



Agricultural Restructuring, Water Scarcity and the Adaptation to Climate Change in Central Asia: A Five-Country Study (AGRIWANET)

AGRIWANET is a pilot project for partnership in research and education with the Central Asian countries composed of a consortium of seven mutually-independent institutions based in six different countries. The lead institution of the project is the Leibniz Institute of Agricultural Development in Transition Economies (IAMO).

The project is supported by the German Federal Ministry of Education and Research (BMBF) and runs from 2014 to 2016.

Project background

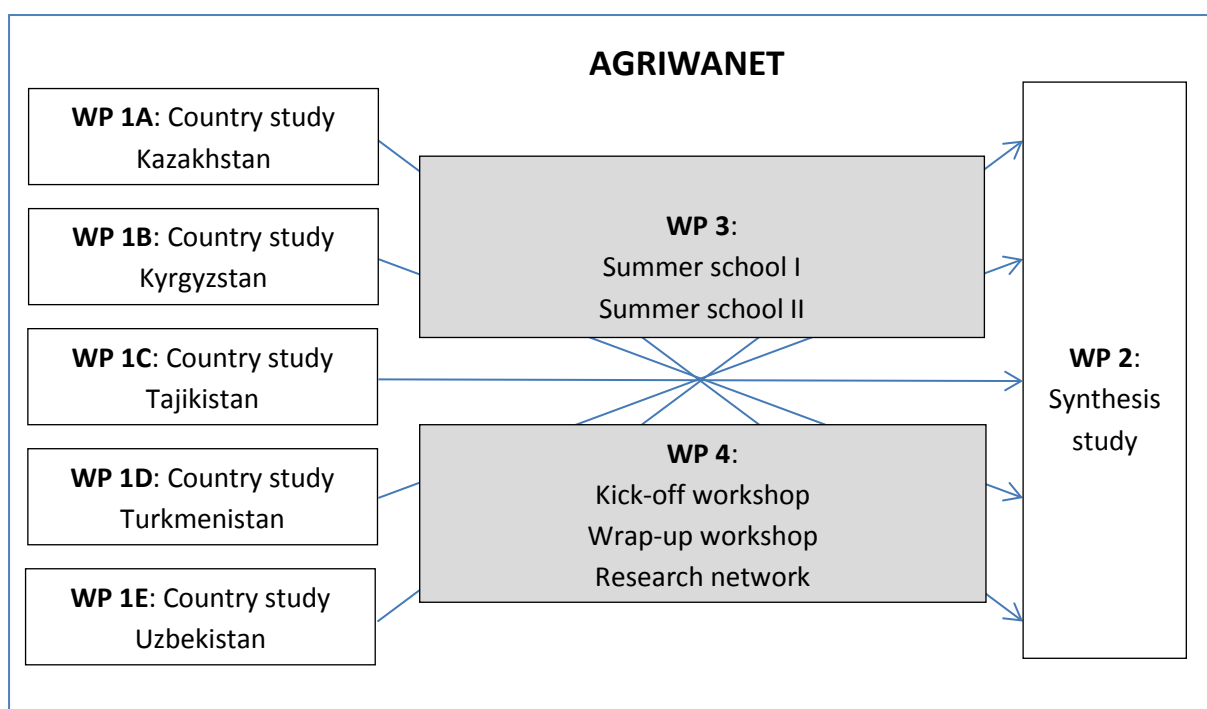
As climate change is projected to increase water scarcity and water supply variability, the challenge of water management in the five Central Asian nations of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (CA5) is becoming more salient than ever. A main water user in all these countries is agriculture, and this sector continues to be important as a source of export revenue, domestic food security and income for rural people. The improvement of the nations' adaptive capacity to growing water supply volatility and scarcity by rehabilitation and modernization of their irrigation infrastructures is costly. Furthermore, it is questionable whether a purely technical approach is effective in addressing the underlying problems. Agricultural reorganization is a crucial determinant of the regional resilience to climate change and water scarcity. It includes the restructuring of agricultural production, adjustments in farm structures and farming patterns as well as reforms in land and water use. Therefore, the **goal** of the AGRIWANET project is to shed new light on the complex interrelation between water supply and farm organization in Central Asia.

The **key idea** of the project is to assemble a cross country database on water management and agricultural performance from domestic statistical sources, to train young researchers from CA5 in analyzing this data within a team of senior scientists from Germany, CA5, and affiliated international organizations, to engage in networking with these partners and to use the output in the form of a synthesis report as a basis for future joint research activities. Coverage of all five countries, support to capacity building and the education of young researchers as well as the utilization of statistical

data provided by domestic agencies figure prominently in achieving this goal. Even so, the analysis has also much to offer for the international development research community. Twenty years of experience in CA5 provide a fertile ground for comparative analysis that speaks to general issues in agricultural development. For example, there is considerable disagreement on whether an agricultural development strategy should focus on the promotion of cash crops to generate export earnings or on food staples to improve domestic food security. A key aim is to learn the lessons from this experience by combining local insights with an international, cross-country research perspective. The project results will bring a common understanding to scattered studies on agricultural restructuring and water use and, ultimately, the coherence of the individual measures the CA5 countries have been implementing.

Structure

AGRIWANET offers an exploratory and explanatory science-based capacity building project to examine the complex set of factors determining the relationships between water use and agricultural reforms, and to provide insights for improving the capacity for conducting agricultural policy research in the region. The project is organized into eight work packages:



Six work packages (WPs 1A-1E, and WP2) form the **research part** of the project, while other two work packages (WPs 3 and 4) form the **capacity building part** of the project.

In the **research part**, the country studies will provide a background for each country on socioeconomic conditions of the agricultural sector, regional trends in farm restructuring, land and water use, emerging business models, and accompanying water management reforms in agriculture. The cross-country comparison will be used to investigate how vulnerable certain organizational forms or patterns of agricultural production are to water availability, as well as causal relations between agricultural restructuring and resilience to varying water supply. The methods employed for this research will comprise panel data collection, econometric techniques, spatial mapping and descriptive analysis. The analysis within the indicated topics also comprises the description of policies and national strategies related to climate change.

The **capacity building part** serves to improve the analytic capacities of the young researchers coming from the five partner institutions, to strengthen the cooperation among the Central Asian, German and international partners of the project, to present and discuss results, and to provide the basis for a long-term partnership including future joint project applications.

Within the project structure, the researchers at IAMO coordinate the project and - prepare the synthesis study. Together with colleagues from the Martin Luther University Halle-Wittenberg project's summer schools are carried out. Researchers at five CA5 research organizations prepare the country studies which are analyzed together with the German colleagues. Young researchers can take part in training activities and in the project workshops. Researchers and staff from international partner organizations review the project progress and output and ensure its relevance for practical policy and decision making.

Consortium

[Leibniz Institute of Agricultural Development in Transition Economies \(IAMO\), Halle \(Saale\), Germany](#)

Martin Luther University Halle-Wittenberg, Halle (Saale), Germany

[Prof. Michael Grings](#)

[Prof. Dr. Insa Theesfeld](#)

Kazakhstan Association of Economists (KAE), Astana, Kazakhstan

Dauren Oshakbaev

[Institute of Public Policy and Administration \(IPPA\), University of Central Asia, Bishkek, Kyrgyzstan](#)

Dr. Roman Mogilevskii

Centre of Economic Researches (CER), Dushanbe, Tajikistan

Prof. Dr. Khodjamakhmad Umarov

Tebigy Kuwwat Social Unit Enterprise, Ashgabat, Turkmenistan

Gurbanmyrat Ovezmyradov

[Center for Economic Development \(CED\), Tashkent, Uzbekistan](#)

Yuliy Yusupov

Contact info

[Prof. Dr. Martin Petrick](#)

Tel: +49 345 2928-120

petrick@iamo.de

[Dr. Nodir Djanibekov](#)

Tel: +49 345 2928-128

djanibekov@iamo.de