



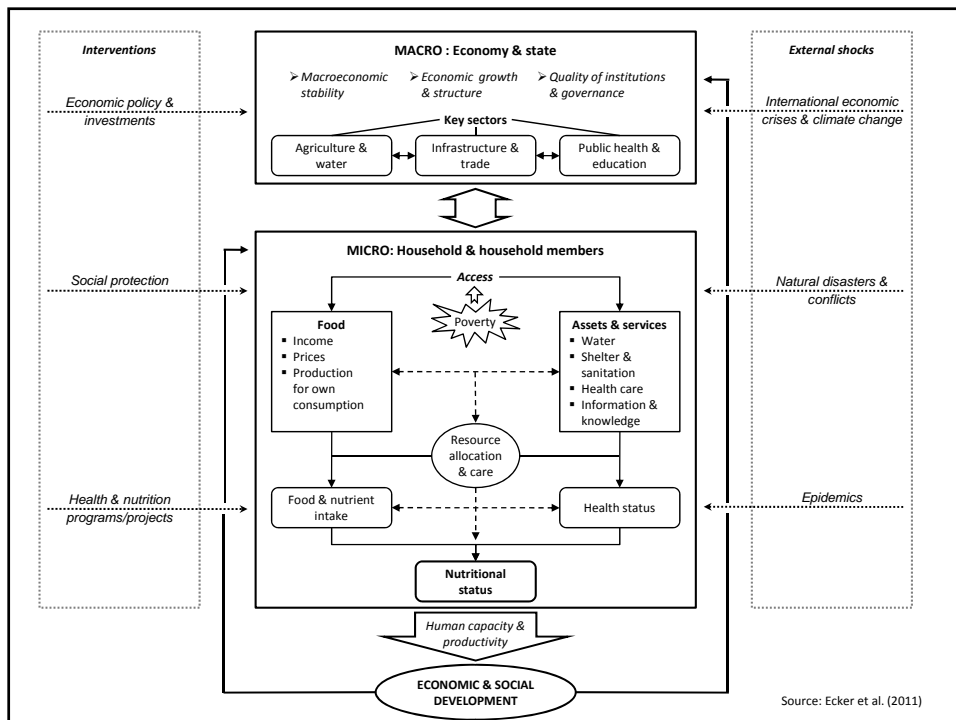
**INTERNATIONAL FOOD  
POLICY RESEARCH INSTITUTE**  
sustainable solutions for ending hunger and poverty

## Food Policy Research in Central Asia: Evidence, Implications and Future Research

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## Outline

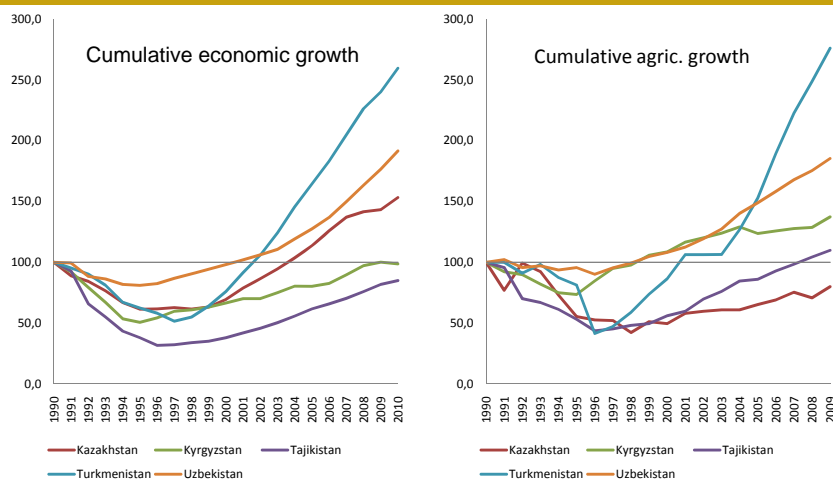
- Background on global trends
- Current state of food security in Central Asia
- Impact of recent food and financial crises on food security
- Resource and institutional constraints for agricultural development
- Policy implications
- Future research

## Background on global trends

- Food prices declined substantially from its peak in 2008 but food price inflation remains high in many developing countries
- Weather-related yield variability and price volatility remain as main threats
- Commodity prices are expected to remain not only high but also highly volatile over the next decade
- Agricultural production has to increase by 60% by 2050 to meet rising demand for food
  - Arable land area is projected to increase by less than 5%; additional production will need to come from increased productivity
  - Eurasian countries may become much more source of food (cereal) exports

Source: OECD-FAO (2012); IFPRI (2012)

### Food security in CA improved as economic and agricultural growth recovered



Source: World Bank (2011) & National statistical agencies

### Nevertheless, many countries in the region continue to face serious food security challenges

	GNI per capita, \$ PPP (2010)	Food Supply (kcal/capita/day)	Food imports/Total exports	Global hunger index, % (2011)	Prevalence of undernourishment, % (latest data)
Armenia	5354	2280	18.2	9.5	22
Azerbaijan	9869	2961	3.1	<5	-
Georgia	5035	2859	21.3	<5	-
Kazakhstan	12050	3490	3.1	<5	-
Kyrgyzstan	2257	2644	15.9	5.5	10
Tajikistan	2149	2118	20.4	17.0	30
Turkmenistan	7832	2731	1.4	6.2	6
Uzbekistan	3090	2581	5.8	6.3	11
Bangladesh	1643	2281	15.9	24.5	27
Nepal	1190	2360	26.3	19.9	16
Yemen	2485	2068	20.0	25.4	31

Source: World Bank (2011); FAO (2011); IFPRI (2011); Akramov & Shreedhar (2012)

## Evidence on impact of financial crisis on household consumption

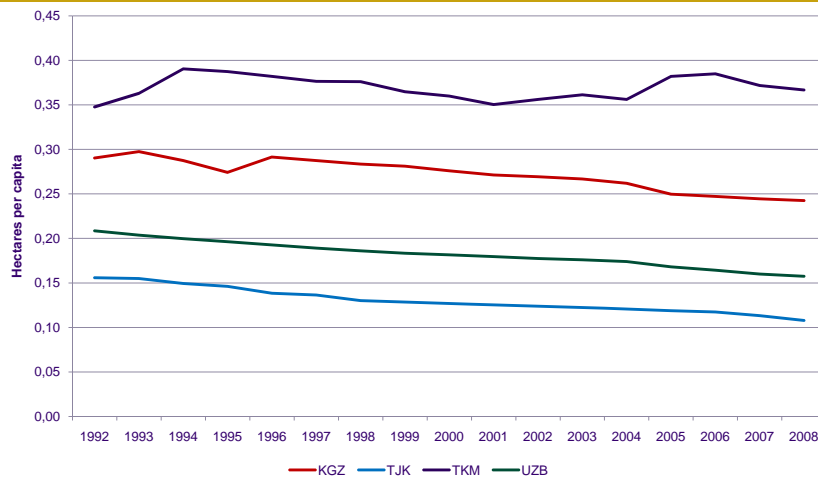
Dependent variable	Base response		Overall response	
	(1)	(2)	(3)	(4)
Crisis impact index	0.287 (0.027)***		0.603 (0.045)***	
Job loss		0.491 (0.071)***		0.756 (0.119)***
Close business		0.322 (0.117)***		0.889 (0.198)***
Less wages		0.306 (0.066)***		0.613 (0.112)***
Less remittances		0.240 (0.073)***		0.684 (0.124)***
Informal borrowing	0.307 (0.072)***	0.292 (0.073)***	0.246 (0.121)**	0.234 (0.123)*
Formal borrowing	0.121 (0.142)	0.041 (0.138)	0.323 (0.237)	0.241 (0.241)
Applied for public benefit	-0.381 (0.193)**	-0.347 (0.223)**	-0.221 (0.321)	-0.155 (0.325)
Received public benefit	0.545 (0.223)**	0.467 (0.223)**	0.262 (0.373)	0.163 (0.378)
Owns a car	0.010 (0.068)	0.023 (0.068)	0.160 (0.113)	0.180 (0.114)
Owns a second residence	-0.328 (0.152)**	-0.333 (0.151)**	-0.236 (0.253)	-0.189 (0.256)
Main source of livelihood				
Salary or wages	0.009 (0.071)	0.026 (0.071)	0.031 (0.118)	0.045 (0.120)
Self-employment	-0.137 (0.071)*	-0.137 (0.071)*	-0.049 (0.119)	-0.046 (0.120)
Pensions	0.277 (0.078)***	0.288 (0.078)***	0.400 (0.130)***	0.332 (0.132)**
Sales of farm products	-0.198 (0.073)***	-0.153 (0.73)**	0.096 (0.122)	0.144 (0.123)
Help from relatives	0.124 (0.079)	0.148 (0.078)*	0.125 (0.132)	0.133 (0.134)
Region fixed-effects	Yes	Yes	Yes	Yes
R-squared	0.20	0.20	0.22	0.21

Note: Table reports fixed effects regression estimates using data from th2 2010 EBRD-WB LITS II. Source: Akramov & Shreedhar (2012)

## Significant resource and institutional constraints for agriculture in Central Asia exist

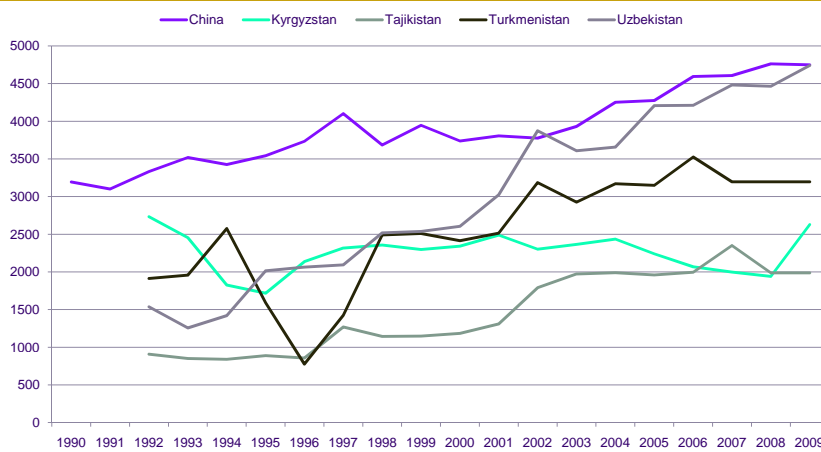
- Agricultural land per capita is declining due to land degradation and high population growth (Lerman 2009; Akramov and Shreedhar 2012)
- Significant yield gaps exist in the region: up 60% of economically attainable yield (OECD-FAO, 2012)
- Farmers still have weak property and contractual rights (World Bank 2010)
- Access to agricultural machinery and modern inputs deteriorated (Lerman 2009; World Bank 2010)
  - Machinery inventories collapsed & fertilizer application rates declined significantly
- Water resources for irrigation is binding, irrigation infrastructure deteriorated and collective action is limited
  - Communities with institutionally well-developed WUAs achieved significantly higher agricultural productivity (Akramov, Crewett and Omuraliev, forthcoming)

### Arable land per capita is declining



Source: Akramov & Shreedhar (2012)

### Wheat yield gaps in Central Asia are significant



Source: FAOSTAT (2011); Akramov & Shreedhar (2012)

## Policy Implications

- Achieving sustainable agricultural productivity and crop yield growth
- Crop diversification and move to high-value crops
- Regional cooperation and agricultural trade
- Creating and effectively managing regional and national food (cereal) reserves
- Public investment in infrastructure and agricultural science and technology
- Improving farmers access to market information systems
- Targeted social safety net programs can be more effective than price controls

## Future research directions

- ReSAKSS Asia - platform for knowledge management & easy access to information on agriculture, food security and nutritional outcomes
- Applied economywide multimarket and dynamic general equilibrium modeling
- Modeling and projecting the effects of climate change on agriculture and food security in Eurasia region
- Measuring food security and impact of global economic trends on agriculture and food security
- Evaluation of the impact of public investment on agricultural growth, poverty reduction and food security
- Agricultural markets and value chains development
- Agriculture and nutrition linkages

## Publications

- Akramov, K. 2011. *International Food Prices, Agricultural Transformation, and Food Security in Central Asia*, *Development in Practice*, 2011, 21 (4-5), 741-754.
- Akramov, K. T. 2012. *Global Food and Financial Crises, Agricultural Transformation, and Food Security in Central Asia*, In A. H. Gencer, and O. Ersin, Eds. *Central Asian Economies in Transition*, Newcastle upon Tyne, UK: Cambridge Scholars Publishing (forthcoming).
- Akramov K. & Shreedhar. 2012. *Economic Development, External Shocks and Food Security in Tajikistan*, with Ganga Shreedhar, *IFPRI Discussion Paper 01163*, Washington, D.C.
- Akramov K. & N. Omuraliev. *Institutional Change, Rural Services and Agricultural Performance in Kyrgyzstan*, In Ahrens, J. and H. W. Hoen, eds. *Institutional Underpinnings of Economic Development in Central Asia*. Peter Lang Publishers (forthcoming)
- Akramov, K. *Food Security Challenges and Agricultural Development in Tajikistan*, In S. Mann, Ed. *The Future of Mountain Farming*. Springer (forthcoming)

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**THANK YOU FOR YOUR  
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