



UNIVERSITY OF CENTRAL ASIA
GRADUATE SCHOOL OF DEVELOPMENT
Institute of Public Policy and Administration



The Eighth Annual 'Life in Kyrgyzstan' Conference 2022





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The Eighth Annual ‘Life in Kyrgyzstan’ Conference 2022

*Promoting Research, Exchange, and Evidence Based Policy Making
in Central Asia*

10 – 13th October 2022, Bishkek, Kyrgyzstan

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Conference webpage: <https://lifeinkyrgyzstan.org/lik-conference-2022/>.

The University of Central Asia’s (UCA) Institute of Public Policy and Administration (IPPA) was established in 2011 to promote systematic and in-depth research on issues related to the socio-economic development of Central Asia, and to explore policy alternatives.

IPPA is part of UCA’s Graduate School of Development. UCA was founded in 2000 as a private, not for profit, secular university through an International Treaty signed by the Presidents of Tajikistan, Kyrgyzstan and Kazakhstan, and His Highness the Aga Khan; ratified by their respective parliaments and registered with the United Nations. The Presidents are the Patrons of the University, and His Highness is the Chancellor. UCA’s mission is to promote the social and economic development of Central Asia, particularly its mountain communities, by offering an internationally recognised standard of higher education, and enabling the peoples of the region to preserve their rich cultural heritage as assets for the future.

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ISSN 2617-9245

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125/1 Toktogul Street, Bishkek 720001, Kyrgyz Republic

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List of Acronyms

AKDN	Aga Khan Development Network
AUCA	American University of Central Asia
CASCADD	Central Asia Strategic Center for Analysis, Dialogue and Development
CEPF	Critical Ecosystem Partnership Fund
CNN	Convolutional Neural Networks
EBRD	European Bank for Reconstruction and Development
GBV	Gender-Based Violence
GCM	Global Climate Models
GEWEX	The Global Energy and Water Exchanges
IAMO	The Leibniz Institute of Agricultural Development in Transition Economies
IDSC	International Data Service Center
IFPRI	International Food Policy Research Institute
IGZ	Leibniz Institute of Vegetable and Ornamental Crops
ISDC	International Security and Development Center in Berlin
LiK	Life in Kyrgyzstan
MSDSP	Mountain Societies Development Support Programme
NDVI	Normalized Difference Vegetation Index
NTFP	Non-timber forest products
NUPI	Norsk Utenrikspolitisk Institutt
OECD	Organisation for Economic Co-operation and Development
SIPRI	Stockholm International Peace Research Institute
UCA	University of Central Asia
UNFPA	United Nations Population Fund
VAT	Value-added tax

Introduction

On October 10-12, 2022, the Institute of Public Policy and Administration of the University of Central Asia (UCA), ISDC - International Security and Development Center in Berlin (Germany), the Leibniz Institute of Vegetable and Ornamental Crops, IGZ (Germany) in partnership with the World Bank, UNFPA, CEPF, AUCA, Mercy Corps and Economics Fundamentals Initiative organized the eighth annual '*Life in Kyrgyzstan*' Conference.

This annual conference was organized to stimulate academic research exchange, to promote evidence-based policymaking and dialogue on developmental challenges between academia, government, development, and non-governmental institutions. This year conference covered a wide range of topics on socio-economic developments in Kyrgyzstan and other Central Asian countries. The keynote speeches delivered by Professor Alisher Aldashev (Kazakh-British Technical University) and by Katrina Kosec (International Food Policy Research Institute).

This year's eighth annual conference included various topics from climate change, agriculture and biodiversity to gender, demography, nutrition, informality in textile and apparel cluster, civic and community engagement, poverty, places of memory, and macroeconomic developments in Kyrgyzstan and a wider Central Asian region.

A three-day conference included two plenary sessions with a keynote speaker on each of them, four online sessions and 18 hybrid (offline and online) sessions with panels of 3-4 speakers on each session. This report starts with a background on the '*Life in Kyrgyzstan*' study and continues according to the program of the Conference with each session.

Background of The '*Life in Kyrgyzstan*'

The '*Life in Kyrgyzstan*' (LiK) Study is a research-based, open access, multi-topic longitudinal survey of households and individuals in Kyrgyzstan. It tracks the same 3,000 households and 8,000 individuals over time in all seven Kyrgyz regions (oblasts) and the two cities of Bishkek and Osh. The data are representative nationally and at the regional level (East, West, North, South). The survey interviews all adult household members about household demographics, assets, expenditure, migration, employment, agricultural markets, shocks, social networks, subjective well-being, and many other topics. Some of these topics are addressed in each wave while other topics are only addressed in selected waves. The survey was conducted in 2010, 2011, 2012, 2013, 2016, and 2019.

The LiK Study received funding from the Volkswagen Foundation for the first three waves (2010-2012) when it was hosted by the German Institute of Economic Research (DIW). In the period 2013-2015, Wave 4 was funded by DFID and IZA as a part of the Growth and Labour Market-Low Income Country (GLM-LIC) Programme. The consortium included the Stockholm International Peace Research Institute (SIPRI) as the lead institution, UCA as the main Kyrgyz partner, and several research institutions from Asia, Europe and North America. Since then, the study has been hosted by the Leibniz Institute of Vegetable and Ornamental Crops (IGZ) for Waves 5 and 6 and has received funding from UN-FAO, IFPRI, DFID, IZA and, internally, from IGZ and UCA.

The '*Life in Kyrgyzstan*' survey data is publicly available. The data can be used by any interested party for non-for-profit research, policy analysis and teaching purposes.

The data for 2010-2013 and 2016 can be obtained from the International Data Service Center (IDSC) of the Institute for Labor Economics (idsc.iza.org/lik). The survey questionnaires and interviewer manuals can be downloaded on the project website at www.lifeinkyrgyzstan.org.

The LiK Study today is a global knowledge and research infrastructure, with panel dataset made available for public access. This has resulted in the wide use of the LiK Study for academic research. As of July 2022, 31 scientific academic articles using the LiK data were published in international peer-reviewed journals such as *Agricultural Finance Review*, *American Political Science Review*, *Demography*, *Demographic Research*, *Economic Journal*, *Economics of Transition*, *Journal of Comparative Economics*, *Journal of Development Studies*, *Problems of Post-Communism*, *Social Science & Medicine*, *World Bank Research Observer*, and *World Development*. The LiK data are used for research and teaching purposes in 28 countries by 103 academic, research and development institutions.



Group photo

ONLINE SESSIONS

Online Session 0.1: Climate Change in Central Asia: from the Foundation in Physical Sciences to Local Scale Effects and Adaptation: Part One

A Proposed Central Asian Regional Hydroclimate Project to Support Sustainable Development Goals in the International Context

Peter J van Oevelen – *International GEWEX Project*

Michael Brody – *George Mason University, Fairfax, VA USA.*

The Global Energy and Water EXchanges (GEWEX) project of the World Climate Research Program supports international research collaboration in the field of weather and climate to better utilize capacities and competencies and, where not present, support the development of the resources and capabilities to enable state-of-the-art relevant climate research and observations that address regional to global challenges. GEWEX has as one of its priority areas the improved understanding of the impacts of climate variability and change on water availability and food security across mountain ranges and river basins. In order to support research activities in a specific region, GEWEX has developed so-called Regional Hydroclimate Projects (RHP) that are led by and bring together scientists and stakeholders at every level from within a certain region. These projects have evolved from the successful continental scale experiments (CSE's) (Lawford et al. 2004) to the highly successful. An overarching goal is to establish a Regional Hydroclimate Project in Central Asia led by regional scientists and stakeholders. An important driver for that ambition is to better observe and predict climate change and its effects and to support adaptation and mitigation measures. A crucial aspect for any successful regional hydroclimate network is the existence of a strong and cohesive scientific and stakeholder network. The online workshop: "An Exploration of Climate Science in Central Asia – Moving Towards Frontiers of Knowledge and Action", was held in October 2021 to start building this network and to develop initial recommendations for the proposed RHP.

Reconstruction of Hydrometeorological Data Using Dendrochronology and Machine Learning Approaches to Bias-Correct Climate Models in Northern Tien Shan, Kyrgyzstan

Erkin Isaev, Roy C. Sidle, Maksim Kulikov – *Mountain Societies Research Institute, University of Central Asia*

Mariash Ermanova, Vitalii Zaginaev, Dogdurbek Chontoev – *Institute of Water Problems and Hydropower, National Academy of Science.*

Tree-ring-width chronologies for 33 samples of *Picea abies* (L.) Karst. were developed, and a relationship between tree growth and hydrometeorological features was established and analyzed. Precipitation, temperature, and discharge records were extrapolated to understand past climate trends to evaluate the accuracy of global climate models (GCMs). Using Machine Learning (ML) approaches, hydrometeorological records were reconstructed/extrapolated back to 1886. An increase in the mean annual temperature (T_{mean_a}) increased the mean annual discharge (D_{mean_a}) via glacier melting; however, no temporal trends in annual precipitation were detected. For these reconstructed climate data, root-mean-square error (RMSE), Taylor diagrams, and Kling-Gupta efficiency (KGE) were used to evaluate and assess the robustness of GCMs. The CORDEX REMO models indicated the best performance for simulating precipitation and temperature over northern Tien Shan; these models replicated historical T_{mean_a} and P_a quite well (KGE = 0.24 and KGE = 0.24, respectively). Moreover, the multi-model ensembles with selected GCMs and bias correction can significantly increase the performance of climate models, especially for mountains region where small-scale orographic effects abound.

The Value of New Information - Remote Sensing to Improve Adaptation Planning and Investment

Alexander Golub – *Department of Environmental Science, American University, Washington DC.*

Any information has value if this information is being used. The Earth-observing remote sensing system provides a foundation for decision-making but does not improve this process automatically. Proper integration of the new information is a necessary condition to benefit from this information. One way to measure the value of a remote sensing system is a calculation of a risk-adjusted value of the investment in adaptation planned with and without the new information. We use real options valuation methodology to quantify the risk-adjusted value of the investment in adaptation. The information reduces uncertainty and therefore reduces the deferral option value of an investment in adaptation. Premature investment decisions may be associated with significant losses in the future. The deferral option allows estimation of the economic value of potential regrets. However, the remote sensing system reduces but does not eliminate uncertainties. The maximum value of information is the difference between the value of two options. Reduction of investment risk is essential to mobilize private capital. Better information reduces risk and therefore the cost of capital. In our view, donors may obtain the highest leverage effect on private investment by investing public funds in remote sensing.

Online Session 0.2: Gender in Central Asia

Gender in Kazakhstan's Energy Sector

Zauresh Atakhanova – *School of Mining and Geosciences, Nazarbayev University;*

Peter Howie -*Graduate School of Public Policy, Nazarbayev University.*

The aim of this research is to contribute to raising gender awareness among the stakeholders of Kazakhstan's energy sector and facilitate evidence-based gender mainstreaming. Diverse views and backgrounds are necessary for addressing challenges of curbing emissions in Kazakhstan, a major fossil fuel producer and exporter. Kazakhstan has a relatively high level of gender development. Female employment share in its energy industries is as high as in industrialized countries. However, authors find that women in Kazakhstan's coal mining, petroleum extraction, and the power industry are concentrated in low-skilled and non-core occupations. In addition, women's share in total energy workforce, as well as the share of female managers, have been falling over time. Although horizontal gender discrimination in labor compensation within energy occupations has been declining, vertical discrimination persists and reduces incentives for women to upgrade their skills. Authors find that major shocks, such as the COVID-19 pandemic, may stall or reverse prior progress in increasing energy sector's gender diversity. Failure to attract, retain, and promote female talent may undermine the competitiveness of Kazakhstan's energy sector and innovation required for low-carbon transition.

Women, Kinship, and Property in Central Asia

Aksana Ismailbekova – *Research fellow at Leibniz-Zentrum-Moderner Orient.*

International donors and agencies follow their neoliberal notion and ground economic gender empowerment in individual property rights, in opposition to social norms and customs that would hinder women's economic rights. Their main agenda, therefore, is empowering women by increasing gender equality through the provision of access to land rights and other resources. What this misses, however, is the complexity of women's position in Central Asia: the multiple meanings underpinning the concept of women being viewed as 'property' and local women's perceptions of property. These aspects need to be examined through the lens of kinship and marriage systems and power/hierarchy relations in Central Asia. Kinship and marriage are a fundamental cultural horizon for Central Asians, informing how women think through these legal, social, and political categories.

Author explores property through the prism of women's worldviews, looking at how kinship and the marriage system shape understandings of property relations outcomes in comparative context. While giving voice to Central Asian women, author engages with postcolonial discussions of feminist anthropology and women's property relations.

The Role of Gender and Birth Order in Child Nutrition: Evidence from Kyrgyzstan

Manzura Jumaniyazova – *Technical University of Munich;*

Janina Steinert – *Technical University of Munich;*

Cara Ebert – *RW Leibniz Institute for Economic Research.*

The research aims to gain a more nuanced understanding of the nature and impacts of son preference in Central Asia. Specifically, authors investigate how children's sex and birth order affect their physical development using the 'Life in Kyrgyzstan' panel data. Authors use a fixed effects method to account for different household and maternal characteristics. Outcome variable of interest is thereby height of children under the age of five, which has been commonly used as a long-term measure of children's physical development and has shown to be associated with physical and cognitive development, morbidity, and well-being later in adulthood.

Analyses suggest that there are no significant height differences based on the sex of a child under the age of five in Kyrgyzstan. But authors find a weak evidence of younger son preference. Third- or later-born sons in the sample enjoy a height advantage of 0.17 z-scores compared to the first-born sons. Nevertheless, this result disappears once controlled for mother fixed effects. Authors also run a number of heterogeneity analysis based on residence, family structure, income quintile, and maternal education. Research finds no statistically significant differences. This paper contributes to the existing literature by bringing new evidence from an understudied region of Central Asia and the findings suggest that future policy interventions in Kyrgyzstan should aim at improving the nutritional status of both girls and boys equally.

Bride Abduction, Depression, and Labor Market Outcomes

Charles Becker – *Department of Economics, Duke University;*

Susan Steiner – *Leibniz University of Hannover and IZA;*

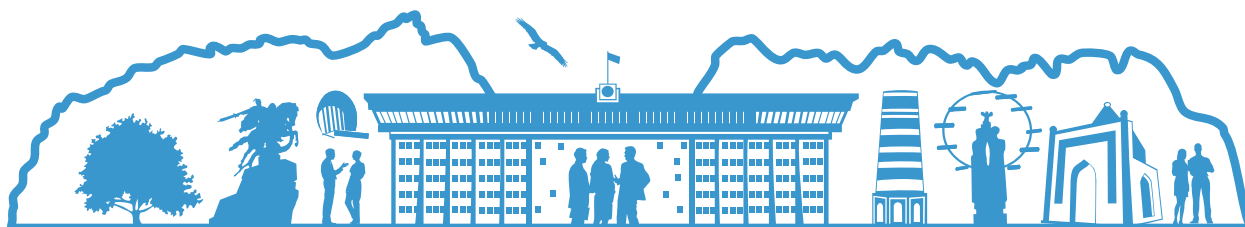
Lin Zhao – *Department of Finance, Duke University.*

It has been established that the practice of bride abduction – *ala kachuu* – results in lower birth rates for offspring and higher levels of psychological depression indicators. This paper goes further and asks whether there are labor market effects as well. Preliminary results based on 'Life in Kyrgyzstan' panel survey data indicate that those households whose marriage occurred via *ala kachuu* have worse labor market and wealth accumulation outcomes. This can occur both because of psychological consequences (greater depression) resulting from forced and poorly matched marriages have labor market consequences, and because forced marriage disrupts human capital accumulation and may result in less household mobility. Since kidnapping is not a random event, authors use IV models as well as regression strategies that attempt to a step-by-step causal chain.

The Life in Kyrgyzstan Data Users Workshop

Damir Esenaliev - *IGZ and ISDC (Germany), Academic Coordinator of the LiK Study*

A LiK Data User Workshop was held the day before the 8th Annual 'Life in Kyrgyzstan' Conference. The workshop was conducted for researchers who use or would like to use the LiK data to conduct research and analytical work. The participants included researchers from Kyrgyzstan who represented academic and development institutions. The workshop delivered an overview of the LiK Study developments and impact since its inception in 2010, the construction of an individual panel file across waves, the specifics of compiling the variables across waves that are not collected every wave, and the questions and answers session. Most workshop sessions were demonstrated by hands-on work using the LiK data. The workshop participants were provided with the short-term licensed Stata software and the LiK data from the modules to demonstrate the data exercises and syntax files.



PLENARY SESSION 1

Keynote 1: Economic Persistence Despite Adverse Policies

Professor Alisher Aldashev – *International School of Economics, Kazakh-British Technical University, Kazakhstan.*

Prof Alisher Aldashev is a research-active economist with experience in education, management, and consulting across various countries spanning Europe to Central Asia. He was Dean of the International School of Economics at the Kazakh-British Technical University (Kazakhstan). During his academic and research career, Dr. Aldashev has worked as Professor of Economics at the Kazakh-British Technical University and at Satbayev University. His areas of academic expertise are development and labour economics, quantitative methods and econometrics. Prof Aldashev has published in quality international peer-reviewed journals in economics, as well as book chapters. Prof Aldashev has received his Ph.D. degree in Economics from the University of Regensburg (Germany) and his Master's degree in Economics from KIMEP University (Kazakhstan).



This presentation is based on a study of the long-run persistence of relative economic well-being under adverse government policies using a combination of historical and contemporaneous data from Kyrgyzstan. After controlling for unobservable local effects, the economic well-being of Kyrgyz households in the 2010s correlates with the early twentieth-century average wealth of their tribes. Inequality at the tribe level in the 2010s correlates with wealth inequality in the early twentieth century. The likely channels of persistence are the intergenerational transmission of human capital, relative status, political power and cultural traits. Transmission of material wealth, differences in natural endowments or geographic sorting cannot explain persistence.

PARALLEL SESSIONS

Session 1.2 Agrarian Change, Water Issues and Environmental Dynamics: New Evidence from Central Asia

This panel discussed agrarian change and water issues in the context of environmental dynamics in Central Asia. The panel offered three diverse research optics - climate change, natural resource management and gender, the study of rural mobility. This session proposed the formulation of a truly transdisciplinary discussion aimed at creating a holistic understanding of the interaction of natural and social processes in Central Asia in the context of environmental change.

Climate Change Related Agriculture and Irrigation Water Challenges in a Small, Snow Fed Mountain Basin in Pamir, Tajikistan: Case Study from Porshinev

Aslam Qadamov – *Mountain Societies Research Institute, University of Central Asia.*

Research questions are to define the forces that led to change in land use and land cover change, perception of local farmers about climate change and whether the climate change affect the agriculture in the region. The author use temperature and precipitation data for the last 100 years, interviews with local farmers and created a land cover change map using the old scanned map and high resolution satellite image. The research found that change in precipitation affect the hydrology of the region, land use and land cover were detected, that change in weather patterns affect the thermal regime and disproportion of precipitation within the season affect agricultural production.

A Woman and Water: Access, Governance, and Labour

Altyn Kapalova – *Cultural Heritage and Humanities Unit, University of Central Asia.*

The field research covered 7 villages in Naryn and Chui. Semi-structured and in-depth interviews were conducted among water users (villagers), water users of irrigation waters, representatives of local government and informal leaders of the villages. The existence of the institution of Murab is an example of ability of the internal organization of the community. Giving more authority to informal institutions to perform their work more productively, the state avoid responsibility in the process of efficient management of natural resources. Lack of water in houses combined with traditional way of housekeeping arises problems which relates to exploiting women's and child's labor. Water provision to the family is a responsibility of children and teenagers (from 5 to 17 ages) and young women (daughters-in-law).

Agrarian Change in the Migration Affected Mountainous Regions of Kyrgyzstan

Asel Murzakulova – *Mountain Societies Research Institute, University of Central Asia.*

304 households in Batken, Jalal-Abad and Naryn were interviewed in November 2020. The rural labor market is being actively transformed. Non-farm activities make up 40% of rural employment and account for 48% of working hours in rural areas. Migration has had important changes in crop cultivation. Migration works in both directions: as a response to the agrarian stress and as a way to mitigate it. Recognizing the multidimensional impact of migration will help enrich the migration policy in different levels. It is recommended for natural resource management institutions to establish a feedback mechanism with migrants for rising awareness around environmental agenda.

Session 1.3. Demography and Population Dynamics in Kyrgyzstan

This session was facilitated by UNFPA with the participation of group of researchers and experts in the area of demography and population studies. Session focused on demographic process, an assessment of the prospects for the population dynamics of the Kyrgyz Republic and highlighted the role of population dynamics and demography which intersects with social, economic, health, education, migration and other spheres. Research analysis in the area of population dynamics and policy documents such as Youth Wellbeing and Development Index, Active Aging policy and Situation analysis on the older people in the Kyrgyz Republic were presented.

Youth Wellbeing and Development Index

Elnura Kalybaeva, Azamat Dyikanbaev – *UNFPA.*

The Youth Well-Being and Development Index (YWDI) evaluates «wellbeing» (social, psychological and material condition of youth) in accordance with «development» (the process of irreversible quantitative and qualitative changes according to established criteria). The YWDI in the Kyrgyz Republic is based on such international instruments as the Global Youth Development Index and the Global

Youth Wellbeing Index. They are adapted and improved taking into account the country context. The accession of the Kyrgyz Republic to the Sustainable Development Goals (Agenda -2030), which consider youth as one of the target groups, makes the YWDI extremely relevant, as it allows to monitor progress in the youth field on a systematic basis. The results of the new YWDI allows to analyze progress in eight indicators: “Civic participation”, “Economic opportunities”, “Education, science and culture”, “Health”, “Information and communication technologies”, “Safety and security” and “Family”, which were also included in the previous YWDI. The results of the YWDI will be used to compare the progress and challenges in the area of youth policy and youth participation. The role of the YWDI is pivotal for the implementation of the action plan of the Youth concept policy 2020-2030.

Active Aging Policy of the Kyrgyz Republic

Boshtavenko Svetlana – *Director of Older people Resource Center;*

Sidorenko Alexander – *Senior Advisor, European Centre for Social Welfare Policy and Research (Vienna, Austria).*

In Kyrgyzstan, older people constitute a growing group of the population. According to UN forecasts, by 2025 the world population aged 60 and over will double and reach 1.2 billion people. Today, the population over the age of 60 is 8% of the population in the Kyrgyz Republic and it is expected that by 2050 this figure will triple. Therefore, the country must be prepared for the increasing growth of the older population and organise the public health and social development system to address their needs.

In Kyrgyzstan, there are still differences in changes in the population age groups. The number of older persons is increasing every year due to the entry into the retirement age of the generation born in the 1950s. The main part of the population older than working age are women (about 70% or 367.7 thousand people). Here, firstly, it should be taken into account that the life expectancy of women is higher than that of men, and secondly, the retirement age of women comes five years earlier.

In the Kyrgyz Republic, the concept of “active ageing” is used in the above “Action Plan to improve the quality of life of older citizens in the Kyrgyz Republic for 2019-2025”. However, the lack of a clear definition of this concept in the plan, recognition that the conditions for active ageing are laid down throughout life, an agreed list of priority tasks for realising the potential of active ageing acts as a barrier to pursuing a comprehensive and effective policy in this area. Furthermore, the COVID-19 pandemic has a global impact: in every country, on every population group. It reveals and highlights existing gaps in policies, systems and services. COVID-19 is changing older persons’ daily routines, the care and support they receive, their ability to stay socially connected and how they are perceived.

The draft concept “Active ageing in the Kyrgyz Republic” will be prepared by a multidisciplinary and inter-agency working group with the participation of local and international experts. The goal of the active ageing policy concept is to provide all citizens with conditions for a productive and independent life, mobilising the potential of an ageing society for its continuous sustainable development and healthy life.

Situation Analysis of Older People in the Kyrgyz Republic

Asel Iusupova – *Older People Resource Center;*

Evgenia Karpovich – *Center for Democratic Research.*

Analysis covers the current national legislation, with an emphasis on senior citizens. Results of the analysis will be also based on the survey, examination and analysis of 500 sample questionnaires. Authors also provide recommendations for active aging policy, which will help initiate changes in public and state discourse and the transition from the perception of population aging as a growing burden on pension systems, health care and social protection to understanding this process as an opportunity for the development of society.

Assessment of the Sexuality Education in the Kyrgyz Republic

Galina Chirkina – *Director of the Alliance for Reproductive Health.*

Based on the results of the assessment, it became obvious that in the country, in the presence of a fairly favorable legal framework, schoolchildren have significantly limited access to information on sexuality education, and for younger schoolchildren (5-8 years old) it is completely absent.

A methodological guide for teachers on teaching extra-curricular lessons on healthy lifestyles for students in grades 6-11 is an optional extra-curricular lesson and work on it is fragmented. The manual covers only middle and high school students, extra-curricular lessons are not taught systematically and therefore there is no integrated approach to teaching. It is also worth noting that extra-curricular lessons are not evaluated in any way, they do not have supporting regulatory documents. There is an obvious need to develop a new program and introduce it into the compulsory school curriculum. With a wide range of topics covered by the program of extra-curricular education in matters of healthy lifestyle, large gaps remain.

Session 1.4 Biting or Bitten Dragon? Tracing Chinese Capital in Kyrgyzstan

China's engagement with Kyrgyzstan is primarily scrutinized due to recurring conflicts linked to its investment projects. The session was aimed to explore these projects and raise the question in what extent Chinese investments could be seen as the source of corrosive capital, the financing that erodes foundations for socio-political developments, and in what extent Chinese investors adapt to the local corrosive environment. In other words - is it Chinese dragon that is biting to expand its presence, or the dragon is sometimes being bitten? The session presented cases of investments to identify success and failures of adaptation strategies of Chinese business to local business environment, looked into the problem of conflict of interests management and risk of graft in investment-thirsty environment, and looked into the case of Chinese Private Security Companies to assess the risks of foreign PSCs deployment in conflict-prone environment.

Imported or Indigenous? The Multifaceted Character of Corrosive Capital in Chinese Investment Projects.

Elnura Omurkulova-Ozierska – *PIL Research Company LLC, Central Asia Strategic Center for Analysis, Dialogue and Development (CASCADD).*

Corrosive capital is financing, whether state or private, that lacks transparency, accountability, and market orientation. Constructive capital refers to financial flows that are well-governed at the funding source and destination and respond to market voids. Chinese companies tend to take advantage of "weak regulatory environments", yet weak regulations are often the source of governance gaps, and when China exploits weak regulations in a recipient country the rule of law in a country erodes. Corrosive capital is exploiting and widening governance gaps. There is an absence of specific and concrete guidelines where state authorities that would oblige investors to apply modern standards focused on the ethical business practices and sustainability like Corporate Social Responsibility and Environmental and/or Social, and Governance. The national law and regulations in terms of investment policies is internally inconsistent and conceptually colliding.

The research analyzed 8 cases of Chinese capital involvement to identify corrosiveness, potential governance gaps and recommendations. The analyzed cases demonstrate that investment projects with Chinese capital engagement in Kyrgyzstan frequently fall within the framework of "corrosive capital" as they lack transparency and accountability. However, the complex relationship structure in each investment case cannot attribute formation of conflicts as exclusive responsibility of Chinese capital. It would be inappropriate simplification and diminish role of local stakeholders. Also, it shall be underlined that "anti-corrosive" solutions are complex mixtures that must be jointly developed.

Cover-all character of corrosive capital and the level of penetration in Kyrgyzstan make it difficult to effectively respond. It is clear that governance gaps must be addressed, new regulatory framework created and business practices adopted. It shall be stated that reduction of corrosiveness could be possible only with raising transparency and accountability as immune mechanism towards wide range of corruption.

Chinese Investments and Governance Challenges in the Kyrgyz Republic

Dr. Gulnara Ibraeva – *PIL Research Company LLC*.

In research literature Chinese investment across the globe is closely linked to corruption at the highest levels of government. The political conjuncture and the situation in the Kyrgyz Republic objectively determine the lack of alternatives to investments from other countries. Studies have shown that the flow of investment is determined not so much by the level of corruption, but by the degree of predictability of corruption: the less predictable corruption, the sooner the flow of investment is reduced. Trends in the reduction of Chinese investment flows in the Kyrgyz Republic have been in place since 2016. Experts believe that “Investment in the framework of the Belt and Road Initiative” may be further reduced as China reconsiders its approaches to investment policies. Sinologists believe that “a qualitative shift is taking place in China’s strategy towards the Central Asian elites: Instead to influence existing, acting leaders, there is a trend to support pro-Chinese people (sympathizers and enablers) and promote future politicians.

Author suggests to develop our own strategy for working with “huaqiao” to produce a loyal “elite” that could transfer pro-Kyrgyz interests to China. To involve civil society in monitoring investment flows. To provide free media with the opportunity to trace all the facts of the preferences of personal interests, sacrificing the public interest and to provide for public discussion. To clearly define what is public interest and how to determine it in specific cases. Anti-Corruption Business Council should take responsibility for conducting systematic investment analysis and risk prevention.

Perception and Misperception of Foreign Private Security Companies in Kyrgyzstan. The case of Chinese PSCs

Przemyslaw Ozierski – *PIL Research Company LLC (Expert), Central Asia Strategic Center for Analysis, Dialogue and Development (CASCADD)*.

In 2014 the law ‘On Private Detective Activities and Security Activities in the Kyrgyz Republic’ was amended and the obligatory licensing canceled. The removal of mandatory licensing increased the number of private security agencies from 115 in 2014 to 462 in two years and to 838 in 2022. There are no additional regulations limiting foreign ownership in enterprises providing security services – as of February 2022 there were 29 PSC with foreign ownership originated from China, Russia, India, Kazakhstan and Singapore. There is a concern that security agencies could be seen as a potential cover for authorized acquisition of weapon by organized criminal groups and terrorists. Among recommendations by the author some of them suggest to enforce monitoring over PSC with potential return of licensing process; close monitoring and regulation of foreign capital including Chinese in private security industry to reflect rising operational capabilities of PSCs; improve firearms licensing procedure by the Ministry of Internal Affairs to reflect loopholes in PSCs licensing and potential training gaps; investigate regulation in concern to GIS system mapping in Kyrgyzstan due to its dual-purpose character and extensive use in battlefield surveillance; and to investigate foreign PSCs activities in Kyrgyzstan and Central Asia, particularly their involvement in border areas and trans-border projects as potential trigger for interstate conflict.

Session 1.5 Agri-food Developments

Agricultural commercialization and welfare in Kyrgyzstan

Damir Esenaliev – *IGZ,*

Golib Sanaev – *IAMO.*

Farm commercialization and market integration are key drivers of wellbeing and structural change in agriculture. Authors analyze how the commercialization of agriculture affects poverty and other welfare indicators in Kyrgyzstan. The research uses the Kyrgyz Integrated Household Survey (KIHS) data for 2013-2020 which is a rotating panel survey of around 5,000 households nationwide. Authors analyse the subsample of farming households which constitutes a half of total sample and who provided detailed information on production, consumption, and sales of crops, livestock, and livestock products. Consumption and income of households are used as outcome variables. Preliminary analysis shows that market participation, measured as a share of sales to sum of production and stocks, is about 25%. Research does not observe any particular trend in market participation during the seven years we analyze. About 32% of agricultural production is consumed by households themselves. Both sales and consumption of agricultural production are important determinants of poverty and authors presented the determinants and welfare effects of market participation in the seven years period.

Price and Income Elasticities of Food Products in Kyrgyzstan

Nurbek Madmarov – *PhD, Senior Lecturer at AUCA, School of Economics and Business Administration;*

Junus Ganiev – *Assist. Prof. at the Kyrgyz-Turkish Manas University, Department of Economics;*

Damira Baigonushova – *Assist. Prof. at the Kyrgyz-Turkish Manas University, Department of Economics.*

Main purpose of this research is to determine the price and income elasticities of demand for food products in Kyrgyzstan. Estimating demand elasticities for food products are crucial in many aspects; that is to say, as firstly Kyrgyzstan is an agrarian country, the food elasticities will serve as a guide in the topic of what food products to produce for the peasants, farmers and the private sector. Secondly, since the share of food products in the households' expenditures is very high, analysis of price/income elasticities for food products can be used as a guideline in income redistribution and poverty reduction policies. Hence, the estimated food elasticities may help government solve problems such as food security, income redistribution and inflation. In addition, they can give opportunities to prevent supply shortages, strengthen food security and decrease import dependency.

By using the "Life in Kyrgyzstan" survey data in 2016, Shonkwiler and Yen method and Quadratic Almost Ideal Demand System are employed to estimate the price/income elasticities for 48 food products. The Tobit model results show that almost all of the goods are normal goods, and price elasticities may take unexpected signs for some products. While the household heads with higher education level and households with higher number of members are more likely to consume more food products, the households living in the urban area are less likely to consume higher levels of food products.

What's New on Research Agenda? A Bibliometric Review of New Trends in the Relationship Between Innovation and Food

Gulnara Dzhunushalieva – *Institute of Public Policy and Administration, University of Central Asia.*

Innovations are essential and urgently needed in order to achieve more sustainable food systems. At the same time, innovation is a broad concept and can span from very specific technological innovations up to social and large-scale system innovations. To which extent these different types of innovations are addressed in the literature on food topics is investigated in this bibliometric review. The main objective is to identify and analyze the published volume and the different research directions based on VosViewer software.

The findings demonstrate the development of publication at the macro level related to the global sustainable food system and the circular economy. At the meso-level, publications developing in the field of innovation and technology in the food industry. And the micro-level covers Food and Health, Consumer Goods, and Consumer Behavior.

This study is among the first to comprehensively examine the knowledge structure of topics surrounding innovation and food and set it into context to the discussion about sustainability by using bibliometric analysis. In addition, authors contribute by employing several bibliometric approaches that enable the identification of trends relating to the themes in the literature.

Session 1.6 Climate Change in Central Asia: from the Foundation in Physical Sciences to Local Scale Effects and Adaptation: Part Two

Rivers beyond water resources: An interdisciplinary view on the impact of climate change and hydropower exploitation on the riparian ecosystems of the Naryn River in Kyrgyzstan

Florian Betz, Magdalena Lauermann, Pauline Reese, Bernd Cyffka – *Catholic University Eichstätt-Ingolstadt, Applied Physical Geography;*

Timo Schaffhauser, Markus Disse – *Technical University of Munich, Chair of Hydrology and River Basin Management;*

Kedar Meht, Jakob Behringer, Wilfried Zörner – *TH Ingolstadt, Institute of New Energy Systems;*

Siegmond Missall, Martin Welp – *University of Sustainable Development Eberswalde, Chair of Communication and Socio-Economy;*

Akylbek Chymyrov – *Kyrgyz State University of Construction, Transport and Architecture, Department of Geodesy and Geoinformatics;*

Dogdurbek Chontoev – *National Academy of Science of the Kyrgyz Republic, Institute of Water Problems and Hydro-Energy;*

Nadira Degembaeva, Kuban Akmatov, Ermek Baibagyshev – *Naryn State University, Department of Agrarian and Technological Disciplines.*

Rivers and their floodplains are under pressure globally due to the construction of dams and dykes, the abstraction of water for irrigation or landcover changes on the floodplain. Today, only very few free-flowing rivers remain worldwide. One of these rivers is the Naryn River in Kyrgyzstan. Upstream from the Toktogul reservoir and the Kambarata dams, it has still full longitudinal and lateral connectivity leading to a highly dynamic river system. The associated riparian ecosystems are a regional hot-spot of biodiversity and provide manifold ecosystem services for local communities. For their long-term persistence, these ecosystems depend on the natural dynamics arising from a highly dynamic natural flow regime. The annual cycle of low flow and floods and larger flood events from time to time are needed to sustain natural rejuvenation and create a mosaic of diverse habitats. Climate change causes changes in the natural flow regime with an increase in flood duration and shift in the timing of the flooding. However, these changes do not have significant effects on the ecosystems yet. Within the near future, a bigger threat is expected from the construction of hydropower dams which are known to cause significant changes to the natural flow and sediment regime.

Authors give an overview of the natural riparian ecosystems along the Naryn River and the natural flow regime. Researchers demonstrate, how this flow regime is affected by climate change and discuss potential hydrological and ecological consequences of hydropower exploitation. The results show, that in the moment when floodplain forest patches get disconnected from the hydrological dynamics, a development towards steppe ecosystems is initiated. Thus, ultimately a disturbance of the natural flow and sediment regime of the Naryn River might trigger a desertification process on

the floodplains further favored by climate change leading to a reduction of precipitation and higher frequency of heatwaves. Thus, while contributing to climate change mitigation via the provision of renewable energy, the planned hydropower plants are a major threat for riparian ecosystems and their services. To satisfy the energy demand and foster economic development, photovoltaic (PV) offers a valuable alternative to hydropower. The Naryn Valley has a high potential for PV due to its climatic conditions and its land cover pattern. However, there is a need for policy adaptations in order to foster the development of PV. Further expansion of renewable energies in Kyrgyzstan is relevant from a climate change mitigation as well as from an economic development perspective. As hydropower is likely to be affected by longterm hydrological change and is a major threat for riparian ecosystems and their services, energy production should take into consideration to prefer PV development over hydropower exploitation. For future research as well as for practitioner, it is necessary to take the complex social-ecological context with the needs of the diverse stakeholders on various levels into consideration when developing solutions for sustainable development.

Vegetation Trend Analysis in Batken Oblast of Kyrgyzstan

Maksim Kulikov – *Mountain Studies Research Institute, University of Central Asia.*

More than a half of population in Kyrgyzstan lives in rural areas. Animal husbandry and agriculture are the main income sources for local population in Batken oblast in Kyrgyzstan. Moreover, agriculture is very much dependent on irrigation, provided by glacier-fed local rivers. Growing population in the region increases human impact on natural resources, which can lead to overuse and degradation of as pastures, so arable lands. Authors used Landsat 8 images of the years 2013-2018 to generate NDVI (Normalized Difference Vegetation Index) time-series to approximate biomass in the study area. The time-series were exposed to linear regression analysis (least squares) to identify long-term vegetation trends. The NDVI time series were exposed to cross-correlation analysis with the climatic factors as well and the Isfara river runoff to identify the relative impact of the climatic factors and irrigation to the development of vegetation in the study area. Researchers have also conducted sociological survey of local residents to understand their knowledge and experience about climate change. The results of the research indicate that the Isfara river runoff has greater direct impact on croplands than precipitation, whereas precipitation has greater direct impact on the rangelands. However, precipitation has delayed positive impact on croplands as well. Temperature has direct positive effect on croplands and is not a limiting factor (like elsewhere in Kyrgyzstan), which may indicate overall irrigation sufficiency or that agricultural production has reached its maximum in given conditions. Local residents have general understanding about climate change and agree with each other about temperature increase and decrease of precipitation, which corresponds to instrumental measurements. However, they disagree on the Isfara river water availability. The upstream villagers (mainly herders) indicate that the water availability remains the same, however the downstream villagers (mainly fruit growers) indicate that water is getting less.

Impact of Climate Change and COVID to Air Pollution in Bishkek

Erkin Isaev, Roy C. Sidle – *Mountain Societies Research Institute, University of Central Asia;*

Boobek Ajikeev, Urmatbek Shamyrganov – *Ministry of Emergency Situation of The Kyrgyz Republic;*

Kenjebek-uulu Kalnur, Karimov Maisalbek – *The Agency on Hydrometeorology under The Ministry of Emergency Situations of the Kyrgyz Republic (Kyrgyzhydromet).*

During recent years, severe air-pollution problems have garnered worldwide attention due to their effects on human health and the environment. Air pollution in Bishkek, Kyrgyz Republic, is an ever-increasing problem with little research conducted on the impact of air pollutants on public health. Authors evaluate the performance of several machine learning algorithms applied to air quality and meteorology datasets and compare prediction accuracies of Bishkek air quality given its significant public importance. Data on 16 synoptic atmospheric process were collected by Kyrgyzhydromet from 2016 to 2018 and used to train and build a forecasting model. The model was then tested using data

collected in 2020. Climate change in Bishkek and the impact on air pollution was assessed via the frequency of days characterized by daytime temperature inversions and air stagnation. Atmospheric stability increased from 2015 to 2020 with ongoing climate change leading to more temperature inversions. About 80%–90% of days with temperature inversions are associated with winter heating seasons and these numbers increased two-fold during the past 5 years. The impact of lockdown during COVID-19 (22 March–11 May 2020) on air quality in Bishkek is also shown. During the lockdown period, CO, NO, NO₂, SO₂, and PM_{2.5} decreased by 64%, 1.5%, 75%, 24%, and 54%, respectively, compared to concentrations of these pollutants in 2019. Where identified, emissions from vehicles make up a significant part of the air pollution.

Session 1.7 Kyrgyzstan Gender-based Violence Service Gap Analysis

Despite the international and national efforts directed towards gender-based violence prevention, the cases of GBV in Kyrgyzstan are continuously rising.¹ This session panel provided the study results on current gaps in services² as well as recommendations to strengthen awareness, access and quality of GBV prevention and response services.

The main key question the authors aimed to respond is: What are the gaps that do not allow the efforts of different actors to be effective in Kyrgyzstan in terms of GBV prevention, response, justice and rehabilitation? The panel presented an analysis of different institutional mechanisms: preventive institutions (media, Aksakal Courts, etc.), response (protection order, crisis centers, etc.), judicial practice as well as rehabilitation mechanisms.

The Gaps in Institutional Preventive Mechanisms

Dr. Gulnara Ibraeva – *PIL Research Company LLC*;

Mehrigul Ablezova – *PIL Research Company LLC, AUCA*.

Prevention is a dynamic concept that covers measures on all levels of prevention – at the level of individuals, relationships, communities, the social level on the scale of the whole society. Prevention levels include: Primary prevention that aims to prevent offenses or victimization through influence on critical risk factors such as gender inequality, social norms, methods of education; Secondary prevention includes victim response and reaction of criminals to prevent further harm and reoffending; Tertiary prevention refers to long-term measures response and is usually aimed at rehabilitation criminals and victims. None of the fundamental standards for the prevention of gender-based violence (GBV) in the Kyrgyz Republic is clearly formulated by the policy and does not have effective mechanisms implementation, despite the rhetoric of state commitment to policy of non-discrimination and gender equality. The rhetoric about the lack of funds to combat GBV does not stand up to criticism, since even the state's expenditures on implementation of responses to GBV crimes outperform needs for prevention.

Analysis of Criminal Legislation and Judicial Practice Towards Gender-based Violence

Eugeniya Krapivina, Indira Sautova – *PIL Research Company*.

Analysis of the criminal legislation of the Kyrgyz Republic (as amended in 2017, 2021) and study of judicial practice on gender crimes for the period 2021 – 2022 years include: crimes against sexual integrity, forced marriage, causing harm to health, crimes against life, against spiritual and moral health and against the way of family relations and families' interests. Analysis found violation of mar-

1 According to the National Statistical Committee of the Kyrgyz Republic the number of victims of gender-based violence in families rose from 2093 people in 2009 to 8254 people in 2020.

2 Court of aksakals, Domestic violence prevention committees, State social order, Protection Order, Crisis centers and shelters, Pro bono, State guaranteed legal aid, Referral mechanism, Judicial review procedures, victims and witness protection mechanisms, Probation Institute, Correction/intervention program

riage age laws during religious ceremonies. It is necessary to transfer an article on family violence to the category of public accusation and exclude the possibility of reconciliation of the parties, since reconciliation with a legal representative child is unacceptable due to the fact that they themselves are brought to criminal responsibility. Among the other recommendations, authors suggest to bring national legislation in line with accepted international obligations; eliminate conflicts in the articles of the Criminal Code of the Kyrgyz Republic; eliminate the provision on exemption from punishment using probation for serious gender crimes; to prescribe the lower age limit in the Criminal Code sexual consent; to adopt a Resolution of the Plenum of the Supreme Court of the Kyrgyz Republic on a uniform standard for the consideration of gender crimes by the courts of the KR, and others.

Frame-analysis of GBV in Kyrgyzstan's media (Russian and Kyrgyz language media sources)

Asan Isaev – *American University of Central Asia.*

The goal of this analysis is to explore the media aspect of how it is formed, maintained and how patriarchal public discourse is reproduced. Since the traditional media still have significant authority within the population and serve as primary points of reference, they form a certain attitude towards their audience events of external manifestation of gender-based violence. The key trends are: hostility frame – a downward trend (victim blaming); the frames of state and public institutions are expanding – media reports that survivors of violence are not left alone and seek help; hypothesis is that the decisive factor for increased attention of institutions is a public reaction (frame of justice). There is a regional disproportion among the regions. When media 'sees' GBV in most cases it is a consequence of the public pressure. At the same time, high-profile cases, coupled with public reaction can shift the dynamics of media messages (and potentially all discourse about GBV).

Session 1.8 Engaging Schools and Communities in Development: Cases of Nutrition and School Management Interventions

Engaging Communities for Better Schools: Case of Kyrgyzstan

Kanykey Jailobaeva – *Institute for Global Health and Development;*

Temirlan Jailobaev, Gulsaadat Baialieva – *Empirica Research and Consultancy Institute;*

Rakhat Ismanbaeva, Marc-Antoine Adam – *AKF.*

Dilbara Kirbasheva – *MSDSP*

The "Engaging Communities for Better Schools in the Kyrgyz Republic" project was launched in 2018 to improve the governance and performance of 354 public schools in the impoverished districts of the Kyrgyz Republic through enhanced citizen engagement and increased transparency, accountability, and responsiveness of schools. The project's main stakeholders were the Boards of Trustees (BoTs), parents/primary caregivers, school management, and school children (hereafter students).

The paper presented the findings of the endline study. The overall aim of the study was to measure the impact of the project based on five project development objectives (PDOs) by collecting data in the project and comparison sites and comparing the endline data with the baseline values.

The survey data analysis compared the baseline and endline values of the project and comparison schools using the Difference-in-Difference (Dif - in - Dif) method.

The key finding of the endline study is that the project had a significant positive impact on the project schools for PDOs 1, 3, 5. The difference in difference analysis indicated that, since baseline, project schools had statistically significant positive changes as a result of the project activities compared to comparison schools (where the trend went down in most cases). Nonetheless, it should be noted that the endline values of the project schools emerged to be lower than the target values by the project,

which can be explained by external factors, mostly the COVID19 pandemic. The education system in the Kyrgyz Republic (including schools, teachers, parents/caregivers, and students) was unprepared for online education. Concepts aimed by PDOs (e.g., accountability, responsiveness, empowerment) would have been better achieved if more face-to-face meetings had been conducted in schools. However, during the COVID19 pandemic, any face-to-face interaction was restricted. At the same time, online platforms did not replace face-to-face interaction fully because of such issues as a lack of devices, reliable Internet, and digital skills. These challenges particularly influenced PDO2, which did not show positive changes. Notwithstanding this, students in the project schools still had higher scores at the endline than students in the comparison schools. A considerable impact of COVID19 on PDO4 was shown above as the poverty level increased significantly. While the ratio of the poor and non-poor households engaged in child education increased since baseline, this was because of the increase in the number of poor households. Despite this, the poor in the project school experienced the drop in parental engagement in a child's education the least, indicating that project activities may have been a protective factor for the poor in the project schools against the negative consequences of COVID19.

Nutrition Status of Children and Women and Nutrition Interventions

Aida Abdylidaeva – MEL officer.

A comprehensive context analysis conducted by the World Food Programme showed that Batken and Jalal-Abad oblasts in the Kyrgyz Republic are the most vulnerable to malnutrition due to high levels of poverty, food insecurity, and natural disasters vulnerability. The 5-year USAID Advancing Nutrition project aimed to improve the nutrition status of children under 2, their mothers, pregnant women, and women of reproductive age using a multi-sectoral approach that includes nutrition and nutrition-sensitive interventions. These interventions included the dissemination of 11 evidence-based nutrition practices through trained local health workers and community volunteers. This paper analyzes the quantitative data that was collected through the phone survey during the baseline and midline evaluations of the project by using the difference-in-difference analysis method. The results showed that there is a relationship between the age of the baby and the mother's diet: women with children 6-23 months old are more likely to have a more diverse diet than mothers of children 0-5 months old. A small percentage of women reported eating foods from the most nutrient-rich groups, such as dark green leafy vegetables, (31%) eggs (38%), and legumes (27%). Regarding infant feeding, only 23% of children aged 6-23 months received the recommended number of meals for their age and breastfeeding status.

Nutrition, Gender and Decision-Making: Insights from “Advancing Nutrition” Project by USAID in Kyrgyzstan

Dr. Philipp Schröder – ISDC.

The presentation shares the main findings of a recent gender study conducted for USAID's “Advancing Nutrition” project in Kyrgyzstan. The main objective of this project is to enhance the nutritional status of women of reproductive age and children under five through social behavior change (SBC) messages and an improved quality of nutrition services within the health system. The study's findings draw from a qualitative methodology that included 36 individual interviews and 14 focus group discussions (FGDs) with male and female participants from Kyrgyzstan's Jalalabad and Batken regions. The themes covered by the study are feeding practices, dietary diversity, anemia, hygiene, food storage, household budgeting and the uptake of SBC messages. Along these themes, the study analyzes the impact of cultural notions and social classifications on nutrition-related behavior in both rural and urban areas. In particular, the study demonstrates how gender, age, knowledge and attitudes intersect when household members debate and decide about the purchase, preparation, preservation and consumption of food. Based on this, the study identifies both potentials and obstacles for increasing joint decision-making across the gender divide and for female empowerment in

the nutrition domain. In conclusion, the presentation proposes some practical recommendations on how project interventions could facilitate such change.

Session 1.9 Informality in the Textile and Apparel Cluster in Kyrgyzstan: in the Search of the Formalization Routes

Session presented the results of the multidimensional assessment focused on the informality in the textile and apparel cluster in Bishkek and Chui Province of Kyrgyzstan. Session presented four parts of the research covering different dimensions of the cluster.

Informality in Kyrgyzstan and in the Textile and Apparel Cluster

Baimat Niiazaliev – *Institute of Public Policy and Administration, University of Central Asia.*

This is a multi-stakeholder mixed method study to understand and engage informality roots in the geographical cluster of the garment industry in Kyrgyzstan. Main regions are Bishkek and adjoining Chui Province with main export market being Russia. Textile industry was created in pre-transition period and includes all value chain stages – raw materials production, processing, sewing production. Main source of informality is small garment workshops. More than 90% of workers do not have labour contract. Official employment in this sector is 30 – 40 thousand workers, while actual numbers vary from 200 to 300 thousand workers. Among the main drivers of informality is income. That is, not paying taxes and other social payments, lower tariffs for electricity and other services, no obligations on safety rules, no labour contracts and other. As a result there is a low success to credit for businesses and workers, blocked access to subsidies and compensations from state and development projects and corruption at fiscal institutional level.

Business models in the garment industry

Gulnara Djunushalieva – *Institute of Public Policy and Administration, University of Central Asia.*

The industry structure can be represented by three main groups: small sewing shops with up to 20 machines; medium sewing shops with up to 50 machines and large sewing production with 50 and more sewing machines. Meanwhile, small sewing shops make up 60%, medium shops – 30% and large sewing production make up only 10% out of all sewing shops. Also, there are formal, semi-formal and informal enterprises that produce different types of clothing. Informal enterprises mainly produce 1st layer pieces, such as t-shirts; semi-formal companies produce 2nd layer pieces, such as pants and shirts and formal enterprises mainly produce the 3rd layer pieces, such as coats and jackets.

Why do seamstresses work informally?

Bakytbek Tokubek – *Institute of Public Policy and Administration, University of Central Asia.*

According to the filed work research conditions of the seamstresses are bad. That is, not fixed working hours – long hours; basements, small rooms that are hot in summer, cold in winter and noisy; there are no official holidays. The main reasons why they work in shade are due to the absence of working agreements, frequency of salary, easy to quit and garment shops do not have registration.

Policy discussion and recommendations on improving formalization in the textile and apparel sector in Kyrgyzstan

Kanat Tilekeyev – *Institute of Public Policy and Administration, University of Central Asia.*

The author provides comparison of old tax system in the garment industry with the new one. In the old version there was a voluntary patent and in the new version there is a simplified taxation system for taxpayers on the basis of a single tax which is 0.25% of the turnover instead of income tax, sales tax and VAT.

Among the recommendations are: taxation in the sector needs to be re-organized; incentive packages for businesses and workers need to be developed; the role of trade unions needs to be increased and there should be knowledge dissemination about labour rights, standards and contracts.

Session 1.10 Civic and Community Engagement for Development

Do women have a voice? Evidence of gender segmentation in civic engagement in Kyrgyz Republic

Marzhan Aikimbaeva – *Institute of Public Policy and Administration, University of Central Asia.*

Issues of representation among citizens are fundamental to the functioning of a democracy. Feminist theory literature, and political science literature help driving expectations when it comes to gender differences in civic and political participation. However, there is not much evidence to be provided for the case of Kyrgyz Republic. First, using the three waves of 'Life in Kyrgyzstan' survey (2013-2019), authors construct a panel to assess the civic attitudes of the representative sample of citizens, and then build a model that estimates the strength of gender among other variables in determining participation in different types of civic activities. Authors show that there are significantly different types of civic activities that men and women engage in; men are more likely than women to participate in political activities, and community-based projects among others including helping the poor and engaging in charitable activities. Drawing from this conclusion, researchers analyze membership based social capital, which is measured as engagement in different groups such as professional, communal, or political, and show that membership based social capital is vertically and horizontally segmented for women and men. While women are more likely to take part in credit or savings group (credit union/chernaya kassa), and in sherine; men are more likely to engage in religious organizations and political parties. Authors examine the results by asking if women participate civically less because they can't, or because, they do not want and they consider the implications for the voices of women.

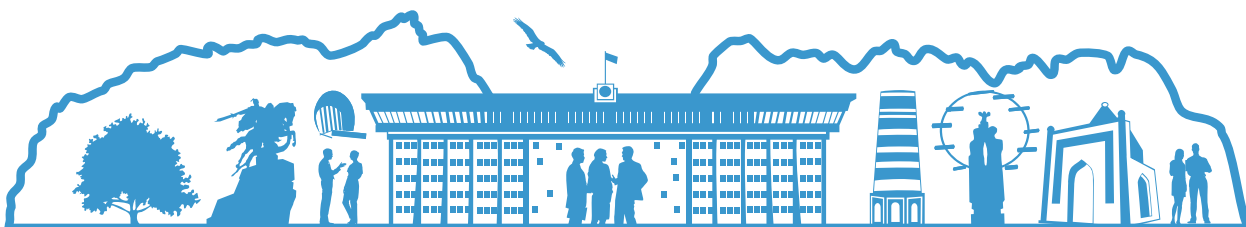
COVID-19 Impact on Volunteering in Kyrgyzstan

Nuraiym Syrgak kyzy, Sofiyam Ushirova

The purpose of the study was to analyze the role of volunteering in peacebuilding during the COVID-19 pandemic in Kyrgyzstan. The main objectives of the study are: to study main tendencies and types of volunteer movements in Kyrgyzstan; to study the role of volunteering in peacebuilding during the COVID-19 pandemic; to identify the main factors and challenges hindering the development of volunteering and recommendations; and to study motives for participation in volunteering.

The study presents the development of various informal volunteering in Kyrgyzstan during the COVID-19, the main trends and changes brought by the pandemic to the perception, portrait, and types of volunteers and their role in peacebuilding. Additionally, the research provides answers to the difference of motives of volunteers during the peaceful time and pandemic, and recommendations to build the further cooperation with them.

The study opens the floor for the discussion what remained from the volunteering movements established in this period, and how these structures are being employed in further crisis situations such as Batken armed border conflicts and post-election conflicts in October 2020.



PLENARY SESSION 2

Keynote 2:

The Effect of Income Shocks on Rural Livelihoods

Dr Katrina Kosec – Senior Research Fellow, International Food Policy Research Institute (USA), Adjunct Professor, Johns Hopkins University (USA)

Dr Kosec conducts research on the linkages between governance, fragility, gender, and poverty. One strand of work investigates the impacts of government policies and public sector incentives on poverty, women's empowerment, and individuals' attitudes and aspirations. A second considers the drivers of women's voice and influence beyond the household, considering the roles of policies, interventions led by NGO and civil society actors, climate change, and economic shocks. She has designed and carried out surveys and field experiments in Pakistan, India, Nepal, Tanzania, Mali, Ethiopia, Nigeria, Kyrgyzstan, Tajikistan, and Papua New Guinea. Her work has been published in journals including the American Political Science Review, the Journal of Public Economics, the Journal of Development Economics, Nature Climate Change, the Journal of Health Economics, World Politics, Economic Development and Cultural Change, and World Development. Dr Kosec received Ph.D. degree in Political Economics and M.A. degree in Economics from Stanford University (USA).



Economic disruptions, such as those caused by COVID-19 and the Ukraine-Russia War, have contributed to rising food, fertilizer, and input prices that significantly affect households' purchasing power. In this keynote address, Dr. Katrina Kosec considered how different types of shocks affect households' livelihood strategies. She first considered how price shocks in Kyrgyzstan have historically impacted labor supply decisions, migration, and health outcomes – with attention to how these impacts vary according to gender. Next, she drew on evidence from Pakistan on how floods and other weather shocks impact individuals' aspirations as well as migration outcomes. Together, these two case studies provide lessons relevant to the current economic reality in which increasingly frequent shocks are becoming the norm.

PARALLEL SESSIONS

Session 2.2 World Bank Session

Poverty and Gender in the Kyrgyz Republic: Trends and Policies.

Saida Ismailakhunova – World Bank.

The Kyrgyz Republic has seen dramatic reductions in monetary and multidimensional poverty over the last seven years, yet a significant share of its population continues to find itself falling into and out of poverty each year, particularly when negative shocks shake the economy or when an internal

household shock occurs. While poverty has fallen dramatically, the vulnerable population remains large, persistent, and, as well as the poor, disproportionately and negatively impacted by both negative economic shocks (e.g., Covid, Ukraine war, inflation, global warming) and the life cycle shocks of bearing children or unemployment. The decline in poverty was dramatically reversed in 2020 due to the COVID-19 outbreak, related economic fall-out and political upheavals in the country.

The poverty reduction in the country was driven by increase in labor incomes and remittances due to spatial - from rural to urban, and sectorial transformation - from agriculture to services and construction and migration of domestic labor abroad - with a reallocation of labor force towards more productive sectors with higher incomes and productivity. This overall positive trend however hides worrisome signals such as (i) the dominance of self-employed workers, starting from 2015, which tend to be of poor-quality jobs, i.e., with limited safety net safeguards and minimal or no pension contributions; (ii) urbanization is concentrated in two cities and movement of labor from low-productive farming to low productive service sector creates the risks of deep pockets of poverty and income inequality in cities; (iii) the gradual tendency of remittance inflow to discourage the domestic labor supply via raising the reservation wage in the economy.

The challenge facing the government of the Kyrgyz Republic is to find policies that will take advantage of the impressively dynamic supply side of the Kyrgyz labor market, while (a) facilitating the demand side of the Kyrgyz labor market by improving business environment and growth of the private sector to generate a higher incidence of higher paying, more productive, more stable jobs, (b) ensuring that a larger fraction of the Kyrgyz labor force has the skills and knowledge required to land such higher paying, more productive, more stable jobs (targeting in particular, the poorer, more rural and female members of the population), and (c) ensuring that temporarily unemployed members of the labor force have ready access to resources needed both to tide them over their period of temporary unemployment as well as to search for new employment within a geographically wider range of employment locations. Specific attention should be paid to facilitation of affordable access to pre-school education, which will increase women's opportunities to participate in the labor market while taking care of the most vulnerable segment of the population.

Gender Assessment for the Kyrgyz Republic

Aibek Ashirov – *World Bank*.

While the Kyrgyz Republic has made headway in reducing gender gaps over the past decade, this progress has been threatened by recent economic challenges. Poverty has increased and labor market gaps have grown, including declining labor force participation which has disproportionately impacted women. This is especially the case when children are present, with households containing children in the Kyrgyz Republic 2.5 times more likely to fall into poverty than similar households with no children.

Women in the Kyrgyz Republic are less likely than men to be employed. The labor force participation rate (LFPR) in the Kyrgyz Republic in 2020 was 44.1% for women compared with 74.5% for men. Women also earn less than men. According to the Gender Development Index, women's contribution to the gross national income is roughly 2.5 times lower than men's contribution due to gender inequality.

There are also worrying gaps in Human Endowments such as health and education and women's voice and agency development which disproportionately affect women and the most vulnerable segment of the population.

Addressing these economic and social challenges will be crucial for the Kyrgyz Republic's efforts at reducing gender gaps and improving gender quality. These challenges can be met by developing a range of policies aimed at a) improving women's labor force participation, including the rapid elimination of barriers to private sector job creation, and b) investing in human capital, and c) improving the implementation and coordination of policies aimed at protecting women and improving women's wellbeing with the aim of facilitating women's equal access to labor force participation.

Fiscal Incidence analysis: distributional impact of fiscal policy

Aliya Ismailakhunova – *Academy of Science;*

Saida Ismailakhunova – *World Bank.*

The scale of fiscal interventions into the economy of the Kyrgyz Republic is relatively high compared to the other countries in the Central Asia region, Caucasus countries, or Southeastern Europe. The state supports the economy to a large extent and incurs high social expenditures. As the tax base is rather narrow due to the large informal sector, it results in a significant budget deficit and a risk of public debt accumulation. Hence, there is a need to increase efficiency of public finance to cut the deficit without hampering economic growth and leaving behind vulnerable social groups. The Covid-19 pandemic highlighted the inefficiencies and inflexibilities of the fiscal system that was not able to support all the affected groups. The role of fiscal policy in poverty and inequality reduction can be examined by means of Commitment to Equity (CEQ) analysis. It is designed to shed light solely on the redistributive properties of public expenditures and taxes. This is quite a specific, focused view that does not take into account other factors.

The purpose of the study is to apply the Commitment to Equity (CEQ) analysis to the fiscal policy in the Kyrgyz Republic. The CEQ analysis focuses on the redistribution effects of the taxes and expenditures, with the aim of answering two questions: (1) how much does the fiscal policy decrease inequality? and (2) does the fiscal policy increase or decrease poverty? The base year for the analysis is 2016; the analysis is extended to 2019-2020 to see how the fiscal response adjusted to Covid-19 challenges.

Pension reform in the Kyrgyz Republic and why it's important for poverty

Gulnur Kerimkulova – *National Bank of the Kyrgyz Republic.*

The current Kyrgyz pension system calls for further urgent reforms to address key challenges. Among them: high cost of the system both to the government and to the working population; increasing risks of old-age poverty; complex structure and low coverage; fiscal and social unsustainability and low adequacy. In this paper we present a conceptually different approach to pension reform given country's macroeconomic and policy realities. The focus of the proposed system is on poverty reduction among the elderly along with promoting economic development of the Kyrgyz Republic. It consists of the following components: (1) a universal flat public pension equal to minimum subsistence level for every citizen upon reaching a statutory retirement age and PAYG financed through lump-sum pension tax (first pillar); and (2) funded defined pension –mandatory (second pillar) and voluntary (third pillar). Results show that the proposed pension system is cost-effective, sustainable, easy-to-administer and affordable while protecting the elderly against poverty and using pension savings to fund economic development. In addition, the primary economic effect involves: a) two-fold reduction in the employer contribution rate; b) total elimination of substantial government transfers to Social Fund. This approach may be further fine-tuned based on the government's preferences and policy choices.

Session 2.3 Biodiversity Conservation and Natural Resources: Session Two

Kyrgyzstan is a country extremely rich in biodiversity. Furthermore, Central Asia is a place of origin on many domestic crop varieties playing a great role in the world's economy. The great biological diversity is determined by different ecological zones and elevation variation. Snowy peaks are the home to iconic animals like snow leopards and argali. Mountain meadows deliver stunning views at time of tulip blossoming and serve as habitat to rare rodent species. Walnut fruit forests are the origin of rare wild apple and pear species. Vast steppes and hot deserts are valuable habitats to ungulates and reptilians in the region.

Rich biodiversity is a great economic and cultural heritage, which should be protected in order to save our usual environment, ecosystem services and ensure sustainable future for the next generations. Different nature conservation and research organizations will present their research and work on rare and threatened species with regards to their conservation and engagement with local communities. The presentations include the whole plethora of issues and approaches including research on plant and animal biodiversity with involvement of cutting-edge technologies like drones and camera traps as well as socio-economic surveys helping to better understand the socio-environmental interactions for sustainable management.

Comparison of Sentinel-2 and UAV multispectral data for use in monitoring of wild fruit forest in mountainous Kyrgyzstan: an application from Jalal-Abad region

Erkin Isaev, Maksim Kulikov, Evgenii Shibkov, Roy C. Sidle – *Mountain Societies Research Institute, University of Central Asia.*

The scope of this work is to compare Sentinel-2 and unmanned aerial vehicles (UAV) imagery from Western Tian Shan for use in Monitoring Wild Fruit Forest. However, ground data acquisition remains complicated as Wild Fruit Forest are often difficult to access, and fieldwork possibilities remain limited. Remote sensing offers an opportunity to bypass this issue and increase spatial and temporal coverage of ecological parameters. The Sentinel-2 satellites launched in 2015 has been providing images at spatial resolutions of 10 to 20 m. Difficulties remain as information retrieved from 10-m Sentinel pixels are the result of a mixture of objects influencing reflectance signals. Here, we used a submeter multispectral UAV image to assess the sensitivity of Sentinel-2 normalized difference vegetation index (NDVI) to subpixel vegetation. We found that Sentinel-2 data overestimates NDVI in region with open terrain and grass, and underestimates territory with trees. But by implementation proposed bias correction method with using obtained clustering intervals: $0.5 < \text{NDVI} < 0.6$ with minus RMSE, $0.6 < \text{NDVI} < 0.8$ with plus RMSE the accuracy of the Sentinel-2 derived NDVI increased. Where R^2 is increased from 0.59 to 0.88 with $p\text{-value} < 0.001$. We also showed that drought index derived from Sentinel-2 vegetation condition index (VCI) is good correlated with ground-based standard precipitation index (SPI). By using proposed bias correction method, the correlation relation increased by 3% in average between VCI and SPI.

Identification of individual tree species using UAV multispectral data and convolutional neural networks for high-resolution mapping and habitat modelling in walnut-fruit forests of Jalal-Abad region

Maksim Kulikov, Erkin Isaev, Evgenii Shibkov – *Mountain Societies Research Institute, University of Central Asia.*

Unmanned aerial vehicles (UAV) are applied in many areas of nature surveys, basically as a remote-sensing tool with high resolution and accuracy, used wherever and whenever needed. They, together with composition and analysis software represent a useful and practical tool for monitoring of vegetation and terrain as well as other objects of the physical world. At the same time development of artificial intelligence, namely convolutional neural networks (CNN) provide many opportunities for automated image recognition up to the scale of identification of different plant species.

The walnut-fruit forests in Jalal-Abad region of Kyrgyzstan are a valuable and unique natural resource, which still has to be studied ecologically to better understand its unique features. The combination of UAV and CNN allows for precise mapping of different tree species to conduct species distribution analysis. In this study we have conducted over 120 plots surveys in walnut-fruit forests of Jalal-Abad region where we collected vegetation data and multispectral remotely-sensed images with UAV. These images were marked for CNN training and the resulting neural network used for classification of other remotely sensed images. This resulted in a precise mapping of tree individuals with species discretization, which was used for the species distribution analysis.

Analysis of livelihood strategies of silvopastoral households in walnut-fruit forests of Kyrgyzstan

Azamat Azarov, Maksim Kulikov, Roy C. Sidle – *Mountain Societies Research Institute, University of Central Asia;*

Zbynek Polesny, Vladimir Verner – *Czech University of Life Sciences Prague;*

Dietrich Darr – *Rhine-Waal University of Applied Sciences.*

The livelihoods of local people living within or in close proximity to the walnut and fruit forests in southern Kyrgyzstan depend on the resources that supply these forests. The sale of non-timber forest products (NTFPs) is one important source of income for local people, but good NTFP harvests generally occur every 3-4 years. To diversify livelihood strategies for improving food security, local residents are engaged in animal husbandry and in recent decade have been intensively involved in off-farm activities, namely migrating outside the village to work, often to Russia. The results show that none of these activities alone are sufficient for livelihoods, and they can be considered as complementary. Moreover, part of the income derived from one source may flow as investment into the other, e.g. remittances were invested in livestock, tourism and machinery for NTFP processing. On the other hand, residents face the threat of their sustainable use of forest resources, over-collection of NTFPs and overgrazing in forests due to increasing livestock numbers negatively affects forest regeneration and biodiversity. The need for improved grazing management together with supply of sufficient fodder in winter, the processing of NTFPs through value addition, and the development of the tourism business as another off-farm activity are evident. Thus, researchers, governmental and non-governmental institutions need to focus on these aspects to improve the livelihoods of households.

Session 2.4 Places of Memory

Memory is the main theme of modern life, the key to personal, social and cultural identity. Scholars have studied the concept from many different perspectives and within different disciplines: philosophy, sociology, anthropology, geography, architecture, urban design, and interdisciplinary "local studies".

Memory of the "historical" homeland

Baktygul Midinova – *Osh Art Museum.*

In August 2020, a very unusual museum for Kyrgyzstan was opened in the village of Sary-Mogol - a community-ethnographic museum. Its unusualness is connected with the history of the place, on the example of a life of one family in two states.

This is the memory of the Tashkulov family. In the late 50s of the 20th century, Tashkul Urustamov and his wife moved from Murgab to the Alai Valley. Almost every family in Sary-Mogol are immigrants from Murghab. So in Soviet times, spontaneously at the foot of Lenin Peak at an altitude of 3200 meters, a new village was formed - Sary-Mogol.

«Kadjy-Sai. Life»**Gulzada Abdaliev** – *Kyrgyz State University after Arabaeva.*

Driving past the picturesque mountains along the southern coast of Issyk-Kul, you do not suspect what happened in this place only two generations ago. Nature itself hides from prying eyes the traces of life that boiled here, as if trying alone to correct what was left.

With each visit, unexpectedly here and there, I see new signs of this past, each time brighter and more distinct, causing surprise, giving rise to questions, sometimes even fear. It fills me with unchanging sadness.

I'm trying to imagine these prisoners, freelancers. All the pioneers of the uranium mine. What were their names? What were they thinking, looking at the blue of the mountain lake? Did the survivors return to their homes?

“About the Toktogul hydroelectric power station and its significance”**Talgat Djumashev** – *SILK.*

Toktogul hydroelectric power station is a complex irrigation and energy hydroelectric complex. That is, the station is used not only to generate electricity, but also to regulate the flow of the Naryn River, the influence of which extends to the entire Syr Darya basin and plays an important role in the distribution of water resources between Kyrgyzstan, Kazakhstan and Uzbekistan.

Research site “Esimde”**Gulzat Alagoz** – *Research Platform ESIMDE.*

In the 1930s of the 20th century, more than 700 families were deported from the territory of Kyrgyzstan to Ukraine. This article talks about the policy of “dispossession” and deportation, memory and history about them. Esimde has been working on this topic for two years: it has collected data from the archives of Kyrgyzstan and Ukraine, oral family histories, and a book of memories of the Kyrgyz.

Session 2.5. Poverty and Household Consumption**Chronic and transitory poverty in the Kyrgyz Republic****Aigerim Kydyralieva** – *National Bank of the Kyrgyz Republic.*

This article examines the difference between chronic and transitory poverty. Using data from the panel of Kyrgyz households we estimated the probability of household falling into transitory or chronic poverty. Controlling for demographic and social characteristics of household we found that there is not much difference between the chronically and the temporarily poor households. We also concluded that social transfers do not have a significant effect on moving out of poverty.

Herding and Status Seeking Behavior: Evidence from Conspicuous Consumption at Social Events in Kyrgyzstan**Kadyrbek Sultakeev** – *Justus-Liebig Universität Gießen;***Susan Steiner** – *Leibniz Universität Hannover.*

Farmers live in a society where most of their spending on social events is visible to others. This can affect how poor farmers reflect their conspicuous consumption by spending more income on social events (such as weddings, birthdays and funerals). This is worrisome because such spending may perpetuate poverty rather than lift poor households out of poverty. Authors empirically show the reason for social spending as the reason for two different behaviors, such as herding behavior and status-seeking behavior in Kyrgyzstan. Using nationally representative panel data from the *‘Life of*

Kyrgyzstan' survey, authors use the fixed effect model to predict the determinants of spending on social activities. Authors find that expenditures on social activities are positively and significantly correlated with the lagging median level of expenditures on social activities. This means that households generally imitate the level of expenditures of previous years. In addition, they tend to spend more where income inequality with similar income group not only in the oblast, but also in the rayon is higher, suggesting that social spending is status seeking and poor spend more when there is larger inequality in their reference group. This is important news for policy making because if the poor spend more money on such social activities, poverty could increase.

Determinants of Households' Poverty in Livestock Sector: Case of Kyrgyzstan (2010-2016)

Valeriia Stashevskaja, Gulnara Nurieva – *American University of Central Asia*.

The thesis analyses the key poverty determinants of households involved in livestock production in Kyrgyzstan for 2010-2016. Poverty in the country is high: about 25% of the total population lives below the poverty line. The population of Kyrgyzstan is 6.7 million, of which 65.6% live in rural areas and depend mainly on agriculture and animal husbandry in particular. This sector not only delivers a variety of food and non-food products but also contributes in income generation and subsequently diminishes the rural poverty. The aim of this research is to test socio – economic determinants of a livestock keeping household to determine their effect on that household's likelihood of being below the poverty line and to assert that the level of poverty headcount of the population is lower among households involved in the livestock sector than the country's one. The primary data was gleaned from Life in Kyrgyzstan Survey for the years of 2010, 2011, 2012, 2013, and 2016. To examine the poverty assessment of a sample that represents households involved in the livestock sector, the FGT poverty measures were employed. Headcount poverty index is incorporated as dependent variable to model the binary probability expressions through Logit. Variables tested for multicollinearity according to the results of VIF and Tolerance. Marginal effect and Odd ratio estimation are used for interpretation of the results. Out of explanatory variables used in model, benefit from the livestock, remittances, other income of the household, gender and education of household head show a significant and negative relationship with poverty status whereas, assets, household size, age of the household head, location of the household have a slight influence on poverty. At the same time, the amount of landholding by a household and living in a city or village has no significant effect.

Session 2.6 Macroeconomic Developments in Kyrgyzstan

Issues of Promoting the Principles of Green Economy in the Kyrgyz Republic

Ermek Ashyrov – *Ministry of Economy of the Kyrgyz Republic*.

The presentation was devoted to an overview of the state, trends and prospects for the development of the "green" economy in the Kyrgyz Republic.

Recognizing that today the traditional economic model of the development of states, based on super-consumptive stimulation of the demand of the population, works inefficiently and has a detrimental effect on the well-being of current and future generations, in the last decade a number of countries around the world began to abandon the model of economic development, when natural resources and ecosystems are sacrificed for the sake of the current economic prosperity.

The global trend to reduce the exploitation of natural resources and the introduction of modern technologies creates the need to diversify the classical economic model, which must strike a balance between the reorientation of the economy and global initiatives to combat climate change.

The Kyrgyz Republic also sets ambitious goals for a systematic transition to this model, and strengthening work towards sustainable development, that is, reducing carbon emissions and actively introducing an inclusive green economy.

Realizing the importance of the transition to a sustainable development model, the Kyrgyz Republic adopted the concept of “Kyrgyzstan - a country of green economy”, the National Development Strategy 2018-2040, which provides for the development of the economy with a focus on the use of innovative and environmentally friendly technologies, and also identified 7 priority sectors through which ensuring a progressive transition to “green” development.

Thus, the government is faced with the task in the short and medium term to solve the issues of implementing reforms that should ensure sustainable social and economic growth with a gradual reduction in the use of carbon carriers and carbon emissions.

The Role of the Bank Lending Channel in the Transmission of Monetary Policy in the Kyrgyz Republic

Cholpon Sharshembaeva – *National Bank of the Kyrgyz Republic.*

The role of banks in transmission of monetary policy in an economy has been a subject of theoretical and empirical investigations. This study attempts to empirically investigate the role played by commercial banks in the Kyrgyz Republic in transmitting the impulses of monetary policy shocks to the rest of the economy. Specifically, we examine whether the central bank’s monetary policy stance affects banks’ lending behavior. We provide a brief overview of the theory and the empirical approaches used to investigate the existence of bank lending channel.

Using a panel of quarterly data for commercial banks covering the period from 2016 until 2019, a dynamic system Generalized Method of Moments (GMM) estimator is applied to establish the existence of the bank lending channel. The empirical findings revealed the relevance of the bank lending channel of monetary policy in the Kyrgyz Republic.

Estimating the Impact of Regional Economic Integration on Trade of Small Economies: the Bayesian Synthetic Control Method Applied on Armenia and Kyrgyzstan

Salima Bekbolotova – *UCA-DAAD Scholar;*

Nodir Djanibekov – *IAMO.*

The dichotomy of views on the impact of economic integration on trade among the proponents of free-trade and protectionists exists to date: there is no definite answer whether economic integration brings trade creation vs. trade diversion effects. Theoretical analysis is limited as the impact is case specific and depends on multiple interrelated factors which are difficult to recognize and hard to predict. Therefore, the study examines impact of the accession into the Eurasian Economic Union (EAEU) on the exports of Armenia and Kyrgyzstan. We employ a quasi-experimental design - Bayesian Synthetic Control Method (Bayesian SCM) - on a panel of nationally aggregated values to assess a causal relationship between the EAEU membership and trade indices of the target countries. The findings of the study suggest the EAEU produced (a) positive joint effect on total export value indices for Armenia and Kyrgyzstan; (b) positive effects on total and agricultural exports of Armenia individually; and (c) positive effect on Kyrgyzstan’s total exports, however no effect on agricultural exports, and a negative effect on agricultural imports. The concluding part of the study discusses possible challenges, and a set of policy implications based on the results of the study.

Session 2.7 Biodiversity Conservation and Natural Resources: Session Two

Connecting the Dots for Snow Leopard Conservation in Kyrgyzstan

Koustubh Sharma – *Global Snow Leopard and Ecosystem Protection Program;*

Kubanychbek Jumabai Uulu – *Snow Leopard Foundation in Kyrgyzstan.*

Snow leopard is an indicator of the health of the mountain ecosystems. They live in the rugged mountains across 12 countries in central and south Asia and are rarely seen. The species faces multiple threats including illegal wildlife trade, retaliatory killing, poorly planned infrastructure, and climate change. Their large home ranges make it impossible for Protected Areas alone to be sufficient to save snow leopards. Moreover, a third of the snow leopard population lives within 100km from international borders, making trans-boundary interventions imperative for them to be conserved effectively. Home to the biggest reservoir of water after the polar snow caps, the snow leopard range provides several provisional and regulatory ecosystem services to the human populations up to several thousand kilometers beyond. Given their importance as a flagship species for a habitat that provides ecosystem services worth billions, conserving the snow leopard makes not only ecological, but also ecological sense. The Snow Leopard Foundation in Kyrgyzstan partners with the International Snow Leopard Trust and the Global Snow Leopard and Ecosystem Protection Program to conduct primary research, implement community-based conservation, impart education to future citizens, and develop policies and capacity to scale up the effort beyond the scope of an organization. The collective efforts to conserve snow leopards address up to 12 of the 17 sustainable development goals, making them hugely relevant in the global quest for protecting the planet and improve the lives and prospects of everyone, everywhere.

Building capacity to protect Besh Aral's meadows, marmots and megafauna, Kyrgyzstan

Mariia Cherniavskaia, Ormon Sultangaziev – *Fauna & Flora International.*

During the field trips and needs assessment conducted in February 2018; January 2020 and August 2020, four major problems were identified that limited the capacity of local stakeholders to protect the reserve and sustainably manage the mountain pasture. The project is undertaking a number of activities to address the identified problems.

The results of population surveys for the Menzbier's marmot and predators in the Besh-Aral State Nature Reserve and surrounding areas carried out in 2021 and 2022, as well as habitat and health assessments of the Menzbier's marmot and assessment of the condition of pastures was presented at the meeting. In addition, the results of the research on the activities of mining companies in the Terek-Say and Sandalash areas and their impact on marmots and their habitats were presented.

Survey of Wild Animals Using Photo Traps in Kyrgyzstan

Zairbek Kubanychbekov, Maksim Koshkin – *ILBIRS Foundation.*

The study of some species of animals is very difficult because of their secretive lifestyle and the difficulties that stand in the way of researchers in their study. Camera traps are probably one of the most common tools for studying such "complex" species. In our studies of wild animals inhabiting the mountain ecosystems of the Kyrgyz Republic, we used camera traps, since the territory of interest to us was distinguished by remoteness, inaccessibility and difficult weather conditions, and the nocturnal or twilight lifestyle and the extreme secrecy of many species do not allow conducting full-fledged studies using visual observations. The main goal of the study, which will continue in the coming years, is to identify the presence and population density of wild animals inhabiting the mountainous regions of the Issyk-Kul and Naryn regions, with a focus on the study of the snow leopard and the species that make up its food base. The work was carried out in 2021 and 2022 on two sites with a total area of more than 3.5 thousand square meters. km., on each of which more than 50 camera traps were previously installed for a period of 2 months or more. For the first time, data have been collected for

these areas that will not only allow us to learn more about the distribution and estimate the density of key species, but also learn more about their interaction with each other.

Session 2.8 Informal Employment and Income Effects of Migration

Social Security and Informal Employment in Kyrgyzstan

Razia Abdieva – *Kyrgyz-Turkish Manas University.*

The social security system has emerged to ensure the security of the labor force against future social risks. The effectiveness of this system significantly affects the future quality of life of workers and society. After the collapse of the USSR in Kyrgyzstan, the transition to a market economy started with a severe crisis. It caused an increase in unemployment and the informal economy has led to a weakening of the state's social protection service quality. The financial issue of the social security system is growing rapidly and demands urgent reforms in this system. The main problem is the informal economy and informal employment. In this study, the level of informal employment was analyzed using "Life in Kyrgyzstan" 2016 survey data. A special focus was made on individual entrepreneurs and farmers. The main structure of the social security system of the Kyrgyz Republic: types of social security and tariffs will be described. The characteristics of informal workers and their affecting factors will be analyzed using statistics and a logistic regression model. The results of the analysis showed that in spite of providing a simplified and preferencing tariff regime for individual entrepreneurs and the lowest tariff for farmers the level of informal employment in these sectors is high. Also, the results of the logit model showed that the level of youth labor in the informal economy is higher. It means the motivation and trust for the social security system must be enhanced through reforming oriented both employees and employers for the sustainability of the system.

Interaction Between Gender and Informality in Small and Medium-sized Enterprises in Kyrgyzstan: How Informal Rules Enable and Constrain Female Entrepreneurship

Alberica Camerani – *Dublin City University.*

In the past years, a growing number of scholars were calling for more attention to be paid to the context in which entrepreneurs operate, given its role in business-related decisions. Such a focus on the context also entails the investigation of informality, meant as "socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned", and the way in which it opens up and limits opportunities. The inclusion of the gender dimension into the analysis of the context is of utmost importance, as informality affects men and women to different extents and in different ways by defining and limiting proper gender behaviour. Previous studies on female entrepreneurship in Kyrgyzstan have not explored how the set of social norms, gender roles, cultural codes of behaviour, shape female entrepreneurship in much detail. Therefore, the aim of this study is to investigate the interaction of gender and informality in small and medium-sized enterprises in Kyrgyzstan, by looking at how informal rules enable and constrain female entrepreneurship. Starting in Summer 2022, the ethnographic fieldwork will include interviews and participant observations in Bishkek.

Migration, Remittances and Income Inequality in Kyrgyzstan: Evidence from the 'Life in Kyrgyzstan' Survey

Jodar Joldoshov – *Central European University.*

This paper estimates the impact of remittances on the degree of income inequality using the latest wave of the 'Life in Kyrgyzstan' survey for the year 2016. The objective of the paper is to find out how international remittances affect income distribution in such remittances-dependent country as Kyrgyzstan and to assess the magnitude of the effect. The identification strategy relies on the probit model with the application of propensity score matching technique to estimate the causal impact.

Remittances are considered as treatment, and propensity score matching allows for the comparability of treated and control groups by reducing the treatment assignment bias. Based on the regression analysis, I find evidence for the positive marginal impact of foreign remittances on more equal income distribution in Kyrgyzstan, though the effect is practically small. The separate estimation for the sub-sample of rural households finds that migration and remittances positively impact income inequality in rural areas, with the effect being similar to that estimated for the overall sample of households. Unfortunately, a very small number of urban migrant households does not allow for proper PSM estimation for the urban sub-sample.

Session 2.9 Impacts of Development Interventions and Shocks

Impact Evaluation Study of Rehabilitation of Irrigation Canals in Southern Kyrgyzstan

Kanat Tilekeyev – *Institute of Public Policy and Administration, University of Central Asia,*

Dilbara Kirbasheva – *MSDSP.*

Irrigation canals rehabilitation is one of the widespread interventions used to revive agricultural development in the number of developing countries. Impact of that intervention often become questionable in the literature. The study provides an analysis of the randomized control trial method based on a comparison of two groups of owners of land plots in pilot and control areas. Two waves of the panel survey collect household-level microeconomic data from the crop production farmers – owners of the land plots in Southern Kyrgyzstan in 2016 (prior to the irrigation canals rehabilitation) and in 2019 (after the rehabilitation intervention occurred). Sample size reaches 740 farmers in 2016, and 676 farmers in 2019. Difference-in-differences (DD) method demonstrate a positive relationship between irrigation canals rehabilitation and crop production volumes in monetary and natural terms in the target area's zones compared to those without irrigation canals rehabilitation. The statistical significance of the model measured in monetary form demonstrates a higher level of statistical error. At the same time, the result was more desirable for the uniform indicator measuring crop production in-kind.

Livestock Breed Improvement to Increase Farmers' Incomes and Prevent Pasture

Degradation: Shifting from Livestock Quantity to Quality

Dilbara Kirbasheva – *MSDSP.*

About 80% of the population of Kyrgyzstan keeps livestock. In recent years, there has been a steady trend of growth in livestock production and the number of livestock in the agricultural sector of Kyrgyzstan, while the share of degraded pastures is growing. At the moment, 43% of pastures are severely degraded, 50% of pastures are moderately degraded. Therefore, there is a need to maintain or increase farmers' incomes while reducing pressure on pastures. One solution to this problem is to improve the breed of animals. Researchers have been working with agricultural communities in the Alai and Chon-Alai regions of the Kyrgyz Republic through the Bai-Alai project to support this transition. The project has improved farmers' access to natural (Aberdeen Angus breed) and artificial insemination services.

The work describes the practice of introducing insemination services in the Osh region and the findings of the household survey with farmers of Alay and Chon-Alay regions. The aim of the study was to measure the impact of the project on households' income and number of cattle in households. There were 2 data collections in 2020 and 2021 (panel data). When collecting data in 2020, data for 2018 and 2019 were also collected using a retrospective method. Sample size of the study was 235 farmers from pilot group (users of insemination services) and 243 farmers from control group (non-users of insemination services).

Difference-in-difference method was used to estimate the impact of the project on farmers' income and number of cattle in household. Data for 2018 and 2021 were used to compare changes in income and livestock number. As the results of the analysis showed, the number of cattle in the pilot group increased significantly compared to the control group. Also, due to the increase in the number of cattle in the pilot group, the volume of sales of cattle in the pilot group has significantly increased. Based on these data, it can be concluded that reducing the number of animals due to improved breeds may take more time and requires additional work on the awareness of farmers to more rational use of pastures by shifting from livestock quantity to quality.

Climate Vulnerability Assessment of Transhumant Pastoralists of Temir-Kanat

Matthew Raulerson – *University of London.*

To assess the threat climate change poses to a particular system, climate vulnerability assessments are undertaken. These assessments analyze both biophysical and social aspects to understand the vulnerability of a system through identifying the exposure, sensitivity, and adaptive capacity a given system possesses. Utilizing this method, this research investigates the climate vulnerability of transhumant pastoralists in the rural village of Temir-Kanat in eastern Kyrgyzstan. Using Participatory Rural Appraisal tools, pastoralists were interviewed allowing data collection to be from the perspective of the pastoralists. This method was prioritized to more acutely identify and ultimately address both perceived and experienced vulnerabilities to climatic shifts. The research findings suggest transhumant pastoralists in the village of Temir-Kanat currently experience a high degree of vulnerability to the effects of climate change resulting from high exposure and sensitivity and low adaptive capacities. In the assessment, the pastoralists identified being exposed to issues of seasonal water availability and decreasing rangeland productivity while also exhibiting high sensitivity as the aforementioned exposure has negatively impacted their financial resources. As a result of reduced social, financial, and human capital, their adaptive capacities were determined to be low. Adaptation interventions were suggested that targeted enhancing the pastoralists adaptive capacity through economic diversification and strengthening social networks via community-led initiatives. Challenges that occurred throughout the use of Participatory Rural Appraisal were also included to guide future researchers engaging within indigenous knowledge systems.

Economic Assessment of Ecosystem Services of the Naryn State Natural Reserve

Damira Omuralieva, Asan uulu K. – *Kyrgyz National Agrarian University.*

This work is devoted to the issues of assessing the ecosystem services of specially protected natural areas. The assessment of land, water, forest ecosystems of the Naryn State Nature Reserve has been determined. The cost of carbon absorption by forest resources in this reserve was also estimated. The subject of economic evaluation of natural resources is primarily their consumer properties. When determining the objective value of resources, socially necessary costs for the protection and reproduction of resources are also taken into account. And, therefore, these methodological approaches are the theoretical basis for determining the objective price of all natural resources in their economic evaluation.

The aim was to identify the main types of ecosystem services and to identify problems in their valuation. In the formation of the sample and the development of research tools, methods characteristic of quantitative methods were applied - the method of random sampling, as well as the use of a questionnaire. A qualitative method of semi-structured focused interviews was used to collect data in the environmental sector. Authors suggest to develop theoretical and methodological foundations for effective management of environmentally-oriented innovative development of specially protected natural areas in the context of strict environmental regulation.

Session 2.10 Planning and Investment in Infrastructure in Central Asia: Assessment of Sustainability

The session aims to present key findings from an assessment of the current planning and investment practices in Central Asia countries (Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan), focusing on the countries' attempt to achieve sustainability of the developed infrastructure.

Sustainable Infrastructure for Low Carbon Development in Central Asia and the Caucasus

Peline Atamer – *OECD*.

Through this new programme, researchers aim to create a Central Asian community on sustainable infrastructure decision makers, practitioners and experts.

Authors aim to engage key participants in Central Asia across the infrastructure project cycle, from upstream strategic planning, investment project preparation, financing, implementation and delivery.

The Impact of Infrastructure Projects on the Sustainability of the Transport and Logistics Business in Central Asia

Aisulu Taisarinova – *Kazakh-German University*.

Research objectives are to collect information about: changes in business models; directions of movement of cargo flows; and prices for logistics services in the countries of Central Asia.

Authors find that: Infrastructure projects generally had a positive impact on business activity in Central Asia, however, prices for the end consumer increased by 30%; Potential sources of growth in cargo turnover are road and container transportation; There are many small companies providing intermediary services on the territory of Central Asia. It is not profitable to use your own transport, fines for large enterprises are much higher than for small companies; Tariff policies of Central Asian railway monopolies are not transparent; The logistics infrastructure of large CA agglomerations does not keep pace with the development of transit flows and hinders the development of the very concept of transit.

A Void in Central Asia Research: Climate Change

Roman Vakulchuk – *Norsk Utenrikspolitisk Institutt, NUPI*.

This article assesses the extent to which the academic community engaged with climate change in Central Asia between 1991 and 2021. The article finds that climate change has been neglected in the field of Central Asia area studies. Out of a total 13,488 journal articles in eight key journals for Central Asia research, only 33 articles (0.24%) were on climate change or a related topic. Climate change has been similarly neglected at the events of 17 Central Asia area studies associations. Out of 1305 conference panels, none was focused on climate change. Out of 10,249 individual presentations, only two (0.02%) were focused on climate change. The very same scholars who have been most active in the securitization of Central Asia have ignored the severe security threats that climate change poses to the region. The article contributes to the field of Central Asian studies by drawing attention to severe knowledge gaps that hinder the Central Asian countries from adapting to climate change. It concludes with six recommendations.

ONLINE PARALLEL SESSIONS

Session 2.11 Online Session: Agriculture and Infrastructure

Does Adoption of Zero Tillage Save or Intensify Production Costs? Evidence from Kyrgyzstan **Abdusame Tadjiev, Nodir Djanibekov – IAMO.**

Agricultural practices that rely on intensive and monoculture agriculture inherited from the former Soviet cultivation system led to the decline of soil fertility in Central Asia. Sustainable agricultural practices such as zero tillage are options for sustaining soil quality and economic benefits of farmers in the long run. Our study intends to investigate the determinants of decision to adopt zero tillage and how this adoption impacts production costs of rural households in Kyrgyzstan. We apply an endogenous switching regression model to household panel data collected from Kyrgyzstan in 2016 and 2019. The empirical results show that farmers' decision to adopt zero tillage is positively related with household head's employment in agriculture, plot size, distance from field to household dwellings and to the main road. Furthermore, wealthy households are less likely to employ zero tillage and rather tend to rely on mechanized land preparation. Compared to conventional tillage method, zero tillage adoption decreases land preparation by 31%, and weeding costs by 10% associated with machinery services, but increases hired labour costs by 17%. Therefore, policymakers should promote zero tillage as a way to reduce smallholders' machinery costs. Promoting it as a labour-saving practice will create false expectations among farmers.

Weather Shock Experience and Risks Preferences of Livestock Keepers: Evidence from Kyrgyzstan

Michael Bödecker – Humboldt University.

A growing literature argues that risks preferences are changing after shock experience but fails in finding conclusiveness regarding the impact towards risk aversion or risk seeking. Understanding the impact of shock experience on risks preferences becomes particular important in the field of climate change adaptation in the livestock sector, as risk attitude affects the choice of coping strategies. This study uses nationally representative Life in Kyrgyzstan data from 2016, covering 1,351 Kyrgyz livestock keepers, and combined with MERRA-2 NASA meteorological data. Multiple logit-models are used accounting for different elicitation methods of risks preferences in order to detect the determinants of risk aversion. The results indicate that weather outliers are significantly correlated with individual risks preferences, but estimated correlation varies between different elicitation methods and within models. The findings support the claims of other studies that a careful consideration of different elicitation methods should be accounted, for better understanding of the determination of risks preferences.

Household Response to Improvements in Water Infrastructure: Evidence from Peri-urban Kyrgyz Republic

Michelle Brock, Elcin Akcura, Leon Bost – EBRD.

Water is scarce in Central Asia, and participation in municipal water service networks is necessary for success of price-based tools for improving over-exploitation of water resources. This paper uses a doubly robust difference in difference approach to investigate whether improving deteriorating water infrastructure can induce higher take-up of municipal water services, in the Kyrgyz Republic. We also assess the intention to treat impacts of such infrastructure improvements on time-use and willingness to pay for improved water services. We find that infrastructure improvements do induce take-up but do not result in time-use savings for survey respondents. Instead, improvements cause higher incidence and duration of bathing, and higher willingness to pay for high water pressure and limited frequency of service cuts. Taken together, our results suggest that governments can improve participation in municipal water networks with service improvements and that households may be

willing to pay higher bills for it. Nonetheless, this will likely lead to increases in water demand. Project to update water infrastructure need to include plans for managing increased demand in a way that benefits both households and the environment.

Session 2.12 Online Session: Employment, Migration, Education

Employment Support Policies in the Kyrgyz Republic: Challenges and Opportunities

Eugenia Pesci – *University of Helsinki, Finland.*

According to official data, as of April 2022, there were 150 thousand unemployed in Kyrgyzstan, with an unemployment rate of 5.8% and official (registered) unemployment of 3%. This means that almost half of the unemployed is not registered at the public employment service (PES). Out of the 101,7 thousand people registered, only 76,9 thousand have received the official status of unemployed. However, only 3,4 thousand people were employed thanks to PES mediation, and around 4 thousand were involved in active labour market policies (public paid works, training). Finally, only 157 people were receiving unemployment benefits as of April 2022. Therefore, despite its existence since 1991, in Kyrgyzstan relatively few jobseekers and employers benefit from the passive and active measures provided by PES. This means that jobseekers are not very motivated to register with PES because of the low quality of services provided, meagre unemployment benefits, low-quality vacancies for low-paid jobs, stigmatization of the unemployed as “problematic”, and scarce information on the services available. In this paper, I am going to analyse the current policies and programs and the functioning of PES based on the study of policy documents and interviews with experts, policymakers, and street-level bureaucrats.

Temporary International Migration, Shocks and Informal Finance: Analysis Using Panel Data

Tanika Chakraborty – *IZA, GLO, IIM Calcutta;*

Manish Pandey – *University of Winnipeg.*

We examine households' temporary international migration response when faced with shocks in rural Kyrgyzstan. Using a household fixed effects model, we find that while a drought shock increases migration, a winter shock reduces migration. We argue that this difference is because of the trade-off between two effects of a shock for a household: loss of income and increase in the need for labor services. Migration increases when the former effect of a shock dominates, and it reduces when the latter effect dominates. We explore these mechanisms further and find that when households have easier access to informal finance the migration-response is muted only for shocks for which the adverse income effect dominates. These findings provide evidence in favor of our proposed mechanisms through which shocks affect migration.

(Un-)Learning during a Pandemic: Evidence from Kyrgyzstan

Wolfgang Stojetz, Oscar Diaz Botia – *ISDC, Damir Esenaliev* – *IGZ, ISDC,*

Tilman Bruck – *Humboldt University, IGZ, ISDC.*

The COVID-19 pandemic is a global crisis affecting every child on earth. This paper presents quantitative evidence on the impacts of the COVID-19 pandemic on child learning in Kyrgyzstan. Our analysis uses original panel survey data on 1,155 children from 154 schools across the country. Round 1 data were collected just before the start of the pandemic (in December 2019 /January 2020), when surveyed children were in the first quarter of grade 2. Round 2 data were collected from the same children about 1.5 years later, during the pandemic (in May/June 2021). In both survey rounds, the same literacy tests were used, which makes literacy outcomes directly comparable at the child level. We find evidence unlearning due to the pandemic: the average child's literacy regressed during the pandemic. Machine learning and panel data analyses suggest a dominant role of school closures causing these detrimental outcomes, which are strongest for good students from poor households. These

findings suggest that pandemic impacts on child learning in Kyrgyzstan are very concerning and that strengthening home schooling support and practices is key for mitigating highly adverse pandemic impacts on children, especially among those from disadvantaged families.

Annex I

PROGRAM DAY 1: Monday, October 10, 2022

09:00-12:30	Pre-Conference Event: LiK Data Users Workshop <i>Bishkek time, GMT+6</i>
19:00-20:30	<p>ONLINE PARALLEL SESSIONS</p> <p>SESSION 0.1 Climate Change in Central Asia: from the Foundation in Physical Sciences to Local Scale Effects and Adaptation: Part One</p> <ul style="list-style-type: none"> • Moderator: Michael Brody (George Mason University) • A Proposed Central Asian Regional Hydroclimate Project to Support Sustainable Development Goals in the International Context Peter van Oevelen, Michael Brody (both at International GEWEX Project, George Mason University) • Reconstruction of Hydrometeorological Data Using Dendrochronology and Machine Learning Approaches to Bias-Correct Climate Models in Northern Tian Shan, Kyrgyzstan Erkin Isaev, Maksim Kulikov, Roy C. Sidle (all three at UCA); Vitalii Zaginaev, Mariash Ermanova, Dogdurbek Chontoev (all three at Kyrgyz National Academy of Science) • The Value of New Information - Remote Sensing to Improve Adaptation Planning and Investment Alexander Golub (American University, Washington DC)
	<p>SESSION 0.2 Online Session: Gender in Central Asia</p> <ul style="list-style-type: none"> • Moderator: Susan Steiner (Leibniz University Hannover) • Gender in Kazakhstan's Energy Sector Zauresh Atakhanova, Peter Howie (both at Nazarbayev University) • Kinship, Women and Property in Central Asia Aksana Ismailbekova (Leibniz-Zentrum Moderner Orient, ZMO) • The Role of Gender and Birth Order in Child Nutrition: Evidence from Kyrgyzstan Manzura Jumaniyazova, Janina Steinert (both at Technical University of Munich), Cara Ebert (RW Leibniz Institute for Economic Research) • Bride Abduction, Depression, and Labor Market Outcomes Charles Becker (Duke University), Susan Steiner (Leibniz University of Hannover), Lin Zhao (Duke University)

DAY 2: Tuesday, October 11, 2022

08:30-09:00	Registration of Participants
09:00-09:20	Opening Remarks <ul style="list-style-type: none"> • Christopher Gerry, UCA • Nurgul Ukueva, AUCA • Izzat Kurmangaliyev, Mercy Corps • Saida Ismaulakhunova, World Bank • UN/UNFPA Representative • Tilman Brück, HU/IGZ/ISDC
09:20 - 10:30	PLENARY SESSION Keynote I: Economic Persistence Despite Adverse Policies <ul style="list-style-type: none"> • Prof Alisher Aldashev (Kazakh-British Technical University)
10:30-10:35	Group Photo
10:35-11:00	<i>Coffee Break</i>
11:00-12:30	PARALLEL SESSIONS SESSION 1.2 Agrarian Change, Water Issues and Environmental Dynamics: New Evidence from Central Asia <ul style="list-style-type: none"> • Moderator: Janyl Ismailova (UCA) • Climate Change Related Agriculture and Irrigation Water Challenges in a Small, Snow Fed Mountain Basin in Pamir, Tajikistan: Case Study from Porshinev Aslam Qadamov (UCA) • A Woman and Water: Access, Governance, and Labour Altyn Kapalova (UCA) • Agrarian Change in the Migration Affected Mountainous Regions of Kyrgyzstan Asel Murzakulova (UCA)
	SESSION 1.3 Demography and Population Dynamics in Kyrgyzstan <ul style="list-style-type: none"> • Moderator: Baktybek Kainazarov (UNFPA) • Youth Wellbeing and Development Index Elnura Kalybaeva, Azamat Dikambaev (both Eurasia Foundation of Central Asia) • Active Aging Policy of the Kyrgyz Republic Svetlana Bashtovenko (Older People Resource Center), Alexander Sidorenko (European Centre for Social Welfare Policy and Research) • Situation Analysis of Older People in the Kyrgyz Republic Asel Iusupova (Older People Resource Center), Evgeniya Karpovich (Center for Democratic Research) • Assessment of the Sexuality Education in the Kyrgyz Republic Galina Chirkina (Alliance for Reproductive Health)

	<p>SESSION 1.4 Biting or Bitten Dragon? Tracing Chinese Capital in Kyrgyzstan</p> <ul style="list-style-type: none"> • Moderator: Przemyslaw Oziarski (PIL Research Company, CASCADD) • Imported or Indigenous? The Multifaceted Character of Corrosive Capital in Chinese Investment Projects Elnura Omurkulova-Oziarska (PIL Research Company, CASCADD) • Chinese Investments and Governance Challenges in the Kyrgyz Republic Gulnara Ibraeva (PIL Research Company) • Perception and Misperception of Foreign Private Security Companies in Kyrgyzstan. The case of Chinese PSCs Przemyslaw Oziarski (PIL Research Company, CASCADD)
12:30-13:30	<i>Lunch</i>
13:30-15:00	<p>PARALLEL SESSIONS</p> <p>SESSION 1.5 Agri-food Developments</p> <ul style="list-style-type: none"> • Moderator: Kanat Tilekeyev (UCA) • Agricultural Commercialization and Welfare in Kyrgyzstan Damir Esenaliev (IGZ/ISDC), Golib Sanaev (IAMO) • Price and Income Elasticities of Food Products in Kyrgyzstan Nurbek Madmarov (AUCA), Junus Ganiev, Damira Baigonushova (all Kyrgyz-Turkish Manas University) • What's New on Research Agenda? A Bibliometric Review of New Trends in the Relationship Between Innovation and Food Gulnara Djunushalieva (UCA), Ramona Teuber (JLU)

SESSION 1.6 Climate Change in Central Asia: from the Foundation in Physical Sciences to Local Scale Effects and Adaptation: Part Two

- Moderator: **Maksim Kulikov** (UCA)
- Rivers Beyond Water Resources: An Interdisciplinary View on the Impact of Climate Change and Hydropower Exploitation on the Riparian Ecosystems of the Naryn River in Kyrgyzstan
Florian Betz, Magdalena Laueremann, Pauline Reese, Bernd Cyffka (Catholic University Eichstätt-Ingolstadt); Timo Schaffhauser, Markus Disse (Technical University of Munich); Kedar Mehta, Jakob Behringer, Wilfried Zörner (TH Ingolstadt); Siegmund Missall (University of Sustainable Development Eberswalde); Akylbek Chymyrov (KSUCTA); Dogdurbek Chontoev (National Academy of Science of the KR); Nadira Degembaeva, Kuban Akmatov, Ermek Baibagyshov (Naryn State University)
- Vegetation Trend Analysis in Batken Oblast of Kyrgyzstan
Maksim Kulikov (UCA)
- Impact of Climate Change and COVID to Air Pollution in Bishkek
Erkin Isaev, Roy C. Sidle (UCA); Boobek Ajikeev, Urmatbek Shamyrganov (Ministry of Emergency Situation); Kenjebek-uulu Kalnur, Karimov Maisalbek (The Agency on Hydrometeorology)

SESSION 1.7 Kyrgyzstan Gender-based Violence Service Gap Analysis

- Moderator: **Gulnara Ibraeva** (PIL Research Company)
- The Gaps in Institutional Preventive Mechanisms
Gulnara Ibraeva (PIL Research Company), Mehrigiul Ablezova (PIL Research Company, AUCA)
- Analysis of Criminal Legislation and Judicial Practice Towards Gender-based Violence
Eugeniya Krapivina, Indira Sautova (PIL Research Company)
- Frame-analysis of GBV in Kyrgyzstan's Media (Russian and Kyrgyz Language Media Sources)
Asankhojo Isaev (AUCA)

15:30-16:00

Coffee Break

16:00-17:30	<p>PARALLEL SESSIONS</p> <p>SESSION 1.8 Engaging Schools and Communities in Development: Cases of Nutrition and School Management Interventions</p> <ul style="list-style-type: none"> • Moderator: Anel Kulakhmetova (UCA) • Engaging Communities for Better Schools: Case of Kyrgyzstan Temirlan Jailobaev (Empirica Research and Consultancy Institute), Rakhat Ismanbaeva (AKF), Dilbara Kirbasheva (MSDSP), Marc-Antoine Adam (AKF), Kanykey Jailobaeva (Institute for Global Health and Development), Gulsaadat Baialieva (Empirica Research and Consultancy Institute) • Nutrition Status of Children and Women and Nutrition Interventions Aida Abdyldaeva (USAID) • Nutrition, Gender and Decision-Making: Insights from “Advancing Nutrition” Project by USAID in Kyrgyzstan Philipp Schröder (ISDC)
	<p>SESSION 1.9 Informality in the Textile and Apparel Cluster in Kyrgyzstan: in the Search of the Formalization Routes</p> <ul style="list-style-type: none"> • Moderator: Kanat Tilekeyev (UCA) • Informality in Kyrgyzstan and in the Textile and Apparel Cluster Baimat Niiazaliev (UCA) • Business Models in the Garment Industry Gulnara Djunushalieva (UCA) • Why Do Seamstresses Work Informally? Bakytbek Tokubek (UCA) • Policy Discussion and Recommendations on Improving Formalization in the Textile and Apparel Sector in Kyrgyzstan Kanat Tilekeyev (UCA)
	<p>SESSION 1.10 Civic and Community Engagement for Development</p> <ul style="list-style-type: none"> • Moderator: Kemel Toktomushev (UCA) • Do Women Have a Voice? Evidence of Gender Segmentation in Civic Engagement in the Kyrgyz Republic Marzhan Aikimbaeva (UCA) • COVID-19 Impact on Volunteering in Kyrgyzstan Nuraiym Syrgak kyzy, Sofiya Ushirova (Evidence Central Asia)
18:00-21:00	Reception at Orion Hotel

Day 3, October 12, 2022

08:30-09:00	Registration of Participants
09:00-10:15	<p>PLENARY SESSION</p> <p>Keynote I: The Effect of Income Shocks on Rural Livelihoods</p> <ul style="list-style-type: none"> • Dr Katrina Kosec (International Food Policy Research Institute) <p>Moderator: Tilman Brück (Humboldt University, IZG, ISDC)</p>
10:15-10:45	<i>Coffee Break</i>
10:45-12:30	<p>PARALLEL SESSIONS</p> <p>SESSION 2.2 World Bank Session: Poverty and Gender in the Kyrgyz Republic: Trends and Policies.</p> <ul style="list-style-type: none"> • Moderator Saida Ismailakhunova (World Bank) • Poverty and Vulnerability in the Kyrgyz Republic: Trends, Drivers and Challenges Saida Ismailakhunova (World Bank) • Gender Assessment for the Kyrgyz Republic Aibek Ashirov (World Bank) • Fiscal Incidence Analysis: Distributional Impact of Fiscal Policy Aliya Ismailakhunova (Academy of Sciences), Saida Ismailakhunova (World Bank) • Pension Reform in the Kyrgyz Republic and Why It Is Important for Poverty Gulnur Kerimkulova (National Bank of the Kyrgyz Republic)
	<p>SESSION 2.3 Biodiversity Conservation and Natural Resources: Session Two</p> <ul style="list-style-type: none"> • Moderator Maksim Kulikov (UCA) • Comparison of Sentinel-2 and UAV Multispectral Data for Use in Monitoring of Wild Fruit Forest in Mountainous Kyrgyzstan: An Application from Jalal-Abad Region Erkin Isaev, Maksim Kulikov, Evgenii Shibkov, Roy C. Sidle (UCA) • Identification of Individual Tree Species Using UAV Multispectral Data and Convolutional Neural Networks for High-resolution Mapping and Habitat Modelling in Walnut-fruit Forests of Jalal-Abad region Maksim Kulikov, Erkin Isaev, Evgenii Shibkov (UCA) • Analysis of Livelihood Strategies of Silvopastoral Households in Walnut-fruit Forests of Kyrgyzstan Azamat Azarov, Maksim Kulikov, Roy C. Sidle (UCA); Zbynek Polesny, Vladimir Verner (Czech University of Life Sciences Prague); Dietrich Darr (Rhine-Waal University of Applied Sciences)

	<p>SESSION 2.4 Places of Memory</p> <ul style="list-style-type: none"> • Moderator: Gulzat Alagoz (Research Platform ESIMDE) • Memory of the “Historical” Homeland Baktygul Midinova (Osh Art Museum) • Ürkün Memory Places Gulzada Abdalieva (Kyrgyz State University after Arabaeva) • Significance of the Toktogul Hydroelectric Power Station Talgat Djumashev (SILK) • The Policy of “Raskulachivanie” and Expulsion: a Case of Special Settlers from Kyrgyzstan to Ukraine during 1929-1933 Gulzat Alagoz (Research Platform ESIMDE)
12:30-13:30	12:30-13:30
13:30-15:00	<p>PARALLEL SESSIONS</p> <p>SESSION 2.5 Poverty and Household Consumption</p> <ul style="list-style-type: none"> • Moderator: Damir Esenaliev (IGZ, ISDC) • Chronic and Transitory Poverty in the Kyrgyz Republic Aigerim Kydyralieva (National Bank of the Kyrgyz Republic) • Herding and Status Seeking Behavior: Evidence from Conspicuous Consumption at Social Events in Kyrgyzstan Kadyrbek Sultakeev (Justus-Liebig Universität Gießen), Susan Steiner (Leibniz Universität Hannover) • Determinants of Households’ Poverty in Livestock Sector: Case of Kyrgyzstan (2010-2016) Valeriia Stashevskaya, Gulnara Nurieva (AUCA)
	<p>SESSION 2.6 Macroeconomic Developments in Kyrgyzstan</p> <ul style="list-style-type: none"> • Moderator: Gulnur Kerimkulova (National Bank of the KR) • Issues of Promoting the Principles of Green Economy in the Kyrgyz Republic Ermek Ashyrov (Ministry of Economy) • The Role of the Bank Lending Channel in the Transmission of Monetary Policy in the Kyrgyz Republic Cholpon Sharshembaeva (National Bank of the KR) • Estimating the Impact of Regional Economic Integration on Trade of Small Economies: the Bayesian Synthetic Control Method Applied on Armenia and Kyrgyzstan Salima Bekbolotova (UCA-DAAD Scholar), Nodir Djanibekov (IAMO)

SESSION 2.7 Biodiversity Conservation and Natural Resources: Session Two

- Moderator: **Maksim Kulikov** (UCA)
- Connecting the Dots for Snow Leopard Conservation in Kyrgyzstan
Koustubh Sharma (Global Snow Leopard and Ecosystem Protection Program),
Kubanychbek Jumabai Uulu (Snow Leopard Foundation in Kyrgyzstan)
- Building Capacity to Protect Besh Aral Meadows, Marmots and Megafauna in Kyrgyzstan
Mariia Cherniavskaia, Ormon Sultangaziev (Fauna & Flora International)
- Survey of Wild Animals Using Photo Traps in Kyrgyzstan
Zairbek Kubanychbekov, Maksim Koshkin (ILBIRS Foundation)

15:30-16:00

Coffee Break

16:00-17:30

PARALLEL SESSIONS

SESSION 2.8 Informal Employment and Income Effects of Migration

- Moderator: **Kadyrbek Sultakeev** (AUCA)
- Social Security and Informal Employment in Kyrgyzstan
Razia Abdieva (Kyrgyz-Turkish Manas University)
- Interaction Between Gender and Informality in Small and Medium-sized Enterprises in Kyrgyzstan: How Informal Rules Enable and Constrain Female Entrepreneurship
Alberica Camerani (Dublin City University)
- Migration, Remittances and Income Inequality in Kyrgyzstan: Evidence from the Life in Kyrgyzstan Survey
Jodar Joldoshov (CEU)

SESSION 2.9 Impacts of Development Interventions and Shocks

- Moderator: **Baimat Niiazaliev** (UCA)
- Impact Evaluation Study of Rehabilitation of Irrigation Canals in Southern Kyrgyzstan
Kanat Tilekeyev (UCA), Dilbara Kirbasheva (MSDSP)
- Livestock Breed Improvement to Increase Farmers' Incomes and Prevent Pasture Degradation: Shifting from Livestock Quantity to Quality
Dilbara Kirbasheva (MSDSP)
- Climate Vulnerability Assessment of Transhumant Pastoralists of Temir-Kanat
Matthew Raulerson (University of London)
- Economic Assessment of Ecosystem Services of the Naryn State Natural Reserve
Damira Omuralieva, Asan uuly K (Kyrgyz National Agrarian University)

	<p>SESSION 2.10 Planning and Investment in Infrastructure in Central Asia: Assessment of Sustainability</p> <ul style="list-style-type: none"> • Moderator: Madina Junussova (UCA) • Welcome from the SIPA IPPA and OECD teams Christopher Gerry (UCA), Peline Atamer (OECD) • Sustainable Infrastructure for Low Carbon Development in Central Asia and the Caucasus Peline Atamer (OECD) • The Impact of Infrastructure Projects on the Sustainability of the Transport and Logistics Business in Central Asia Aisulu Taisarinova (Kazakh-German University) • A Void in Central Asia Research: Climate Change Roman Vakulchuk (Norsk Utenrikspolitisk Institutt, NUPI)
19:00-20:30	<p>ONLINE PARALLEL SESSIONS</p> <p>SESSION 2.11 Online Session: Agriculture and Infrastructure</p> <ul style="list-style-type: none"> • Moderator: Tilman Brück (Humboldt University, IZG, ISDC) • Does Adoption of Zero Tillage Save or Intensify Production Costs? Evidence from Kyrgyzstan Abdusame Tadjiev (IAMO), Nodir Djanibekov (IAMO) • Weather Shock Experience and Risks Preferences of Livestock Keepers: Evidence from Kyrgyzstan Michael Bödecker (HU) • Household Response to Improvements in Water Infrastructure: Evidence from Periurban Kyrgyz Republic Michelle Brock, Elcin Akcura, Leon Bost (EBRD)
	<p>SESSION 2.12 Online Session: Employment, Migration, Education</p> <ul style="list-style-type: none"> • Moderator: Kathryn Anderson (Vanderbilt University) • Employment Support Policies in the Kyrgyz Republic: Challenges and Opportunities Eugenia Pesci (University of Helsinki, Finland) • Temporary International Migration, Shocks and Informal Finance: Analysis Using Panel Data Tanika Chakraborty (IZA, GLO, IIM Calcutta), Manish Pandey (University of Winnipeg) • (Un-)Learning during a Pandemic: Evidence from Kyrgyzstan Wolfgang Stojetz (ISDC), Oscar Diaz Botia (ISDC), Damir Esenaliev (IGZ, ISDC), Tilman Bruck (HU, IGZ, ISDC)

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