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

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Interventions
- Economic policy & investments
- Social protection
- Health & nutrition programs/projects

External checks
- International economic crises & climate change
- Natural disasters & conflicts
- Epidemics

MACRO: Economy & state
- Macroeconomic stability
- Economic growth & structure
- Quality of institutions & governance

Key sectors
- Agriculture & water
- Infrastructure & trade
- Public health & education

MICRO: Household & household members
- Income
- Prices
- Production for own consumption

Resources
- Food
- Assets & services

Access
- Water
- Shelter & sanitation
- Health care
- Information & knowledge

Nutritional status
- Health status

ECONOMIC & SOCIAL DEVELOPMENT

Source: Ecker et al. (2011)
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

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

<table>
<thead>
<tr>
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<td>2280</td>
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<td>2644</td>
<td>15.9</td>
<td>5.5</td>
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<td>Tajikistan</td>
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<td>2118</td>
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<td>1.4</td>
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<td>2581</td>
<td>5.8</td>
<td>6.3</td>
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<td>Bangladesh</td>
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<td>15.9</td>
<td>24.5</td>
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<td>Nepal</td>
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<td>2360</td>
<td>26.3</td>
<td>19.9</td>
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<td>Yemen</td>
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<td>2068</td>
<td>20.0</td>
<td>25.4</td>
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</table>

Source: World Bank (2011); FAO (2011); IFPRI (2011); Akramov & Shreedhar (2012)
Evidence on impact of financial crisis on household consumption

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Base response</th>
<th>(1)</th>
<th>Overall response</th>
<th>(4)</th>
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<tr>
<td>Crisis impact index</td>
<td>0.287</td>
<td>(0.027)***</td>
<td>0.746</td>
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<td>Job loss</td>
<td>0.628</td>
<td>(0.034)***</td>
<td>0.868</td>
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<tr>
<td>Close business</td>
<td>0.511***</td>
<td>0.868***</td>
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<tr>
<td>Less wages</td>
<td>0.938</td>
<td>0.868***</td>
<td></td>
<td></td>
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<tr>
<td>Less remittances</td>
<td>0.966***</td>
<td>(0.112)**</td>
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<td>Informal borrowing</td>
<td>0.347</td>
<td>(0.073)***</td>
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<tr>
<td>Formal borrowing</td>
<td>0.161</td>
<td>(0.046)*</td>
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<tr>
<td>Applied for public benefit</td>
<td>0.183**</td>
<td>(0.039)***</td>
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<tr>
<td>Received public benefit</td>
<td>0.100</td>
<td>(0.046)***</td>
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<tr>
<td>Owns a car</td>
<td>0.053</td>
<td>0.039</td>
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<tr>
<td>Owns a second residence</td>
<td>0.053</td>
<td>0.039</td>
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<td>Main source of livelihood</td>
<td>Salary or wages</td>
<td>0.010</td>
<td>0.026</td>
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<td>Self-employment</td>
<td>-0.127</td>
<td>-0.089</td>
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<td>Pensions</td>
<td>0.277</td>
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<td>Sales of farm products</td>
<td>0.161</td>
<td>0.100</td>
<td></td>
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<tr>
<td>Help from relatives</td>
<td>0.132</td>
<td>0.057</td>
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<td>Region fixed-effects</td>
<td>Yes</td>
<td>Yes</td>
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</table>

R-squared: 0.20 0.20 0.22 0.21

Note: Table reports fixed effects regression estimates using data from the 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

Wheat yield gaps in Central Asia are significant

Source: Akramov & Shreedhar (2012)

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


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