

# Dealing with climate risks in Central Asia: KlimALEZ and IPReS projects of IAMO

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- KlimALEZ-Increasing Climate Resilience via Agricultural Insurance
- IPRoS – An Innovative Pilot Program on the Re-Integration of Scientists to Central Asia

- Need to improve research capacity in Central Asia
- Importance of transforming the higher education system
- Climate change as the most urgent issue in the region requiring further research
- Scarcity of research in value chains under climate change in Central Asia
- Resilience of agricultural producers need to be increased
- Agricultural insurance may contribute to better adaptation potential

# KlimALEZ-Increasing Climate Resilience via Agricultural Insurance

# KlimALEZ: Increasing climate resilience via agricultural insurance



KlimALEZ

## Project activities

- Design of an index-based drought insurance
- Investigating demand for index insurance
- Piloting index insurance
- Impact assessment

**Funding:** BMBF

**Duration:** 2018-2022

## Consortium:

- Research institutes
- Insurance and re-insurance companies

# IAMO Team and Consortium



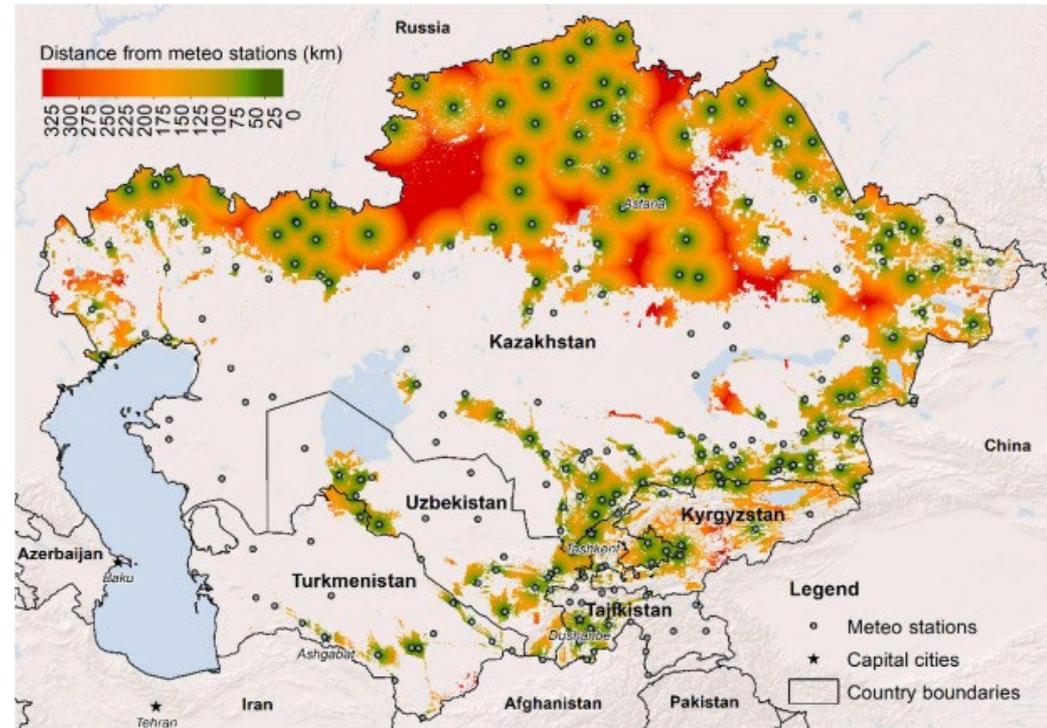
KlimALEZ team at IAMO



Project consortium and partners

## Index for Central Asia and Mongolia

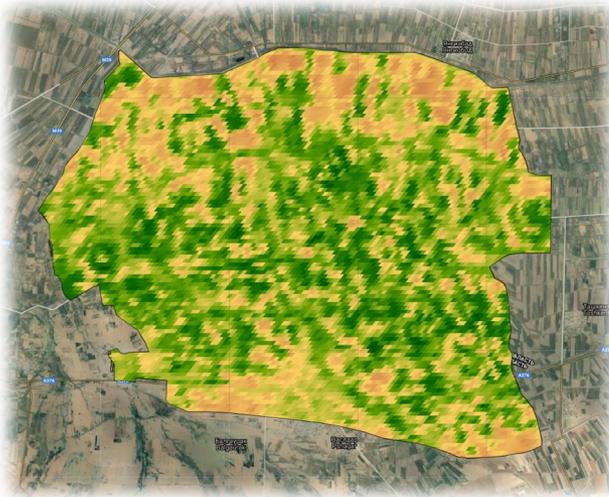
- Open-source satellite based weather data GSMaP, CHIRPS and GLDAS as good sources for index insurance products
- Vegetation indices at large more accurate than rainfall indices
- Vegetation indices especially advantageous in rainfed and mixed farming regions



**Density of weather stations in Central Asia**

Source: Eltazarov et al. 2021

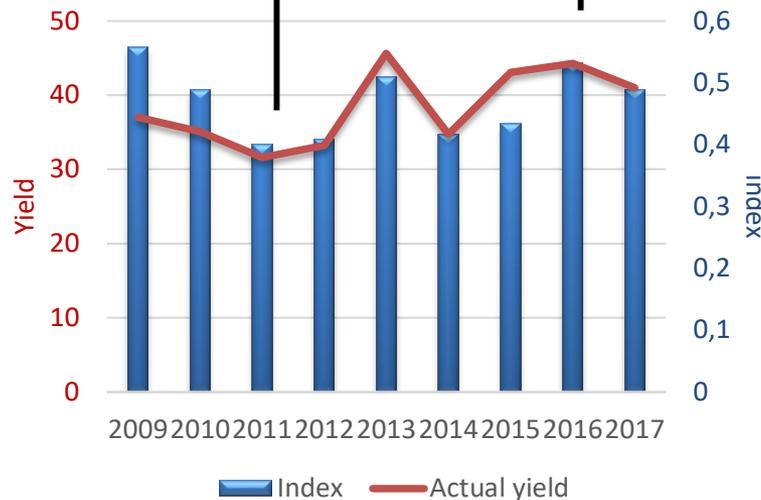
# Vegetation index for wheat



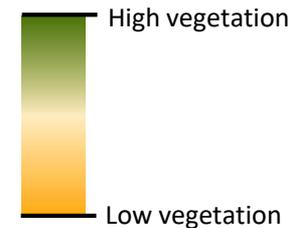
Index values in 2011



Index values in 2016



Example:  
Zarbdar district,  
Djizzakh province



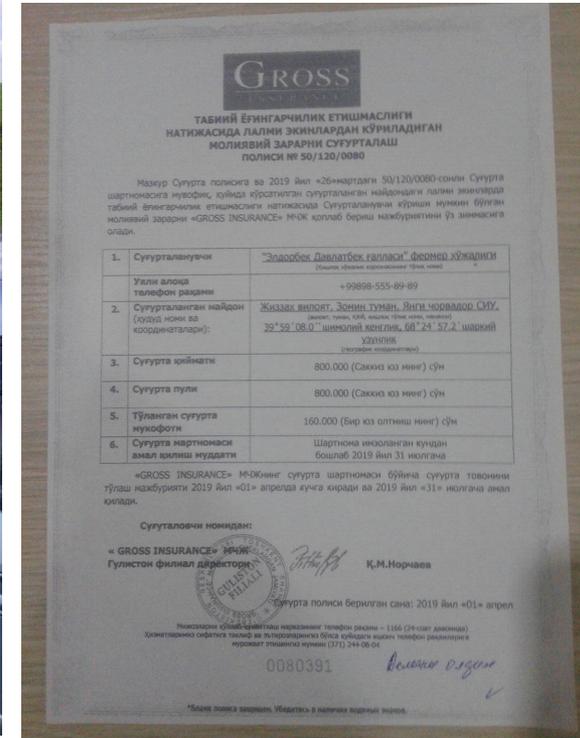
# Demand analysis and scientific extension

- Insurance experiments (140 farmers in Kyrgyzstan, 200 farmers in Uzbekistan)
- Farm surveys (2830 farms in Kyrgyzstan, Mongolia and Uzbekistan)

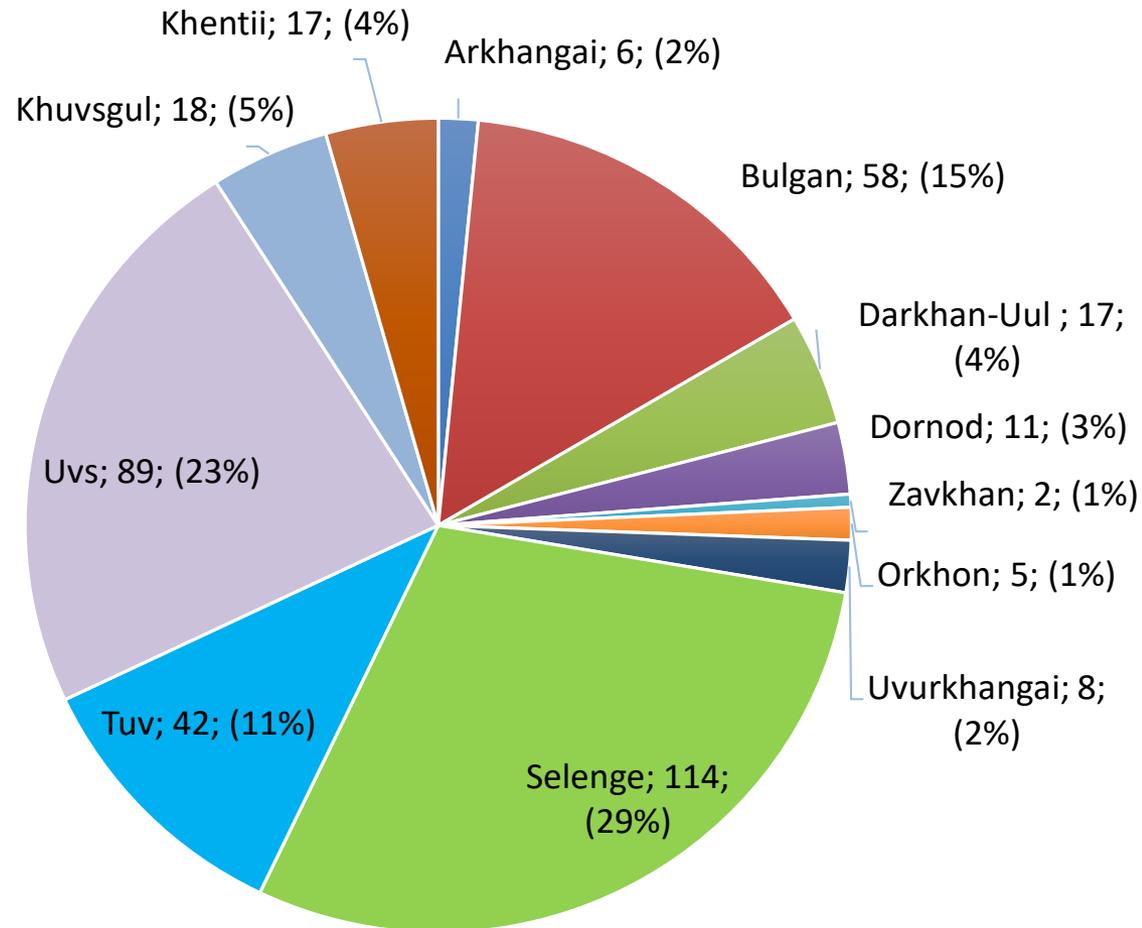


# Micro-piloting activities in Uzbekistan

- Small number of contracts sold in Zomin district
- Satellite based rainfall insurance
- IAMO is functioning as a settlement agent
- Piloting activities already indicated needs for improvement for the next season



- On initiative of Ministry of Agriculture
- 387 farmers and 22,488 ha insured in 2020
- Insurance of 30% of subsidized loans
- 30% of premium paid in advance, 70% after the harvest
- Vegetation index developed by IAMO
- IAMO serves as a settlement agent



**Distribution of insured farms across provinces**  
(in brackets: % of wheat area covered)

- Demand for insurance is high but adoption rates are only significant when combined with other products (e.g. credit)
- Previous negative experiences damage farmers' trust persistently
- Piloting activities also serve capacity building on side of insurance companies
- Small-scale pilots are necessary for product testing and demand analysis
- Positive impacts of short-term pilots are limited → piloting activities should last several harvest periods

# **IPReS – An Innovative Pilot Program on the Re-Integration of Scientists to Central Asia**

- Contribute to the transformation and internationalization of higher education and research systems in Central Asia
- Establish cooperation between Uzbek and German scientists
- Conduct novel research on climate change and value chains



- Impact of climate change on agriculture and adaptation in Samarkand region, Uzbekistan (Sherzod Babakholov)
- Analysis of climate change impacts and adoption of land leveling measures (Mashkhura Babadjanova)
- Impact of crop diversification on agricultural efficiency in Uzbekistan (Abdulla Primov)
- Resilience of livestock farmers in Mongolia (Daniel Schau)
- Options to develop the value chain in the fruit and vegetable sector (Sirojiddin Eshmatov)

- Establishment of a chair in "International Agricultural Economics" at Tashkent State University
- Defense of three PhD students of the project in 2021 and 2022
- Policy transfer and close cooperation with the Uzbek Ministry of Agriculture
- Several third-party funds obtained (e.g. USAID, EEGA)
- Several organized sessions at regional and international conferences (e.g., Kokand Conference, IAMO Forum)
- Active participation in the transformation of the education system in Uzbekistan

**Thank you for your attention**