

iamo

Leibniz Institute of Agricultural Development  
in Transition Economies



Deutscher Akademischer Austauschdienst  
German Academic Exchange Service



# CAWAMNET Workshop

## Central Asian Water Conflict and Migration Network

27-28 April 2023, Tashkent

## Workshop aim

- Identify policy needs and entry points for policy development at the national and regional levels enabling and supporting water cooperation and security, thereby preventing displacement
- Identify research gaps in understanding the linkages between climate change, water scarcity, conflict, and migration in Central Asia and develop a research agenda for Central Asia on that topic
- Explore ideas for collaborations beyond CAWAMNET
- Outcomes shall be published as a scientific article and policy brief

## IAMO snapshot

- Founded in 1994 in Halle, Germany
- Member of Leibniz, an association of non-university research centers
- Core funding from Federal & State budgets
- 3 academic departments: Policies, Markets, and Structural Change
- 120 colleagues, approx. 25 nationalities, >40 PhD students

### Key tasks:

- Economic research on the agricultural & food sector in Central & Eastern Europe, Central Asia, Caucasus, China
- Training & promotion of young researchers
- A forum of academic exchange



## IAMO Central Asia Research Group

- Since 2019
- Cross-departmental network of scientists conducting interdisciplinary research on agricultural, socio-economic and ecological transformation processes in CA5
- Focus on research, knowledge transfer, and capacity building in the region
- <https://centralasia.iamo.de/>



## Outreach

- IAMO Policy Briefs
- Discussion Paper Series
- Studies on the Agricultural and Food Sector
- Annual IAMO Forum



## Workshop format and etiquette

- Informal, interactive format
- Information/knowledge sharing and brainstorming in groups
- Raising a hand to ask a question
- Let's keep smartphones muted



## Self-introduction round

1. Who am I (as a professional and private person)?
2. What are my expectations and needs for these two days?

## Follow up activity

### Scientific article, policy brief, blog post

- Forming a core group for write-ups

### Scientific workshop of CAWAMNET project

- 14-15 September in IAMO, Halle (Saale)
- 21 participants

### IAMO hosts 2 early-career researchers

- develop PhD proposals around CAWAMNET topics



## Housekeeping issues

- Please sign the list of participants
- Location of coffee breaks, lunch and dinner @ day 2
- Welcome dinner today at 19:00 in Koinot Restaurant – shuttle bus from the hotel
- For administrative questions please contact Irina Yugay (CAREC)
- Group photo after this session / during the first coffee break
- Agreement from our presenters if the presentations slides can be uploaded

## Climate change and water scarcity in CA5 (IPCC, 2023)

- Temperatures have risen significantly within recent decades
- Large increases in temperature extremes (**high confidence**)
- Increasing likelihood of heatwaves and droughts in arid and semiarid regions (**high confidence**)
- Asian countries could experience an increase in drought conditions (5–20%) by 2100 (**high confidence**)
- Droughts: long-lasting effects on agriculture, threatening water security, important vulnerability drivers
- Changes in glacial and snow melt affect water availability (nearly 98% of the river discharge in Central Asia comes from the mountainous regions )
- Limited adaptation to extreme events
- Lack of scientific literature (Vakulchuk et al., 2022, Mirzabaev, 2023)

## Water reforms with national self-sufficiency priority

- **Farm fragmentation** and **market liberalization** required the water sector reforms
  - In 2000s CA5 became international “hotspot” for **water sector reforms**
- Provided de jure **decentralization** and participatory water management
  - Organization of **water users associations** at the lowest water management level
- CA5 prioritized **self-sufficiency** in food, energy, perceiving water as a national resource (Abdullayev and Atabayeva 2012)
- New national water agencies, infrastructure and governance systems **incompatible across countries** (Abdullayev and Rakhmatullayev 2015)
- **Strong state presence** and **top-down planning** in the water sector (Wegerich et al. 2015)
  - Slow and non-cohesive implementation of integrated water resources management (IWRM) concept at national, river basin and farm scales (Zinzani 2015)
  - However, new formal rules and organizations are undermined by informal institutions (Sehring 2009)

## Reforms exert stress on water resources

- Water sector **unattractive for private investments**
- Absence of inclusive WUAs and integrative state basin water management agencies (Dukhovny et al. 2014)
  - **High operational water losses** due to chaotic top-down water management
- **Low water productivity, irrigation inefficiencies** and **water losses** as the most prominent characteristics of CA5 water use (Varis 2014)
  - Among the global most water-intensive economies
- Low irrigation efficiency implies **high costs of irrigation system operation**
- Irrigation sector's dependence on **heavy public subsidies**
  - Aggravated irrigation water scarcity in downstream areas
- **Irrigation conflicts** of local, upstream-downstream and cross-border nature (Bichsel 2013)

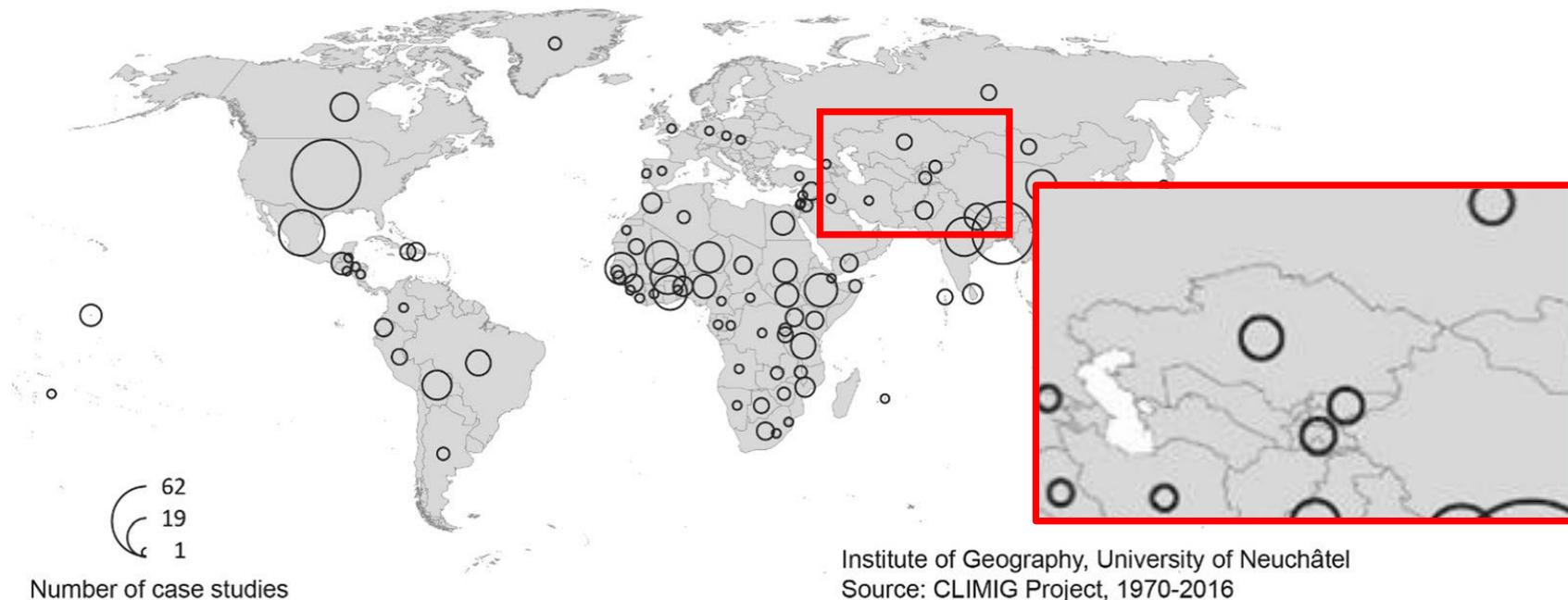
## The climate-water-migration nexus

- Assessing the role of climate change and water scarcity in migration is challenging
- Higher warming and associated changes in frequency and intensity of slow-onset events (drought and sea level rise) and rapid-onset events (cyclones and flooding) will increase involuntary displacement in the future (*medium confidence*)
- Ebb and Flow report (World Bank, 2021):
  - The absence of water has a greater impact on migration than an abundance of water
  - Water deficits result in 5 times as much migration as water excess
  - Water deficits are linked to 10% of the rise in global internal migration (btw. 1970 and 2000)
  - The notion of a “water migrant” is an overly broad generalization

## Climate change, water scarcity and mobility in CA5

- Approximately 10 million people are on the move in Central Asia, the majority coming from Tajikistan, the Kyrgyz Republic, and Uzbekistan (IOM, 2017)
- Tajikistan and the Kyrgyz Republic are among the top-five remittance-dependent countries in the world
- Labor migration of young people is the most important migration type
- No studies on the behavioral aspects of climate change adaptation from CA
- Central Asia: a major blind spot in climate-mobility studies (Piguet et al., 2018)
- Reasons: technical infrastructure, limited migration data/census data, lacking research interests and funding opportunities, especially for social science research on climate change (Vakulchuk et al. 2022)

# The world's case studies on environmental change and migration



November 2021: ten out of >1200 publications that address climate-migration linkages in Central Asia (< 1% of all database entries)

# Water management in Central Asia: state and impact



### Polluted water bodies

- Rivers and canals
- Lakes
- Groundwater
- Areas under threat of flood and of pollution due to mismanagement of upstream water reservoirs and hazardous waste storage sites

### Impact

- Former bed of the Aral Sea, uncovered area entirely desertified and saline
- Areas directly affected by the consequences of the shrinkage of the Aral Sea (toxic salts), leading to salinization and desertification
- Migration from environmentally degraded areas

### Concerns for the future and potential areas of tension

- Areas of intensive and inefficient irrigated agriculture practices with potential to sterilize soil and threaten human health
- Projected water infrastructure or management plans with conflict or international dimension

## Workshop agenda

After coffee break

11:00 - 12:00

- **Agricultural droughts and water pressure in irrigation systems of the Aral Sea Basin**  
*(Christopher Conrad (Martin Luther University of Halle-Wittenberg))*
- **CAREC projects to improve the resilience of the Aral Sea basin to climate change through a systemic approach and partnership**  
*(Irina Yugay (CAREC))*

12:00 – 13:00    Lunch break

13:00 – 15:15    **Session I: Policies toward adaptation to water scarcity**

15:15 – 15:45    Coffee break

15:45 – 18:00    **Session II: Water disputes and cooperation**

19:00              Welcome dinner at Koinot Restaurant

## Workshop agenda

09:00 Welcome

09:15 – 09:45

- Overview talk: **Climate change, water scarcity and migration in Central Asia** (*Harald Sterly (University of Vienna)*)

09:45 – 10:15 Coffee break

10:00 – 12:15 **Session III: Water users' adaptation strategies to water scarcity**

12:15 – 13:15 Lunch break

13:15 – 15:30 **Session IV: Migration and displacement as a consequence of water scarcity?**

15:30 – 16:00 Coffee break

16:00 – 17:00 Outlook and next steps

18:00 Dinner

## Day 1 sessions

- **13:00 Session I: Policies toward adaptation to water scarcity**
- *Chairs: Nodir Djanibekov (IAMO) and Iskandar Abdullaev (CAREC Institute)*
- **Lessons for adaptation policies from 30 years transboundary water allocation practices in the Amudarya** (*Dinara Ziganshina, Scientific Information Centre of the Interstate Commission for Water Coordination (SIC ICWC)*)
- **Pathways towards Water Security Economies in Central Asia** (*Shavkat Rakhmatullaev (World Bank)*)
- **15:45 Session II: Water disputes and cooperation**
- *Chairs: Kathleen Hermans (IAMO) and Dinara Ziganshina (SIC ICWC)*
- **Water use in Central Asia: Cooperation with some Conflict** (*Caroline Milow (GIZ)*)
- **How does climate change challenge the securitization discourse of Central Asia?** (*Aseil Murzakulova (University of Central Asia)*)

## Day 2 sessions

- **10:00 Session III: Water users' adaptation strategies to water scarcity**
- *Chairs: Nodir Djanibekov (IAMO) and Asel Murzakulova (University of Central Asia)*
- **Water users' cooperation as adaptation to water scarcity: Cases from irrigated areas of Kazakhstan and Uzbekistan** (*Nodir Djanibekov (IAMO)*)
- **Challenges of on-farm irrigation in emerging cluster system in Uzbekistan** (*Oytur Anarbekov (IWMI-CA)*)
- **13:15 Session IV: Migration and displacement as a consequence of water scarcity?**
- *Chairs: Kathleen Hermans (IAMO) and Benjamin Schraven (German Institute of Development and Sustainability (IDOS))*
- **Migration in the mountainous regions of Central Asia: survival strategy or adaptation to climate change: a history of research** (*Saodat Olimova (SHARQ Research Center)*)
- **Understanding the Nexus of Migration, Gender, Climate Change and Agriculture in Tajikistan** (*Tmnit Nur (International Organization for Migration (IOM))*)

## Structure of thematic sessions

- Each session with two moderators
- Two thematic presentations (30 minutes)
- Discussion of presentations (30 minutes)
- Moderated discussions in three groups:
  - Research and policy needs, and entry points for future research and policy development at national and regional levels (30 minutes)
  - Reporting back to all workshop participants and feedback (30 minutes)
  - Discussion of reports (15 minutes)

## Role of moderators in group discussions

- Discussants are encouraged to discuss specific real-world cases/examples
- Emphasis of discussion should be put on agricultural systems and rural areas
- Assign a person who will take notes (digitally) and report to the audience