



UNIVERSITY
OF CENTRAL ASIA

MOUNTAIN SOCIETIES RESEARCH INSTITUTE

Mountain Societies Research Institute

Programmes, Activities and Outputs

2014



Photo credits:

Marc Foggin 29

Peter Foggin 8

Christian Hergarten 17 (top)

Nozim Kalandarov 4, 7, 18, 26

Kubanychbek Moidinov 6

Mikhail Romanyuk cover, inside front cover, 2, 11, 12, 16 (bottom), 17 (bottom), 20

Aline Rosset 9, 10

Alma Uzbekova 14, 16 (top)



UNIVERSITY
OF CENTRAL ASIA

MOUNTAIN SOCIETIES RESEARCH INSTITUTE

Programmes, Activities and Outputs

2014

The University of Central Asia's Mountain Societies Research Institute (MSRI) is a university-wide, interdisciplinary research institute dedicated to addressing the challenges and opportunities within Central Asian mountain communities and environments. MSRI's goal is to support and enhance the resilience and quality of life of mountain societies through the generation and application of sound research. MSRI has five objectives: To generate *new knowledge* on mountain societies from academically sound research; To enhance *Central Asian capacity* to conduct sound research relevant to mountain societies; To serve as a *knowledge hub* for scholars, development practitioners and decision-makers; To inform *policy and practice* through sound research; and To contribute to the development of UCA *academic programmes* relevant to mountain societies. MSRI, together with its partners, actively works to transfer knowledge to policy and practice aimed at improving the quality of life for people of the mountain areas in Central Asia. MSRI's Background Paper Series strategically identifies research priorities and pathways to application for MSRI priority areas, including pastoralism and farming, sustainable land management and mountain tourism. Other MSRI resources include an online interactive Knowledge Hub and the Central Asia and Afghanistan Research Fund. For more information about MSRI, please visit: <http://msri.ucentralasia.org>

Contents

| | |
|---|-----------|
| Director’s Message | 3 |
| Activities and Projects | 4 |
| MSRI Research Reviews and Background Paper Series..... | 5 |
| <i>eBilim</i> Mobile Digital Library | 6 |
| Central Asia and Afghanistan Research Fellowship (CAARF)..... | 7 |
| Assessment and Analysis of Small Scale Farming Systems in Kyrgyzstan..... | 8 |
| Assessment of Agroforestry Systems in Kyrgyzstan and Central Asia..... | 9 |
| Ecosystem Services for Poverty Alleviation (ESPA) / Mountain Environmental Virtual Observatories (EVO) project | 10 |
| Learning Landscapes Initiative | 11 |
| Building Research Infrastructure and Capacity..... | 12 |
| MSRI Knowledge Hub..... | 12 |
| Geographic Information Systems (GIS)..... | 13 |
| Mentoring for Research..... | 13 |
| Peer-reviewing..... | 13 |
| Hosting | 14 |
| Central Asia Mountain Hub..... | 14 |
| World Agroforestry Center (ICRAF) Central Asia Office..... | 17 |
| Other Partnerships and Memberships..... | 18 |
| University Partners | 19 |
| International Exchanges | 19 |
| Memberships | 19 |
| MSRI Team..... | 20 |
| Publications and Presentations | 26 |
| Conference Presentations | 28 |



Director's Message



In 2014, many of the foundational initiatives and partnerships of the Mountain Societies Research Institute (MSRI) at the University of Central Asia (UCA) began to bear fruit.

MSRI continued to build research infrastructure and capacity in the region, including our new geographic information systems (GIS) laboratory and enhancing the MSRI Knowledge Hub. MSRI's Kyrgyz Socio-Economic Atlas is well underway and will provide a comprehensive database for natural resource management, first in Kyrgyzstan, and later in Tajikistan and other Central Asian countries. Research on the Pamir Archives, conducted with colleagues from the University of Alberta, will provide a historical assessment of early explorers and tourism in the region.

Two review papers were published in our rigorous Background Paper Series, on mountain tourism and sustainability and on agroforestry (the latter jointly published with the World Agroforestry Center (ICRAF) Central Asia Office).

Under a program initiated with backing from the International Development Research Center, Canada, twenty researchers from Tajikistan, Kyrgyzstan and Afghanistan received support under the Central Asia and Afghanistan Research Fellowship (CAARF), building a skilled, multi-disciplinary network of researchers and a body of knowledge to support sustainable mountain development in subject areas ranging from labour migration and gender to biodiversity, climate change, energy and food security.

The successful completion of the pilot phase of our mobile digital library eBilim, which included a regular 10-village route as well as summer trips to high altitude pastures, resulted in strategic recommendations to upscale the project for even greater impact in 2015 with support from the German Ministry for Economic Cooperation and Development (BMZ) and the International Development Research Centre (IDRC), Canada.

Partnerships remain at the heart of MSRI activities. The Institute continued to host the Central Asia Mountain Hub (formerly the Mountain Partnership Central Asian Hub). MSRI was instrumental in the formation of the ICRAF Central Asia Office, which it began hosting at the end of 2014, reflecting an ongoing partnership with ICRAF and other agroforestry stakeholders. The ICRAF office is the first CGIAR office in Kyrgyzstan.

In 2014, MSRI actively engaged communities in the generation of data and knowledge that will directly impact them. The Ecosystem Services for Poverty Alleviation (ESPA) Mountain Environmental Virtual Observatories (EVO) project, conducted in partnership with Imperial College of London and Wageningen University, blends cutting-edge concepts of adaptive governance with technological breakthroughs in citizen science and knowledge co-generation with community partners in remote mountain areas.

MSRI's Learning Landscapes Initiative, implemented in partnership with the University of British Columbia and the University of Alberta and supported by the Canadian Department of Foreign Affairs, Trade and Development, involves research and monitoring on the socio-ecological systems where UCA's campuses are located, in collaboration with local organisations and other stakeholders to generate knowledge and demonstrate its use in adaptive decision-making processes at household, community and government levels. Research on the governance of common pool resources such as mountain pastures and irrigation water in Naryn, Kyrgyzstan is currently underway.

As MSRI enters its fifth year, with UCA poised to open its first undergraduate campus in 2016, we look forward to continuing to serve as a partner and catalyst to generate research knowledge, skills and resources in Central Asia and to building our own capacity as a vital institute of UCA.

Dr Horst Weyerhaeuser
Director

Activities and Projects



MSRI Research Reviews and Background Paper Series

MSRI published the third and fourth papers in its Background Paper Series in 2014. Papers in the series are based on extensive reviews of existing literature and structured assessments of both knowledge and gaps in priority areas, which inform MSRI's emerging applied research agenda. They also form the basis of other products, including proposals to donors, policy briefs, presentations and journal articles.



Background Paper 3:

Mountain Tourism and Sustainability in Kyrgyzstan and Tajikistan

This paper provides the findings of a systematic review of research on mountain tourism in Kyrgyzstan and Tajikistan and an analysis of the contribution of the literature to more sustainable tourism. The paper identifies knowledge gaps and recommends future research that can directly contribute to sustainable tourism research, policy and practice in the two countries. Eighty-seven publications were collected and analysed, including academic literature published in the two countries, as well as academic literature published in international journals about Kyrgyzstan and Tajikistan and 'grey' literature (project reports). The literature was analysed using the United Nation's 12 Aims of Sustainable Tourism Framework, which provides a comprehensive model through which to view tourism as a means to achieve development goals. The findings and recommendations were presented at the Pamir Invest Forum in August 2014; University of Alberta's ReCon IV 50th Anniversary: Celebrating the Past, Envisioning the Future conference in Canada in September 2014; and will be presented at the Thinking Mountains 2015 conference in Canada in May 2015. This paper and MSRI's research in sustainable tourism is supported by the Canadian Department of Foreign Affairs, Trade and Development.



Background Paper 4.

Agroforestry for Landscape Restoration and Livelihood Development in Central Asia

This paper discusses how the adoption of agroforestry for ecosystem and livelihood improvement in Central Asian countries can be enhanced. The paper assesses how developments lead to changing environmental conditions which consequently affect human welfare and livelihoods. Using examples from different Central Asian countries, and relying on interdisciplinary methods, the case for agroforestry as an option to rehabilitate and create environmental and social resilience is made. The research findings demonstrate that a range of agroforestry systems are suitable for various agro-ecological and socio-economic areas in the region. By identifying current constraints and revealing opportunities, the paper aims to inform and provide recommendations for policy and decision makers and researchers about the potential of applying agroforestry in Central Asia. This paper was published in partnership with the World Agroforestry Centre and United States Forestry Service.



eBilim Mobile Digital Library

MSRI's mobile digital library *eBilim* is designed to bring information resources to communities in 10 remote villages in the Naryn and Ak-Talaa districts of Naryn *oblast* in Kyrgyzstan. *Bilim* means knowledge in the Kyrgyz language, and 'e' indicates electronic media. The *eBilim* project brings together locally accessible knowledge and information technology. Implemented in 2014 in collaboration with the Mountain Societies Development Support Programme Kyrgyz Republic and financial support from the German Federal Enterprise for International Cooperation (GIZ), the library is housed in a refurbished minibus equipped with books, laptops, and a digital database of over 3,000 text, audio, and video resources on a variety of subjects. A dynamic platform, eBilim is also assessing and responding to the expressed information needs of remote mountain communities; serving as a tool for quick data generation, monitoring, and survey activities for researchers, development organizations, and other stakeholders; and creating a networking and information platform for mountain communities.

During its 18-month pilot project, which included 2014, *eBilim* was implemented as a feasibility study, testing a series of possibilities for innovative information distribution and collection.

Key achievements in 2014 include:

- Nine tours to ten pilot villages and three tours to remote *jailoos* (summer pastures).
- Reaching 4,646 users, including 1,483 adults and 3,163 children.
- An offline digital database with over 3,000 documents in Kyrgyz, Russian and other languages, including text, audio and video files contributed by 30 partner organisations.
- A collection of hard copy children's books and information materials.
- To increase access to commercially available books and booklets, *eBilim* tested the sale of children's books and farmers' handbooks.
- *eBilim* was presented at various events in Kyrgyzstan and internationally.
- Articles and newsletters were written for UCA publications as well as external journals and media.

The pilot phase of *eBilim* ended in December 2014. Phase II begins in February 2015, with a stronger focus on practical knowledge and training in the villages, the creation of an independent database that can be installed in remote communities, and development of collaborative 'citizen science' research with local partners.



Central Asia and Afghanistan Research Fellowship (CAARF)

MSRI's Central Asia and Afghanistan Research Fellowship (CAARF) programme is strengthening the capacity of researchers from Tajikistan, the Kyrgyz Republic and Afghanistan to conduct original research on sustainable development in mountain areas. CAARF provides research grants and strategic mentoring support to a network of Central Asian and Afghan researchers to advance, publish and disseminate their research.

Fourteen research grants, ranging from \$5,000 to 20,000, were awarded in 2014 to five fellows from Tajikistan, seven from the Kyrgyz Republic and three from Afghanistan. Six grants were awarded to women. An additional six Afghan researchers were supported with training. Research is being done on biodiversity, labour migration and gender, climate change, the impact of mining on mountain environments, and energy and food security.

From 26 to 31 October 2014, MSRI conducted the first round of CAARF Research for Development training at the Ismaili Centre Dushanbe. It was conducted in collaboration with the Centre for Development and Environment of the University of Bern (MSRI Senior Research Fellow Dr Bettina Wolfgramm served as chief instructor) and the University of Potsdam (Professor Helmut Echter served as the keynote speaker), with support from MSRI and UCA Bishkek and Dushanbe. Fifteen CAARF fellows from the three countries participated. The training focused on the value of transdisciplinarity, or addressing problems in their full complexity, integrating methods from different scientific disciplines, and engaging in learning that involves different stakeholders to ensure that science contributes to tangible impacts on the ground. Participants participated in a field trip and practiced incorporating diverse types of academic and non-academic knowledge needed to address the complex issues presented by development problems into their research.

CAARF was established under UCA's Research and Public Policy Initiative (RPPI), supported by the International Development Research Centre, Canada and the Aga Khan Foundation, Canada. RPPI aims to ground policy-making processes in Central Asia in sound evidence and policy analysis by building the capacity of researchers to conduct independent and critical studies and by expanding the ability of policy professionals to utilise such research in policy development.



Assessment and Analysis of Small Scale Farming Systems in Kyrgyzstan

Sustainable development requires a holistic approach that considers the complex elements influencing interdependent farm, livestock, household, and family activities. The classification of evolving small-scale farming systems on the basis of resource use (land, capital and labour) and other variables is necessary in this process. Since independence, the farming sector in Central Asia has evolved. The assets of larger-scale cooperatives of the Soviet era were distributed to individuals or farmer groups. Despite these considerable changes, there is no updated classification scheme available to help address the needs of the majority of subsistence farmers.

To fill this gap, MSRI adapted and developed a methodology to classify small- and medium-scale farming systems in mountain regions of Kyrgyzstan. These systems make up the majority of farming systems in the country and contribute to both subsistence and larger-scale agricultural outputs. An assessment of prevalent systems and resource use was conducted to help guide research on environmentally sustainable development pathways that may generate or enhance rural livelihoods under harsh conditions.

From February to July 2014, 240 interviews in over 45 villages in inhabited areas of Chui and Naryn oblasts over 1500 metres above sea level were conducted. Households were randomly selected to ensure a representative sample. In November 2014, the classification process of family farming systems was conducted, identifying various classes and groups through the implementation of the agglomerate hierarchic cluster analysis WARD method. Results of the cluster analysis show that, besides environmental preconditions, the production method, resource endowment and extent of off-farm activities are also important in the definition of farming systems.

Classification factors for farming systems that were specifically identified include: altitude, length of pasturing, size of cultivated area and off-farm income. As a result of the classification process, two systems were identified: post-Soviet *jailoo*-farming systems in medium elevation mountain ranges and post-Soviet *jailoo*-farming systems in high elevation mountain ranges.

Results of the assessment were presented at the 1st International Conference on Asian Highland Natural Resources Management and the 2nd International Development Research Centre (IDRC) - Southeast Asian Center for Graduate Study and Research in Agriculture Upland Conference, both held in Thailand in January 2015.



Assessment of Agroforestry Systems in Kyrgyzstan and Central Asia

In 2014, MSRI continued its assessment of agroforestry systems in small holder farms and forests in Kyrgyzstan and Central Asia. The assessment included research on agroforestry practices in local agricultural systems and mixed forests and meetings with stakeholders to assess needs and generate recommendations to improve agroforestry in Central Asia. The findings and recommendations informed a new research theme on agroforestry for MSRI; served a regional demand from local stakeholders and communities to establish agroforestry in support of prevailing mixed subsistence agriculture and pastoral livelihoods; and informed the process to establish a regional agroforestry centre.

From 12 to 14 May 2014, MSRI hosted a workshop on Agroforestry Practices in Central Asia in Chon-Kemin, Kyrgyzstan. It was attended by representatives of state committees, farmer associations, non-governmental organisations and independent experts, and designed to assess the state of agroforestry in agricultural and mixed forests in Central Asia, to raise awareness of ongoing agroforestry research and projects in Central Asia, and to document and synthesise existing practices and knowledge in related fields. Participants identified constraints and opportunities to implementing agroforestry to improve the quality of life of communities and protect the environment in Central Asia. The research and workshop were part of a partnership coordinated by the United States Forest Service. Other partners included regional universities, the World Agroforestry Centre (ICRAF), the World Bank, the Rural Development Fund, GIZ and the Food and Agriculture Organisation in Kyrgyzstan.

A background paper, *Agroforestry for Landscape Restoration and Livelihood Development in Central Asia*, was developed based on the assessment and partner feedback (see page 5).

In December 2014, an ICRAF regional research office was established at UCA in Bishkek to link global and regional agroforestry research and enable local researchers to participate in international research, training and capacity building (see page 17).



Ecosystem Services for Poverty Alleviation (ESPA) / Mountain Environmental Virtual Observatories (EVO) project

MSRI launched the Ecosystem Services for Poverty Alleviation (ESPA) project in remote villages of Naryn oblast in 2014. With a focus on developing Environmental Virtual Observatories or EVOs in mountain areas, this initiative blends cutting-edge concepts of adaptive governance with technological breakthroughs in citizen science and knowledge co-generation with community partners to break the cycle of limited and poor quality environmental data in remote mountain areas leading to their further socio-economic marginalization.

The project specifically focuses on how conceptual and technological innovations in environmental sensing, data processing, interactive visualisation and participatory knowledge generation can be leveraged to implement local demand-driven, interactive and multi-directional approaches to knowledge generation about ecosystem services. The approach is built around the notion of EVOs: decentralised and open technology platforms for knowledge generation and exchange that enable the participation of marginalised and vulnerable communities that are bypassed by the traditional mechanisms.

The project is examining four case studies in remote and poor mountain regions characterised by acute degradation of ecosystem services including water supply, soil fertility, and land cover in Peru, Nepal, Ethiopia, and Kyrgyzstan. Mechanisms for regular evaluation and improvements of the EVOs will be established to ensure their utility, robustness and impact. The project's goal is not to develop specific solutions to specific problems, but rather to reconceptualise approaches to managing ecosystem services for poverty alleviation. It will leverage the cross-disciplinary nature of the project consortium to create a flexible and adaptive set of tools, protocols and concepts that may promote citizen science in relation to ecosystem services and poverty alleviation amongst local agropastoral communities.

The ESPA programme is funded by the Department for International Development (DFID), the Economic and Social Research Council (ESRC) and the Natural Environment Research Council (NERC), as part of the UK's Living with Environmental Change (LWEC) programme.



Learning Landscapes Initiative

Through its Learning Landscapes Initiative, MSRI is conducting research and monitoring on the socio-ecological systems within the regions where the University of Central Asia (UCA) campuses are located in Tajikistan, Kyrgyzstan and Kazakhstan, in collaboration with local organizations and other stakeholders. The initiative will establish demonstration and experimentation sites for UCA faculty and students to use for research and for place-based experiential education, and for community members and organizations to use for their learning purposes. The primary emphasis of research is on generating knowledge for adaptive decision-making processes at household, community, and government administrative levels. The Initiative has two main objectives:

- Develop an applied research programme oriented toward the needs and opportunities within mountain societies in Central Asia, including long-term social and ecological monitoring.
- Contribute substantially to the educational needs and opportunities of the University through the development of research avenues that enrich teaching curricula; provide opportunities for student fieldwork; and benefit local communities through the provision of research findings and related outreach and partnership development.

The Learning Landscapes Initiative is being developed with support from the Canadian Department of Foreign Affairs, Trade and Development and in partnership with the University of British Columbia and University of Alberta. This strategic partnership is strengthening UCA and MSRI's research capacities, particularly in integrated multidisciplinary research, lifelong learning strategies and development policy and practice. Current activities include joint research on the social-ecological system in Naryn, Kyrgyzstan, with an initial focus on the governance of common pool resources such as mountain pastures and irrigation water.



Building Research Infrastructure and Capacity

A key component of MSRI's activities is to build capacity and infrastructure that strengthen mountain research in Central Asia. This includes the development of technical platforms and facilities, and facilitating access by Central Asian researchers to grants and technical support.

MSRI Knowledge Hub

The MSRI Knowledge Hub (MSRI-HUB) is an interactive source of information on Central Asian mountain societies and environment and an interface for researchers, practitioners and policymakers. MSRI's Hub includes an extensive library database and advanced search functions with multiple filters to help users locate specific information. MSRI library resources are available with free access under the Creative Commons license 3.0. The MSRI-HUB has had an influential role in a GIZ-led initiative on the development of regional knowledge hubs. The MSRI-HUB is also part of the European Union-funded initiative on regional knowledge sharing, Flermonica.

In 2014, several updates to the MSRI-HUB were introduced:

- A new physical infrastructure based on a modern and powerful server was locally deployed as well as a new software infrastructure for creating, hosting, maintaining, storing and testing web applications of various levels of complexity.

- Based on the new platform for hosting web applications, the MSRI-HUB was migrated from Amazon Elastic Compute Cloud Hosting to local servers. During the migration, the system was optimised to increase its performance capacity.
- The development of a completely new version of the MSRI-HUB also began in 2014, based on a framework design (rather than Content Management System, or CMS) to further enhance the performance and flexibility of the MSRI-HUB.
- A new server was deployed as a part of integration to K-Link.

Geographic Information Systems (GIS)

UCA has been building GIS capacity in Central Asia since 2009, as a member of the 2009-2012 partnership *Geoprocessing for Natural Resource Monitoring - Capacity Strengthening in Tajikistan and Kyrgyzstan*, with Kyrgyz-Russian Slavic University, Tajik Agrarian University and the Centre for Development and Environment, University of Bern.

In 2014, a new GIS laboratory was installed at UCA with support from the German Academic Exchange Service (DAAD), the Ecosystems Services for Poverty Alleviation (ESPA) project, the Canadian Department of Foreign Affairs, Trade and Development, the Swiss Agency for Development and Cooperation, and the Prince Sadruddin Aga Khan Fund for the Environment.

The GIS lab will enhance MSRI's capacity to support various projects with spatial information and analysis needs, including the ESPA project and Learning Landscapes Initiative. The lab's work is focusing on natural resources monitoring (pastures, soils, and water), using satellite and aerial remote sensing techniques. Through multi-temporal and multi-scale analysis, land cover and land use dynamics are being investigated, which shall allow MSRI to map and monitor resource use and ecosystem services at various scales, and help to predict future scenarios through spatial and temporal modeling.

The lab will also serve as a GIS training centre and provide services to MSRI partners. With the Aga Khan Foundation and Mountain Societies Development Support Programme Kyrgyzstan, MSRI is supporting the development of a GIS system for Naryn town to support local governance and infrastructure improvement.

Mentoring for Research

Researching and producing MSRI's Background Paper Series involves a structured and supervised research and writing process that brings together regional and international researchers. In 2014, two teams made up of seasoned and new scholars worked together on the research reviews and the writing of MSRI Background Papers 3 and 4. The process is building MSRI's network of researchers, enhancing relationships between researchers and strengthening the capacity of younger Central Asian scholars. Mentoring is also a key component of MSRI's CAARF programme and other team efforts.

Peer-reviewing

In 2014, MSRI researchers reviewed publications for the following journals: Central Asian Survey, Conservation Biology and Rangeland Ecology & Management. MSRI researchers also reviewed project applications for German Academic Exchange Service (DAAD).



Hosting

Central Asia Mountain Hub

The Central Asia Mountain Hub (CAMH) (formerly known as the Mountain Partnership Central Asia Hub) has been hosted at UCA since 2010, and at MSRI since its establishment in 2011. Supported by the Swiss Agency for Development and Cooperation, CAMH is a regional centre of competence, which brings together 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. Hub activities include SMD policy advocacy at multiple levels through community mobilisation and collaboration with policy makers; building partnerships to enhance capacity at the local level through cross-learning and exchange of good practices; and advancing the mountain agenda and mountain people's concerns in global, regional, national and sub-national development and policy making processes.

CAMH coordinates mountain stakeholder joint activities in Central Asia by supporting information exchange and regional knowledge sharing on sustainable mountain development. In 2014, climate change was a key thematic focus for Hub activities. Key activities and outputs include:

- The launch of the Climate Change Dialogue Platform of Kyrgyzstan (CCDP-Kg), with CAMH backing. The objective of CCDP-Kg is to improve public participation in climate governance. The goals of this multi-stakeholder, interactive platform are to encourage two-way communication, engage a broad range of stakeholders in climate response actions, and ensure that informed and

evidence-based decision making takes place at all levels. CCDP-Kg is joined by other institutions, such as the World Bank and the United Nations Development Programme, in advocating for the replication of the platform in other Central Asian states. The platform is the first public private partnership bringing together government, public representatives, community service organisations, the private sector and development partners and consolidating efforts to address climate change in the mountain context. CAMH representatives serve as members of the CCDP-Kg Working Body supporting the State Agency for Environmental Protection and Forestry.

- The launch of a policy dialogue series in Tajikistan, following government-level preparatory meetings in Dushanbe and Bishkek, including Olimjon Safarov, Member of Parliament and initiator of the Bill on Mountain Territories, and Saidi Yoqubzod, Head of the Parliament Standing Committee on Ecological and Agrarian Policy, Republic of Tajikistan. The series was launched with the first national consultative meeting of the inter-ministerial working group on 23 December 2014. It was attended by more than 20 representatives from the government (Ministry of Agriculture, Ministry of Economy and Development and the Committee of Environment of the Republic of Tajikistan); representatives of research institutions (Soil Institute, Horticulture, Academy of Sciences and UCA in Tajikistan); representatives of mountain districts (Rasht Valley, Sogd region, Gorno-Badakhshan Autonomous Oblast and Khatlon region); representatives of international organisations (Aga Khan Foundation, Mountain Societies Development Support Programme, the United Nations Food and Agriculture Organisation (FAO)); and public organisations (Center for Climate Change and Disaster Risk and CAMP Kuhiston). The meeting was moderated by Yoqubzod, and Safarov presented on mountain law as well as findings from field consultations conducted during CAMH-supported visits to mountain districts. The event provided a platform to bring mountain community concerns and perspectives to the attention of decision makers.
- Participation of the Central Asian delegation at the World Mountain Forum 2014 in Cusco, Peru. The delegation included representatives from Kyrgyzstan, Tajikistan and Altai Republic of the Russian Federation. Alliance of Development Initiatives (ADI) and CAMP Alatoo made presentations in two sessions of the forum and the CAMH co-organised the Mountain Communities session with the Centre for Development and Environment (CDE), University of Bern. Government officials from Kyrgyzstan and Tajikistan participated in panel discussions. The Central Asia section of the Forum Marketplace included 12 posters and mountain products from Silk Road Taste of Kyrgyzstan.
- The facilitation of exchanges on establishing long-term linkages between Central Asia and India and other regions on high-value mountain products and product marketing. Women producers from Kyrgyzstan were linked to similar groups from Kumao, Uttarakhand and Delhi, India.
- Continued support of mountain stakeholders to document and capture good SMD practices. Two case studies from Central Asia were included in “Mountain Farming is Family Farming”, the publication series on SMD produced by the Mountain Partnership and CDE. A photo-story on Central Asia was selected by the Organising Committee at FAO Rome for Expo 2015 in Milan, Italy.
- A rapid assessment survey on local level climate responses was conducted in 40 villages in three countries of Central Asia, in partnership with Alliance of Central Asian Mountain Communities (AGOCA). The findings will be used for to guide geographic focus and prioritisation of activities for a new pilot initiative to establish a regional network of climate resilient villages and thus support community-based adaptation efforts.
- A Pocket Manual for Farmers is being compiled and will be launched at the Regional Mountain Forum 2015 in Dushanbe. The CAMH worked with CAMP Kuhiston and consultants in Tajikistan to complete focus group discussions and identification and selection of the farmer tried and tested



World Overview of Conservation Approaches and Technologies (WOCAT) soil and water conservation technologies for inclusion in the manual.

- Continued monthly publication of the *Aiyl Demi* newspaper, a print-media for remote mountain communities. In collaboration with the United States-based ACIDI/VOCA Farmer to Farmer programme, international development consultant in Publishing, Marketing and Communications, Barbara Pietuch, assisted the newspaper in marketing and branding. A follow-up plan was developed with the newspaper team to improve outreach and marketing.
- Training of trainers was conducted for eight participants from Altai, Tajikistan and Kyrgyzstan as part of regional scaling up and replication of the SMD online training course for youth designed in 2013. Participants can develop country-specific contents for SMD online training programmes in national languages.
- Support to regional stakeholders during resource mobilisation, including the Alliance of Central Asian Mountain Communities (AGOCA), *Aiyl Demi* newspaper and the Federation of Organic Farming Movement *Bio-KG* led to funding from The Christensen Fund and ACIDI-VOCA/United States Agency for International Development.





World Agroforestry Center (ICRAF) Central Asia Office

The German Federal Enterprise for International Cooperation (GIZ) approved an application from ICRAF and MSRI in 2014 for an integrated expert to establish the Central Asia Office of ICRAF to promote agroforestry in the region. In December 2014, the ICRAF Central Asia Office was opened, hosted at MSRI, and is now led by Dr Niels Thevs. Within ICRAF, the Central Asia Office operates as a country office under the Regional Office for East and Central Asia based in Kunming, China.

A first task of the ICRAF Central Asia Office in 2015 will be an assessment of existing agroforestry and silvopastoral systems, followed by a selection of best practices. This assessment will focus on 1) an agroforestry system with Poplars as shelterbelt, combined with cotton or wheat under irrigation; and 2) a system based on walnuts combined with fodder and fruit shrubs. Productivity, costs and income to farmers will be assessed. To ensure a holistic perspective, variables such as environmental costs and water consumption will also be included.



Other Partnerships and Memberships



University Partners

MSRI continues to partner with Canadian and European universities. MSRI is working with University of British Columbia (UBC) on the Learning Landscapes Initiative and spatial information systems. With University of Alberta, MSRI is assessing the potential for disseminating resources and knowledge emerging from UCA's Pamir Archive, an extensive collection of documents and photographs focused on the Pamir region. Partnerships with these Canadian universities have been supported by the Canadian Department of Foreign Affairs, Trade and Development. MSRI is working with Imperial College of London and Wageningen University on the ESPA Mountain-EVO project. A long-standing cooperation with the Centre for Development and Environment (CDE) at University of Bern, Switzerland on Sustainable Land Management and on knowledge and information brokerage for Integrated Watershed Management also continues to bear fruit including peer-reviewed publications.

International Exchanges

Through MSRI's partnership with UBC, MSRI research fellow Jyldyz Shigaeva spent three months in Canada, elaborating the background paper for the Learning Landscapes Initiative and preparing an exposition for the Mountain Observatories Global Fair and Workshop in Reno, Nevada in July 2014. The event focused on mountain social, biological and abiotic systems data and the need for more comprehensive observing systems in mountain regions. Shigaeva presented on *Long-term Socio-ecological Research in a Transitioning Context: Early Ideas for Developing University of Central Asia's Learning Landscapes Initiative*. A joint MSRI-UBC research team also organised and conducted a feedback session on *Challenges and Opportunities for Designing Long-term Socio-ecological Research in Transitioning Mountain Societies*.

In September 2014, MSRI research fellow Aiganysh Isaeva participated in a workshop "*Mountain EVO Wageningen Meeting: Discussions of social science and joint knowledge creation*," organised by Wageningen University in partnership with University of Antwerp, University of Birmingham and Imperial College of London. The workshop covered several methodologies including situation analysis and project development.

Memberships

UCA memberships with the Eurasia Pacific Uninet and the Himalayan University Consortium remain current, as does UCA's institutional membership with the International Mountain Society. The Mountain Partnership, hosted at MSRI, also is a member of the Kyrgyz Climate Network, which promotes the integration of climate change issues into national policies.

MSRI Team



The MSRI team includes Director Horst Weyerhaeuser; Senior Research Scientists Marc Foggin and Christian Hergarten; Research Fellows: Aisulu Abdykadyrova, Azamat Azarov, Aiganysh Isaeva, Zuura Mamadalieva, Zhyldyz Shigaeva, Qobiljon Shokirov and Munavar Zhumanova; Project Managers Aline Rosset and Mokhira Suyarkulova; GIS expert Evgenii Shibkov and Knowledge Hub Manager Eugene Novikov. They are supported by Project Officer Jangyl Ismailova, Researcher Elnura Omurbekova, Research Assistant Samat Kalmuratov, Mobile Digital Library Outreach Officer Azamat Usupbekov and driver Kubanychbek Moidinov.

MSRI hosts and engages in joint initiatives with the Central Asia Mountain Hub, which is staffed by Regional Programme Officer Elbegzaya Batjargal and Communications Officer Alma Uzbekova. MSRI also hosts the ICRAF office in Central Asia which is led by Central Asia Programme Coordinator Niels Thevs.



Horst Weyerhaeuser, Director

Horst Weyerhaeuser leads MSRI, bringing with 25 years of experience in research for development in Asia. Prior to joining UCA, Horst spent five years in Laos as an advisor to the Ministry of Agriculture and Forestry, responsible for the development and implementation of large scale research programmes and developing national and regional research strategies. Horst spent eight years as a senior scientist and country representative in China for the World Agroforestry Center (ICRAF), where he developed ICRAF's research strategy, partnership programmes and policy support framework for China. He also established and coordinated the joint Center for Mountain Ecosystem Research (CMES) in Kunming. Horst received his PhD in Silviculture Management from Freiburg University.



Aisulu Abdykadyrova, Research Fellow

Aisulu Abdykadyrova has published widely on tourism in Kyrgyzstan, including books on *Regional Aspects of Tourism Geography of Kyrgyzstan* (2003) and *Tourist and Recreational Potential of Issyk-kul Oblast* (2008), and tutorials on *Recreational Geography of Kyrgyzstan* and *Legal Basis of Socio-Cultural Service and Tourism in the Kyrgyz Republic*. Aisulu has taught courses on tourism at Bishkek Humanities University and Kyrgyz National University. At MSRI, she was researching and writing a MSRI Background Paper on Mountain Tourism and Sustainability. Aisulu received her PhD in Recreational Geography from the National Attestation Committee of the Kyrgyz Republic. She conducted post-doctoral research on tourism at the Free University of Brussels and on academic mobility at Dublin Institute of Technology (2012). She is currently a PhD candidate from the University of Alberta in Canada.



Azamat Azarov, Research Fellow

Azamat Azarov is conducting research on food security in mountain areas at MSRI, with a focus on small and medium farming system analysis in mountain areas of Kyrgyzstan. Azamat is a PhD candidate at the Kyrgyz National Agrarian University, writing his dissertation on *Classification and Problems of Farming Households in Mountain Regions of Kyrgyzstan: A Case Study of Chui and Naryn Oblasts*. Prior to joining UCA, he taught agrarian marketing at Kyrgyz National Agrarian University. Azamat received his MBA from the University of Applied Sciences Weihenstephan Triesdorf in Germany.



Aiganysh Isaeva, Research Fellow

Aiganysh Isaeva holds a MSc in Sociology from the University of Oxford, and a BA in Sociology from the American University in Central Asia (AUCA). Prior to joining MSRI, she taught sociology at AUCA and worked in the non-governmental and development sectors. At MSRI, Aiganysh is a research fellow within the Ecosystem Services for Poverty Alleviation (ESPA) project researching various dimensions of poverty (or conversely, wealth and wellbeing) and community social dynamics in relation to natural resource management in select villages of Naryn oblast.



Zuura Mamadalieva, Research Fellow

Zuura Mamadalieva holds a MSc in Transition Management from Justus Liebig University of Giessen, Germany, and holds a Specialist Diploma in Hydrometeorology from the Kyrgyz Russian Slavic University. Prior to joining MSRI, Zuura worked at the Central Asian Institute on Applied Geosciences and with other organisations as a team member on environmental projects, including *Assessment and Analysis of Water Quality Under Anthropogenic Impact in Southern Kyrgyzstan* with Ministry of Education and *Impact Assessment of the Global Ecological Fund Project on Local People of Aksy-Gabagly, Sary-Chelek and Besh-Aral Nature Reserves* with “Expert” consultancy. At MSRI, Zuura is a research fellow within the Ecosystem Services for Poverty Alleviation project (ESPA), researching aspects of poverty and wellbeing as well as developing citizen-oriented environmental monitoring schemes that may assist resource users in select villages of Naryn oblast.



Jyldyz Shigaeva, Research Fellow

Jyldyz Shigaeva led the elaboration of the MSRI background paper on sustainable land management (SLM) in Kyrgyzstan and Tajikistan. Her research interests include SLM, livelihoods in rural areas and sustainable mountain development. Prior to joining UCA, Jyldyz was a Senior Researcher in the Laboratory of Sustainable Development of Mountain Regions at the Institute of Mountain Physiology of the National Academy of Sciences of the Kyrgyz Republic, and an Associate Professor at the International University of Kyrgyzstan. Jyldyz also worked with the Pamir-Alai Land Management (PALM) project funded by Global Environment Facility/UN university (GEF/UNU). Jyldyz received her PhD in Ecology from the International University of Kyrgyzstan and is pursuing her PhD within the National Centre of Competence in Research (NCCR) North-South at the University of Bern. At MSRI, Jyldyz focuses primarily on the development of the Learning Landscape Initiative in conjunction with support for the ESPA project.



Qobiljon Shokirov, Research Fellow

Qobiljon Shokirov has extensive experience in conservation projects, including ecological restoration, habitat restoration for wildlife in mountainous ecosystems, biodiversity and key conservation projects in the Great Basin Area and the Pacific Northwest as a part of public and national parks. He was part of a research team investigating sustainable land use management in Tajikistan under the National Centre of Competence in Research (NCCR) North-South Research Project 11. At MSRI, Qobiljon has conducted research on mountain tourism and sustainability. Qobiljon graduated from Antioch University with a MSc in Resource Management and Conservation and is a former Fulbright Fellow.



Munavar Zhumanova, Research Fellow

Munavar has 14 years of experience in agrarian policy issues and agricultural development projects. Her expertise includes pasture management, animal husbandry, farming practices, value chain analysis, and support for decision making in agro-pastoral systems. Munavar’s academic and professional work addresses environment and resource economics, pastures and grassland management and conservation, animal reproduction and nutrition science, ethno-botany and traditional ecological knowledge of agro-pastorals, rural economics and climate change in remote mountain communities in Kyrgyzstan. She has published several case studies on agrarian societies of Africa and Asia, as well as academic papers and book chapters on climate change, agricultural productivity and poverty in mixed crop-livestock production systems in Kyrgyzstan. She received her MA in International Development and Cooperation from the University of Hiroshima and is currently enrolled in PhD studies in Agriculture and Grassland Sciences at the University of Rostock in Germany.



Aline Rosset, *Project Manager*

Aline Rosset manages MSRI's *e-Bilim* mobile digital library pilot project, in partnership with GIZ and MSDSP. Her main interests and experience lie in the sustainable development of mountain regions, environmental education, sustainable management of natural resources, geographic information and knowledge management, as well as participatory and interdisciplinary research in remote mountain areas. Aline has previously worked on the establishment of Joint Forestry Management schemes on degraded riparian forest in the valleys of GBAO, Tajikistan in partnership with the State Forestry Agency. Prior to that, she worked in Europe, West Africa, and Central and South America. Aline has a MSc in Geography from the University of Zurich, where she was also employed as a teaching and research assistant for the chair of Human Geography, and as a management assistant of the National Centre of Competence in Research (NCCR) North-South hub in Zurich.



Mokhira Suyarkulova, *Project Manager*

Mokhira Suyarkulova manages MSRI's Central Asia and Afghanistan Research Fellowship (CAARF) which provides funding and technical support to researchers from the Kyrgyz Republic, Tajikistan and Afghanistan to conduct applied research relevant to the development of the region's mountain communities. Within a regional focus on Central Asia, Mokhira's research interests include a wide range of topics, such as international politics of water and nationalist politics of dress and gender in Central Asia. She received her PhD in International Relations from the University of St Andrews, UK.



Evgenii Shibkov, *GIS Expert*

Evgenii Shibkov is a GIS expert at MSRI. Prior to joining UCA, he worked as an engineer at the Kyrgyz State Service of Geodesy and Cartography for six years. Evgenii has a strong background in digital cartography and a MSc in Geoinformatics: Managing Energy, Resources and Environment from Kyrgyz State University of Construction, Transport and Architecture. He has also participated in international trainings in data modeling, project management and remote sensing.



Evgeniy Novikov, *Knowledge Hub Manager*

Evgeniy Novikov is a software-developer, skilled at using PHP and MySQL. He has a first degree in Computer Science and a Masters in Software Development/Technology from the International University of Kyrgyzstan in Computer Systems. At MSRI, Evgeniy responsibilities include software development in open source technologies (Linux, Apache, MySQL and PHP); daily administration of virtual information technology infrastructure; developing knowledge management systems and procedures; developing web portals; and developing, optimising and maintaining a SQL-based database of any level of complexity.



Jangyl Ismailova, *Project Officer*

Jangyl Ismailova works as a Project Officer for MSRI's *eBilim* mobile digital library project, supporting the project manager in project management and implementation and overseeing communication with partner organisations, government officials and the media. She also supports the development and implementation of surveys and monitoring activities in remote areas and implementation in the field. Jangyl holds a BA degree in International and Comparative Politics from American University of Central Asia and is an alumna of the United States Department of State Future Leaders Exchange program (FLEX) and the Global Village for Future Leaders of Business and Industry Program of the Iacocca Institute at Lehigh University.



Elnura Omurbekova, *Researcher*

Elnura Omurbekova is supporting the work of researchers at MSRI as an administrative coordinator and focal point for other UCA departments and external partners. Previously, Elnura worked at the OSCE Academy in Bishkek as a Research and Training Assistant and an Academic Assistant. She received her Graduate Diploma in Law from Kyrgyz Russian Slavic University and her Master of Law from Kyushu University, Japan.



Samat Kalmuratov, *Research Assistant*

Samat Kalmuratov is supporting MSRI's ESPA research team, conducting baseline surveys in remote Naryn villages. He is also contributing to the installation and maintenance of weather stations in remote mountain areas of Naryn. Samat received his MBA from the University of Applied Sciences, Weihenstephan Triesdorf in Germany.



Azamat Usupbekov, *Outreach Officer*

Azamat Usupbekov has worked at UCA since 2010 as an Outreach Coordinator. In 2013 he became an Outreach Officer for MSRI's e-Bilim Mobile Digital Library. Azamat provides e-Bilim users with information on a range of issues and works close with local authorities and residents in the villages visited by e-Bilim.



Kubanychbek Moidinov, *e-Bilim Driver*

As driver of MSRI's e-Bilim Mobile Digital Library, Kubanychbek delivers the e-Bilim team and equipment to its village destinations. He also assists visitors in finding library materials.



Marc Foggin, *Senior Research Scientist*

Marc Foggin co-leads the development of the Ecosystem Services for Poverty Alleviation Mountain EVO project as well as the Learning Landscapes Initiative, which is initiating socio-ecological systems research in the Naryn watershed. He is also developing a conservation-oriented research programme in Central Asia, including both formal protected areas and wider human and environmental landscapes. His other interests include biodiversity conservation, natural resource management, human ecology (pastoralism), local governance and the development of community partnerships for conservation and development. Marc has worked in Asia, especially Western China, as development practitioner and researcher for two decades. He also is Honorary Research Fellow at the Durrell Institute for Conservation & Ecology (DICE), University of Kent.



Christian Hergarten, *Senior Research Scientist*

Christian Hergarten leads the development of a spatial analysis unit at MSRI and co-leads the development of the Mountain Environmental Observatory and UCA's Learning Landscapes Initiative, which is initiating socio-ecological systems research in the Naryn watershed. Christian has a strong background in spatial analysis and natural resource monitoring using spectroscopy. His academic interest and work focuses on integrated analysis and assessment of ecosystem services, including participatory methods of environmental monitoring. Christian has worked in research, training and capacity building in various areas and contexts, including soil and vegetation monitoring and analysis in Ethiopia, South Sudan and Mozambique, and natural resource modeling in Tajikistan and the Democratic People's Republic of Korea. He is an affiliate research scientist with the Centre for Development and Environment at the University of Bern. Christian received his MSc in Geography, Earth Sciences and Economics from the University of Bern.



Elbegzaya (Zaya) Batjargal, *Regional Programme Officer, Central Asia Mountain Hub*

Elbegzaya (Zaya) Batjargal oversees activities of the Central Asia Mountain Hub, supporting Mountain Partnership members in Central Asia working on sustainable mountain development (SMD), including knowledge sharing, capacity building and forging joint initiatives aimed at integrating regional contributions to global processes on SMD. Previously, Zaya worked as a Policy Analyst and Environmental Specialist with the Energy and Environment teams of United Nations Development Programme in Mongolia and the Maldives. She also headed the Fundraising, Marketing and Communication Unit of the World Wildlife Fund Program Office, Mongolia. Zaya received her MA in International Environmental Policy from the Graduate School of International Policy Studies at Monterey Institute of International Studies, USA.



Alma Uzbekova, *Communication Officer, Central Asia Mountain Hub*

Alma Uzbekova coordinates communications and public relations activities for the Central Asia Mountain Hub. She has worked with various non-governmental organisations in rural development, implementing projects funded by international donors. Alma served as Projects Coordinator with the public foundation CAMP Alatau (Central Asian Mountain Programme) where she was responsible for communications and public relations. She earned her Master's degree at the Kyrgyz Academy of Management.



Niels Thevs, *ICRAF Programme Coordinator for Central Asia*

Niels Thevs is the ICRAF Programme Coordinator for Central Asia and is developing a research program for ICRAF for Central Asia. Prior to that, he worked as a researcher at University of Greifswald, where he was responsible for developing and implementing research projects in the fields of sustainable land use in riparian oases and drylands of Central Asia. He established partnerships with research institutions from China, Kazakhstan, Uzbekistan and Turkmenistan. He has also developed projects in the field of environmental education with various organisations in China. He has also taught GIS, remote sensing and soil science in the international masters-level course on Landscape Ecology and Nature Conservation at the University of Greifswald. Niels obtained his PhD in Landscape Ecology from the University of Greifswald and has a Diploma in Biology and Soil Sciences from the University of Hamburg.

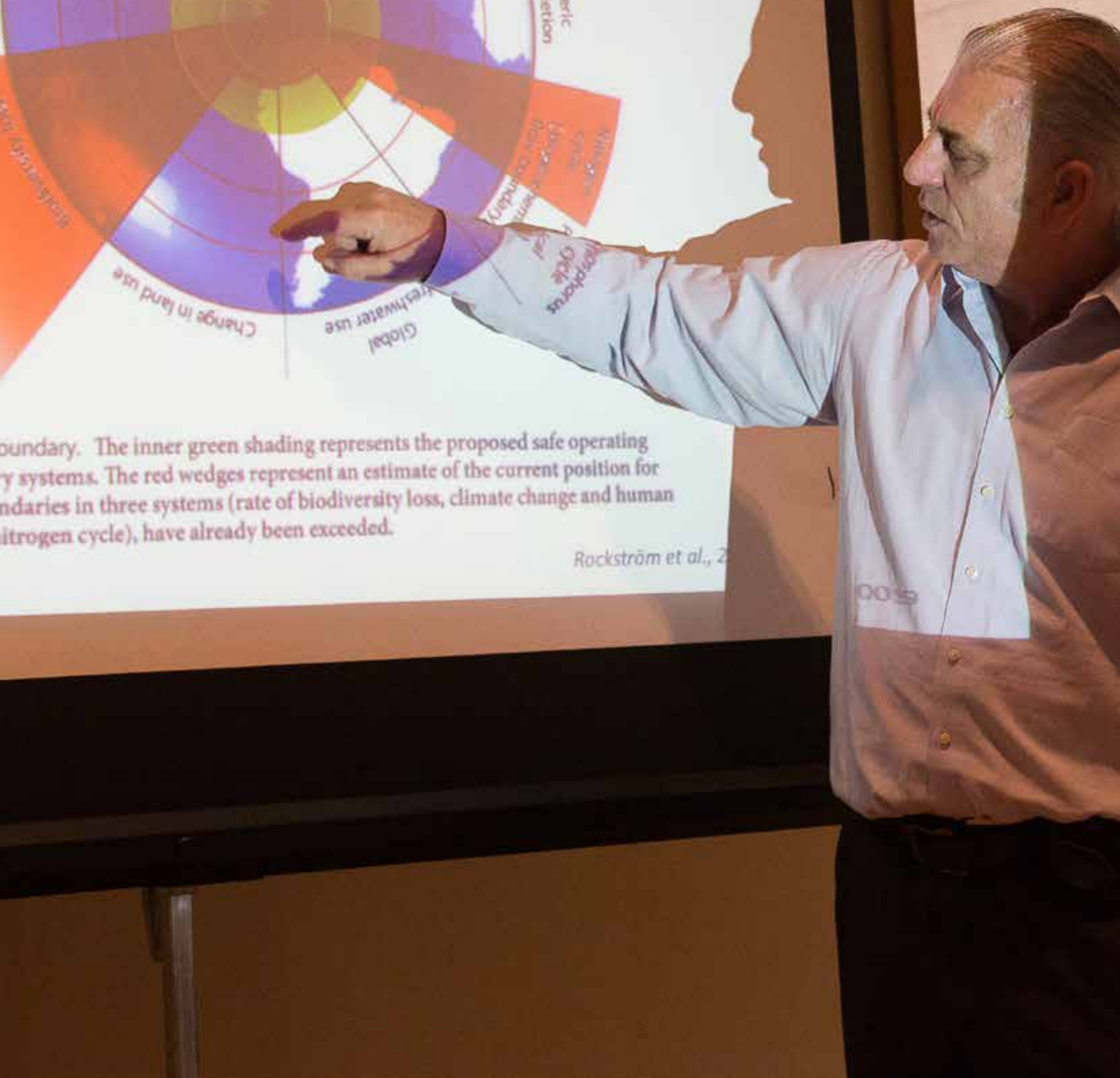
Understanding natural and man-made processes

Publications and Presentations



boundary. The inner green shading represents the proposed safe operating space for Earth's systems. The red wedges represent an estimate of the current position for planetary boundaries in three systems (rate of biodiversity loss, climate change and human nitrogen cycle), have already been exceeded.

Rockström et al., 2009



Publications

Buytaert, W., Zulkafli, Z., Grainger, S., Acosta, L., Bastiaensen, J., De Bièvre, B., Bhusal, J., Chanie, T., Clark, J., Dewulf, A., **Foggin, M.**, Hannah, D., **Hergarten, C.**, **Isaeva, A.**, Karpouzoglou, T., Pandey, B., Paudel, D., Sharma, K., Steenhuis, T., Tilahun, T., Van Hecken, G., and **Zhumanova, M.**, “Citizen Science in Hydrology and Water Resources: Opportunities for Knowledge Generation, Ecosystem Service Management and Sustainable Development”, *Frontiers in Earth Science*, Volume 2, October 2014.

Foggin, J.M. “Managing Shared Natural Heritages: Towards More Participatory Models of Protected Area Management in Western China,” *Journal of International Wildlife Law & Policy* 2014, 17(3):130-151. doi: 10.1080/13880292.2014.953391

Hodges, J., **Foggin, J.M.**, Long, R.J., and Zhaxi, G. “Globalisation and the sustainability of farmers, livestock-keepers, pastoralists and fragile habitats.” *Biodiversity* 2014, 15(2-3):109-118. doi:10.1080/14888386.2014.931247.

Kerschbaumer LL, Köbbing J-F, Ott K, Zerbe S, **Thevs N**: Development Scenarios on Hetao Irrigation Area (China) - A Qualitative Analysis from Social, Economic, and Ecological Perspectives. *Environmental Earth Sciences* 2014, DOI 10.1007/s12665-014-3061-8.

Köbbing J, Patuzzi F, Baraterie M, Beckmann V, Peng H, **Thevs N**, Zerbe S. Economic Evaluation of Common Reed as an Energy Source in China. A Case Study in Wuliangsu Lake, (Inner Mongolia, China). *Biomass and Bioenergy* 2014, <http://dx.doi.org/10.1016/j.biombioe.2014.08.002>.

Li L, Han W, Zerbe S, Ji C, Jin D, Schmitt AO, Jia X, He P, **Thevs N**, Cirella GT : A Comparison of the Functional Traits of Common Reed (*Phragmites australis*) in Northern China: Aquatic vs. Terrestrial Ecotypes. 2014, PLoS ONE 9(2): e89063. doi:10.1371/journal.pone.0089063.

Peng HY, **Thevs N**, Ott K : Water Distribution in the Perspectives of Stakeholders and Water Users in the Tarim River Catchment, Xinjiang, China. *Journal of Water Resource and Protection* 2014, DOI: 10.4236/jwarp.2014.66053.

Shigaeva, J., Wolfgramm, B. and Dear, C., “Sustainable Land Management in Kyrgyzstan and Tajikistan: A Research Review.” *MSRI Background Paper No. 2*. July 2013.

Shokirov, Q., Abdykadyrova, A., Dear, C. and Nowrojee, S., “Mountain Tourism and Sustainability in Kyrgyzstan and Tajikistan: A Research Review.” *MSRI Background Paper No. 3*, August 2014.

Thevs N, Ovezmuradov K, Zanjani LV, Zerbe S. Water Consumption of Agriculture and Natural Ecosystems at the Amu Darya in Lebap Province, Turkmenistan. *Environmental Earth Sciences* 2014, DOI: 10.1007/s12665-014-3084-1.

Thevs N, Zerbe S, Peng HY, Rozi A. Water allocation and Water Consumption of Irrigation Agriculture and Natural Vegetation in the Aksu and Tarim River Basin, Xinjiang, China. *Journal of Arid Environments* 2014, DOI: 10.1016/j.jaridenv.2014.05.028.

Forthcoming

Dear, C., Isaeva, A., Laurie, A., and Zhumanova, M., “Examining Changes in Local Adaptive Capacity Resulting from Climate Change Adaptation Programming in Rural Kyrgyzstan.” *Climate and Development*, Volume 7 Issue 2, forthcoming 2015.

Djanibekov, U., Dzhakypbekova, K., Chamberlain, J., **Weyerhaeuser, H.**, Zomer, R., Villamor, G.B. and Xu, J. “Agroforestry for Landscape Restoration and Livelihood Development in Central Asia” World Agroforestry Center’s Working paper No. 186, 2015.

Hochmuth H, **Thevs N** and He P. “Water Allocation and Water Consumption of Irrigation Agriculture and Natural Vegetation in the Heihe River Watershed, NW China.” *Environmental Earth Sciences*, forthcoming 2015.

Suyarkulova, M., “Between National Idea and International Conflict: The Roghun Hydropower project (HPP) as an Anti-colonial Endeavour, Body of the Nation, and National Wealth.” *Water History*, published online 9 January 2015. http://link.springer.com/article/10.1007/s12685-014-0113-7?sa_campaign=email%2Fevent%2FarticleAuthor%2FonlineFirst#

Suyarkulova, M., “Fashioning the Nation: Gender Regimes and Politics of Dress in Contemporary Kyrgyzstan” in special issue of *Nationalities Papers* on Gender and Nationalism in Post-Soviet Central Asia: From National Narratives to Women’s Practices, Juliette Cleuziou, Lucia Direnberger and Iman Karzabi (eds), forthcoming 2015.

Suyarkulova, M. and De la Croix, J.-F., “Building Big Dams in Kyrgyzstan and Tajikistan: State-citizen Relations Through Large Hydrological Infrastructure Projects”, in special issue of *Cahiers d’Asie Centrale* on Water Resources in Central Asia, Alain Cariou (ed), forthcoming 2015.

Wolfgramm, B., Shigaeva, J. and **Dear, C.**, “The Research-action Interface in Sustainable Land Management in Kyrgyzstan and Tajikistan.” *Land Degradation and Development*, forthcoming 2015.

Zhang, X.H., Schuman, M., Gao, Y.H., **Foggin, J.M.**, Wang, S.Z. and Joosten, H. “Restoration of High Altitude Peatlands on the Ruoergai Plateau” in *Peatland Restoration and Ecosystem Services – Science, Policy and Practice*, by A. Bonn, T. Allott, M. Evans, H. Joosten and R. Stoneman (eds). Cambridge University Press, forthcoming 2015.

Conference Presentations

Christian Hergarten. Challenges and Opportunities of Climate Adaptation and the Use of Decision Support Systems. Conference of the Parties (COP20), Lima, Peru, 9 December 2014.

Evgenii Shibkov. Developing a National Spatial Data Infrastructure for Kyrgyzstan. GISCA Conference, Urumqi, China, 15 May 2014.

Jyldyz Shigaeva, Bettina Wolfgramm and **Chad Dear.** The Knowledge-action Interface in Sustainable Land Management in Kyrgyzstan and Tajikistan: Challenges and Recommendations. Global Land Project. Second Open Science Meeting. Humboldt University, Berlin, Germany, 21 March 2014.

Jyldyz Shigaeva, Chad Dear and **Bettina Wolfgramm.** Assessing the State of Sustainable Land Management Research in Kyrgyzstan and Tajikistan. Poster session. Global Land Project. Second Open Science Meeting. Humboldt University, Berlin, Germany, 21 March 2014.

Jyldyz Shigaeva. Decentralization of Kyrgyz Pasture Governance in Highly Dynamic Environment. Flash talk and round table discussion. Global Land Project. Second Open Science Meeting. Humboldt University, Berlin, Germany, 21 March 2014.

Jyldyz Shigaeva. Long-term, Socio-ecological Research in a Transitioning Context: Early Ideas for Developing University of Central Asia’s Learning Landscapes Initiative. Mountain Observatories: A Global Fair and Workshop on Long-Term Observing Systems of Mountain Social-Ecological Systems. Nevada University, Reno, USA, 19 July 2014.

Shannon Hagerman, **Jyldyz Shigaeva** and **Christian Hergarten.** Challenges and Opportunities for Designing Long-term Socio-ecological Research in Transitioning Mountain Societies. Feedback session. Mountain Observatories: A Global Fair and Workshop on Long-Term Observing Systems of Mountain Social-Ecological Systems. Nevada University, Reno, USA, 19 July 2014.



