue research in the landscape, particularly on Marco Polo sheep and yaks OBOR and CPEC policies
Pakistan	<ul style="list-style-type: none"> Natural Resource Management – forestry, agriculture, and livestock Trout farming Require research on the migration of communities, both outward and inward Research on the existing and potential mountain hazards Water conservation and power technology
Tajikistan	<ul style="list-style-type: none"> Need for proper management of the park to avoid conflicts between the park and the local communities regarding overlap of animal grazing in the summer pasture Poaching – fishing in the lake and rivers around Numbers of new, brutal breed of wolf is increasing; kills other wolves, humans, and domestic livestock Lack of infrastructure and equipment for conducting research, need to develop ecotourism/tourism, need to conduct some research on development of the yaks Almost 10,000 Marco Polo sheep coming to Zorkul area, degradation of the land, research needed on how to manage the crossing Artichoke and sea buckthorn planting and processing
Bhutan	<ul style="list-style-type: none"> Technology requirements and niche products: rangeland management, oat germplasm and legumes, nutrition blocks, value addition of niche products
Nepal	<ul style="list-style-type: none"> Genomic research and phylogenetic studies on Nepalese sheep Lack of health facilities in rangelands for both livestock and humans Lack of mobile cheese processing facilities suitable for the transhumance system of yak husbandry in Nepal Lack of infrastructure like roads and electricity for marketing high value yak cheese and other milk products

Common Issues Across the Countries

1. Research on Marco Polo distribution and management amongst the member countries (Research initiated in Pakistan and China under the NSFC funding)
2. Barren land management interventions -- taking successful plantation examples from China
3. Improved mountain farming -- capacity building of farmers by providing hands-on trainings in agricultural management (complete package right from seed sowing to production and marketing of agricultural produce)
4. Infrastructure development -- housing, energy saving devices, room heating technologies
5. Cultural heritage preservation and conservation. It is a common asset across the member countries and can be used as value-added tourism. Agencies from the Shaanxi Province have shown interest in working with the partners, particularly in the Hindu Kush Karakoram Pamir Landscape, and in conducting comprehensive research on mapping cultural sites.
6. Ecotourism festivals to be promoted in three countries. Requires travel routes, infrastructure, road development, and capacity development such as establishing homestay and mapping adventure and cultural sites and long trekking routes. Government should ease travel across borders for promoting tourism activities in the landscape. Regional ecotourism festival in three parts of Chitral- Pakistan, Wakhan-Afghanistan, and Wakhan-Tajikistan.
7. Inventory of yak genetic resources and capacity building on yak reproductive biotechnology and management, semen processing, A. I., and embryo transfer (Bhutan/Nepal and HKPL countries). China to support and share technology
8. Climate change and its impact on the natural resources in the area
9. Livelihood diversification options for the locals, such as trout fishery development; introduced crop, fodder, and livestock varieties; improvement of local livestock breeds; niche products add-value; potential marketing
10. Research and implementation of techniques and technology on bioenergy and biofencing

Annexes

Annex I: Programme Agenda – HKPL Regional Review and Planning Meeting

Day 1: Thursday, 1 December 2016		
	Arrival of participants	
17:00–17:45	Registration of Participants	Himaa Rai
Day 2: Friday, 2 December 2016		
9:00–10:30	OPENING SESSION	Muhammad Ismail (MC)
9:00–9:10	Opening remarks - ICIMOD	Long Ruijun
9:10–9:15	Opening remarks - China	Liu Wenjiang
9:15–9:20	Opening remarks - Pakistan	Bahadur Nawab Khattak
9:20–9:25	Opening remarks - Tajikistan	Imatbek Nikhmonov
9:25–9:30	Introduction of Participant	Srijana Joshi
9:30–9:45	Introduction of the Workshop Objectives, Agenda, and Expected outcome	Yi Shaoliang
9:45–10:30	Tea break	
10:30–12:15	TECHNICAL SESSION I: Yi Shaoliang REVIEW AND PLANNING FOR HKPLCDI 2016 AND 2017	
10: 30–11:00	Overall review of progress from 2011-2016 , 2016 deliverables from ICIMOD, focusing on regional activities	Srijana Joshi/ Muhammad Ismail
11:00–11:30	Regional Cooperation Framework and Conservation and Development Strategy of HKPL Discussion	Long Ruijun/ Muhammad Ismail
11:30–12:00	Country-wise progress on rangeland research assessment (China) Presentation (20 minutes) + Questions (10 minutes)	Yang Weikang
12:00–12:30	Research opportunities in Hindu Kush Karakoram area of Pakistan Presentation (20 minutes) + Discussion (10 minutes)	Bahadar Nawab Khattak
12:30–13:30	Lunch Break	
13:30–14:30	Discussions on development and research opportunities	
14:30–16:30	TECHNICAL SESSION II: Planning for 2017 and beyond	
14:30–15:00	Planning for 2017 on regional activities	Muhammad Ismail
15:00–16:00	Country-wise planning in groups	
16:00–16:40	Country-wise presentations (Afghanistan, China, Pakistan, and Tajikistan) (10 minutes for each country)	
16:40–17:00	CLOSING SESSION	
16:40–16:50	Closing Remark - ICIMOD Country remarks (Afghanistan, China, Pakistan, Tajikistan)	HKPL Country Focal Point

Annex II: Programme Agenda – Building Partnerships for Conservation and Development in HKH

Day 1 (3 December 2016, Saturday)		
9:00–10:30	OPENING SESSION	Srijana Joshi (MC)
9:00–9:10	Welcome remarks – China	Vice President, Lanzhou University
9:10–9:15	Opening remarks – ICIMOD	Long Ruijun
9:15–9:20	Opening remarks – Afghanistan	Ghulam M. Malikyar
9:20–9:25	Opening remarks – Pakistan	Siraj Ulmuk
9:25–9:30	Opening remarks – Tajikistan	Marc Foggin
9:30–9:40	Introduction of Participants	Neha Bisht
9:40–9:50	Introduction of the Workshop Objectives, Agenda, and Expected Outcomes	Muhammad Ismail
09:50–10:15	Tea break and Group Photo	
10:15–12:30	TECHNICAL SESSION I: ICIMOD, its Partners and HKPL Initiative	Session Chair: Liu Wenjiang
10:15–10:30	ICIMOD and Hindu Kush Karakoram Pamir Landscape Initiative(HKPL)	Long Ruijun
10:30–10:45	Conservation and Development in Northern Pakistan and Collaboration Opportunities Presentation (10 minutes) + Questions (5 minutes)	Muhammad Darjat
10:45–11:00	Wakhan National Park and Collaboration Opportunities Presentation (10 minutes) Discussion (5 minutes)	Ahmad Zia Mirzada/ Sayed Ibrahim Mawzoon
11:00–11:15	Taxkorgan Nature Reserve and Collaboration Opportunities Presentation (10 minutes) Discussion (5 minutes)	Director, Taxkorgan Nature Reserve
11:15–11:30	Tajikistan Pamir and Opportunities for Collaboration Presentation (10 minutes) Discussion (5 minutes)	Marc Foggin
11:30–11:45	Highland Agriculture and Collaboration Opportunities in Bhutan Presentation (10 minutes) Discussion (5 minutes)	Tashi Dorji
11:45–12:00	Highland Agriculture and Collaboration Opportunities in Nepal Presentation (10 minutes) Discussion (5 minutes)	Neena Amatya Gorkhali
12:00–12:15	Potential for Collaboration in Cultural Heritage Conservation in Pamir Region Presentation (10 minutes) Discussion (5 minutes)	Feng Jian
12:15–12:30	Importance of China's Active Support to Regional Collaboration for Conservation and Development in Hindu Kush Karakoram Pamir Region	Yi Shaoliang
12:30–13:30	Lunch Break	
13:30–17:00	TECHNICAL SESSION II: Opportunities from China	Session Chair: Siraj Ulmuk
13:30–13:50	China's Road and Belt Initiative: Policies and Opportunities	Long Ruijun/others
13:50–14:10	Initiatives of Gangsu Province in Science and Technology Cooperation Related to International Cooperation, with Focus on Central and South Asia	Ouyang Chunguang
14:10–14:30	Opportunities for Technology Transfer, Lanzhou University	Zhao Changming/Shang Zhanhuan/An Xian
14:30–14:50	Opportunities for Technology Transfer from Qinghai Normal University, Qinghai Province	CUI Wei
14:50–15:10	Tea Break	
15:10–15:30	Digital Cultural Relics Conservation and Environmental Monitoring and Assessment	Sun Zheng
15:30–15:50	How to Guard UNESCO World Heritage: 3 Successful Cases in Shaanxi Province, China	Dong Feng
15:50–16:20	PARTNERING	Neha Bisht
16:20–16:30	Remarks and Closing Remarks by the Chairperson	
18:00–20:00	Dinner	

Day 2 (4 December 2016, Sunday) Session Chair: Bahadar Nawab Khattak		
09:00–9:20	Investigation of Yak Germplas Resources in the Hindu Kush Himalaya Region and Identification of Genetic Basis of Yak Domestication and Diversity Presentation (15 minutes) + Discussion (5 minutes)	Han Jin/ Qiu Qiang
9:20–9:40	Climate Change #ffect on Habitat Suitability and Trans-boundary Migratio Corridor Identification of Marco Polo Sheep (<i>Ovis ammon Polii</i>) in Pamir Plateau Presentation (15 minutes) + Discussion (5 minutes)	Yang Weikang
9:40–10:00	Ground Deformation Monitoring and Geohazards Risk Assessment Based on InSAR Technologies for the China–Paki- stan Economic Corridor Presentation (15 minutes) + Discussion (5 minutes)	Meng Xingmin
10:00–10:20	Tea Break	
10:20–12:00	Paired discussions on collaboration intentions and planning	Muhammad Ismail
12:00–12:30	Presentations on Collaborations and Planning for 2017	
12:30–13:30	Lunch Break	
13:30–15:30	TECHNICAL SESSION II: Presentations on Collaborations and Planning for 2017 (Contd.)	Muhammad Ismail
13:30–15:00	To be decided according to result of morning session	
15:00–15:30	Plenary Discussions	
15:30–17:00	CLOSING SESSION Chair: Yi Shaoliang	
15:30–15:50	Closing remarks ICIMOD Member countries	Long Ruijun
15:50–16:00	Vote of thanks	Neha Bisht
16:00–16:10	Tea/Coffee Break	
16:10–17:00	HKPL Team (including national partners) – Meeting to integrate new activiities into2017 planning	Muhammad Ismail

Annex III: Agenda of Science and Technology Cooperation Forum between QHNU and ICIMOD

DAY 1 (8 December 2016, Thursday)		
10:30	Check In	Zhou Hairu
12:00–13:30	Lunch	Staff Canteen — Wang Wenying, Zhao Xia, and others
13:30–13:50	Opening Remarks	Cui Wei, Vice president of QHNU
13:50–14:20	Introduction of the Participants of ICIMOD and the Work Focus of ICIMOD	Prof. Long Ruijun
14:20–14:50	Presentation	Dr Mark Foggin
14:50–15:35	Keynote Speech Presentation (30 minutes) Discussion (15 minutes)	Zhao Xia, Associate Professor of Life and Geography Science, School of QHNU
15:35–15:50	Break	
15:50–16:35	Keynote Speech Presentation (30 minutes) Discussion (15 minutes)	Dr Bading Qiuying, Life and Geography Science, School of QHNU
16:35–17:05	Briefs the events of International Science and Technology Cooperation of Qinghai and Expects Future Cooperation with ICIMOD	Chu Yun, Director of International Science and Technology Cooperation Division, Qinghai Provincial Science and Technology Department
17:05–17:35	Closing Remarks	Zhao Haixing, Vice President of QHNU
17:35–18:30	Dinner	Staff Canteen — Wang Wenying, Zhao Xia, and others
18:30	Return to the Hotel	

Annex IV: Agenda for ICIMOD Delegation to Visit to Xi'an

Friday, 9 December 2016		
9:45	Departure from Xining: by 9H8318 take off at 09:45, arrive at 11:10	
11:10	Arrival in Xi'an	
12:00–13:00	Lunch at the Xi'an Airport	
14:00–14:40	Visit to Shaanxi Provincial Cultural Relics Bureau	
15:10–15:40	Visit to NWU Museum	
15:40–16:00	Finalized MoU with NWU	
16:00–18:00	Joint Meeting of HKH	
18:30–20:30	Dinner at the campus of NWU	
21:00	Stay at Limon Hotel	
Saturday, 10 December 2016		
9:00–10:30	Visit to IICC – ICOMOS Xi'an Centre and Xi'an Municipal Museum	
11:00–12:00	Visit to Oct3D Cultural Relics Company	
12:30–13:30	Lunch	
14:00–15:00	Visit to Shaanxi Natural History Museum	
15:30–17:00	Visit to Shaanxi Natural History Museum	
18:30–20:00	Dinner	
21:00	Stay at International Hot Spring Resort and Spa, Lingtong District, Xi'an	
Sunday, 11 December 2016		
9:00–12:00	Visit to Emperor Qinshihuang's Mausoleum Site Museum	
12:00–13:00	Lunch	
13:00	Departure from Xi'an by CA1923, take off at 15:30 (T2), arrive at 16:50	

Annex V: List of Participants

Sn.	Participants
Afghanistan	
	Mr Sayed Ibrahim Mawzoon AKF Organization Badakhshan Email: Ibrahim.mawzoon@akdn.org
	Mr Ghulam Mohd Malikyar National Environmental Protection Agency of the Islamic Republic of Afghanistan Ph. #: +93(0) 700202719 Email: malikyar@gmail.com
	Mr Mohammad Shafi Ph. #: +93(0)700299758 Email: shafi_asefikabul@yahoo.com
	Mr Ahmad Zia Mirzada Natural Resource Department of MAIL, Kabul University, Kabul, Afghanistan Ph. #: 0788950611 Email: mirzada2001@yahoo.com
China	
	Prof. Yang Weikang Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, South Beijing Road, No. 818, Urumqi, Xinjiang, 830011, P.R. China Email: yangwk@ms.xjb.ac.cn
	Liu Wenjiang Deputy Director, Xinjiang Institute of Ecology and Geography South Beijing Road, No.818, Urumqi, Xinjiang, 830011 P.R. China
	Prof. Wang Yu Rao Kashgar University, P.R. China Email : wangyts@163.com
	Mrs Zhu Lin Head, TNR Management Bureau QQ: 619018780/13899169385
	Xu Wenxuan Researcher, Institute of Ecology and Geography, Chinese Academy of Sciences, Urumqi, Xinjiang, China Email: xwx@ms.xjb.ac.cn
	Dr Zhang Chi Professor, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences, South Beijing Road, No.818, Urumqi, Xinjiang, 830011 P.R. China Email: zc@ms.xjb.ac.cn
	Prof. Zhao Congang School of Culture Heritage, North West University Email: zcc88886666@126.com
	Mr Dong Feng Export Market Deputy General Manager China City Guard Security Service Group, Shaanxi Email: dongfeng@chinacityguard.com.cn
	Dr Feng Jian Director, ICOMOS Int'l Cons. Centre, Xi'an Email: fengjiansq@163.com
	Mr Li Tao Director, The Commercial Press, Xi'an Centre Email: dxh@cpx.press

	Mr Sun Zheng General Manager, October Culture Relics Conservation Co. Ltd., Shaanxi Email: sz@october3d.cn
	Prof. Wang Jianxin School of Culture Heritage, North West University Email: moguwang66@hotmail.com
	Dr Xi Lin Associate Researcher, Shaanxi Provincial Inst. of Archaeology, North West University Email: xilin1015@126.com
	Dr Wang Jinniu Assistant Professor, Chengdu Institute of Biology (CAS)
	Dr Jin Han Assistant Professor, Lanzhou University Email: hanjin@lzu.edu.cn
Nepal	
	Dr Dipesh Kumar Chetri Faculty of Animal Science, Veterinary Science, and Fisheries, AFU, Chitwan, Nepal Mobile: + 9 77 56 9845052013 Email: dipeshvet@yahoo.com
	Dr Neena Amatya Gorkhali Animal Breeding Division, National Animal Science Research Institute, Nepal Agriculture Research Council, Khumaltar, Lalitpur, Nepal Ph. #: +977-1-4431721(R) Email: neena_gorkhali@yahoo.com
Pakistan	
	Mr Siraj Ulmulk Hindukush Heights Chitral Ph: ++92-943-413151 and 413152 Mobile (92) 3449700800 e-mail: sirajulmulk@gmail.com
	Mr Muhammad Darjat Organization: Aga Khan Rural Support Program, Chitral, Khyber Pukhtankhaw (KP), Pakistan Email: darjatm@gmail.com
	Dr Bahadar Nawab Khattak Department of Development, COMSATS Institute of Information Technology (CIIT) Abbottabad, Khyber Pakhtunkhwa (KP), Pakistan Ph. #: + 92 992 383591-6; cell: ++ 92 345 5854226 Email: bahadar@ciit.net.pk
Tajikistan	
	Mr Imatbek Nikhmonov Regional Cooperation Cross Border Program Office, Lenin St. 36/1, Khorog, GBAO, Tajikistan 736000 Ph. #: (99935222)43-35 Email: imatbek.nikhmonov@akdn.org
	Mr Matramov Matram Sohibnazarov 9 Street, 736000 Khorog, GBAO, Tajikistan Email: matran.matranov@mail.ru
	Mr Shonazar Gulyazov Sohibnazarov 9 Street, 736000 Khorog, GBAO, Tajikistan Email: shonazar20@mail.ru
	Dr Marc Foggin Mountain Societies Research Institute, UCA, 138 Toktogul Street, Bishkek, Kyrgyz Republic 720001 Email: marc.foggin@ucentralasia.org

ICIMOD	
	<p>Prof. Ruijun Long Programme Coordinator – HKPLCDI Email: Ruijun.Long@icimod.org</p>
	<p>Mr Faisal Mueen Qamer Remote Sensing Specialist Email: Faisal.Qamer@icimod.org</p>
	<p>Mr Muhammad Ismail Associate Programme Coordinator, HKPLCDI Email: Muhammad.Ismail@icimod.org</p>
	<p>Dr Tashi Dorji Livelihood Specialist Email: Tashi.Dorji@icimod.org</p>
	<p>Dr Yi Shaoliang Programme Coordinator – Hi-LIFE Email: Yi.Shaoliang@icimod.org</p>
	<p>Ms Neha Bisht Associate Ecosystems Specialist Email: neha.bisht16@gmail.com</p>
	<p>Dr Srijana Joshi Rijal Ecosystem Specialist Email: Srijana.Joshi@icimod.org</p>
	<p>Ms. Himaa Rai Programme Associate, HKPL & HI LIFE Initiative Email: Himaa.Rai@icimod.org</p>



© ICIMOD 2017

International Centre for Integrated Mountain Development

GPO Box 3226, Kathmandu, Nepal

Tel +977-1-5003222 **Fax** +977-1-5003299

Email info@icimod.org **Web** www.icimod.org