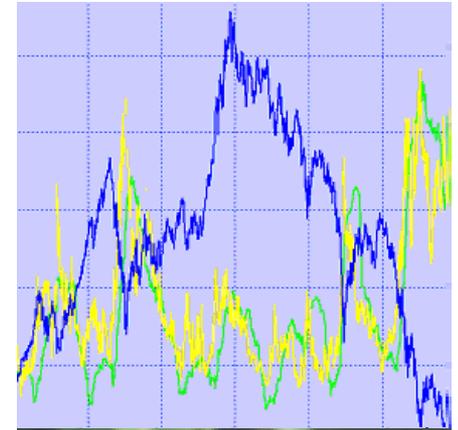




National Agriculture Sector Risk Assessment in Central Asia



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Defining Risk

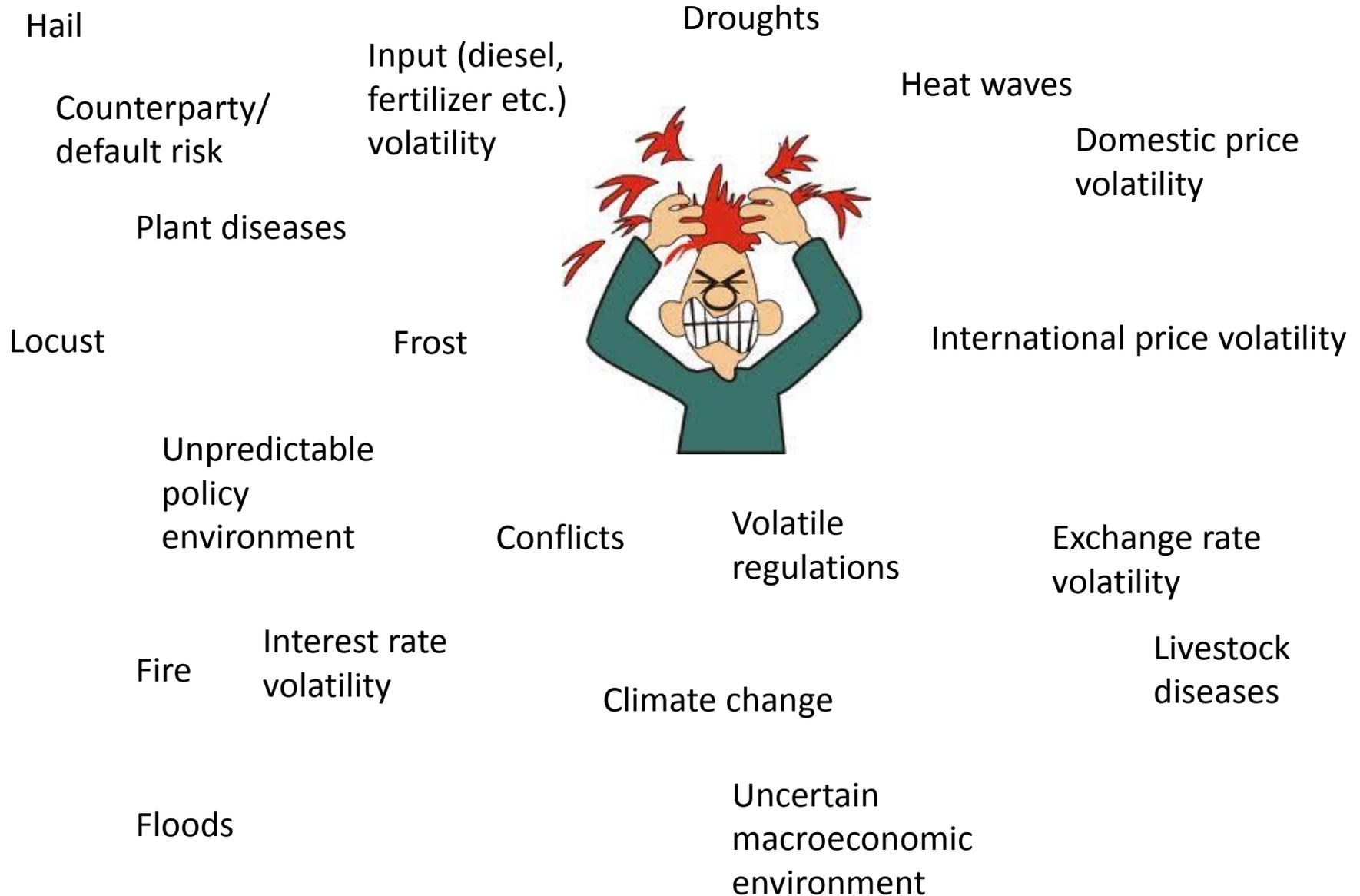
Risk : Uncertain, events, leads to losses

- E.g Symptom : yield volatility
- Cause: droughts, flood, pest and disease outbreak, etc

Why does Agricultural Risk matter?

- **Crop failure / Livestock asset loss** is the biggest shock for rural households (one of the biggest poverty trap)
- Principal cause of **transient food insecurity**
- Major driver of **GDP volatility** in Ag. dependent countries
- Major impact on **Government's fiscal balance**
- Biggest cause of **diversion of development financing**, primarily for crisis response
- Principal source of ag. supply chain **disruptions** and commodity chain **failures**
- Increasingly negative impact in **recent years**
- [Cascading Effect of Agricultural Risks](#)

Risk Space



Solutions Space

Vaccination

Diversification

Quarantine systems

Resilient/ Tolerant seed systems

Farm Level Insurance

Agricultural Innovation (research and extension)



Strategic grain reserves/ stock piling

Export bans/ Trade controls

Direct Compensation

Early warning systems

Soil and water conservation

Water management

Commodity exchange

Hedging

Price controls

Scaling up social safety nets

Altering cropping patterns

Information systems

Contingent financing

Storage infrastructure

Improved agronomic practices

Sovereign/ Government Level Insurance

Local level emergency response fund

Pest and disease mgmt. system

Making Sense of the Chaos



Objective Analysis and Prioritization

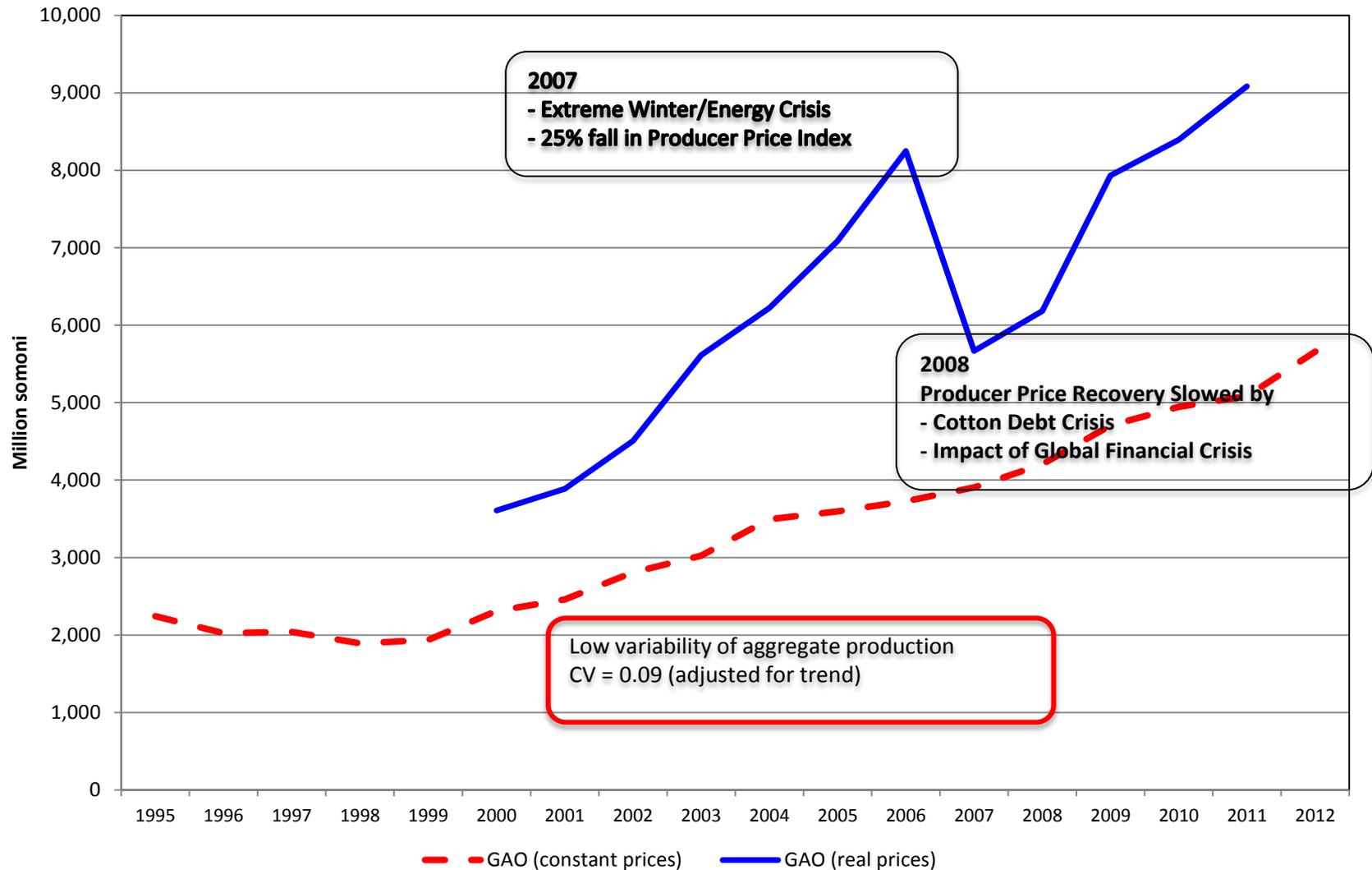
Risks	Risk Management Strategies
Identify	Identify
Analyze	Analyze
Prioritize	Prioritize

Outcomes of Risk Assessment and Management Process

- ❑ Help inform Government's agriculture/ supply chain development plans / strategies
- ❑ Help inform and shape Country Assistance Strategy / Country Program Strategies of development partners
- ❑ Prioritizes potential investment lending operations
- ❑ Identifies critical areas for policy dialogues, using empirical data and evidence, rather than theoretical dogmas
- ❑ Identifies priorities areas of potential technical assistance activities
- ❑ Provides a holistic risk management intervention package developed by local stakeholders and integrated into existing or planned sectoral/ supply chain development initiatives
- ❑ Provides a platform for dialogue, interaction, and action for building resilience of agricultural systems

Expected impacts: Reduced volatility, improved stability of agricultural system and incomes; and increased resilience.

Tajikistan - Trends in Gross Agricultural Output



Tajikistan - Sector Level Risks

❑ At Aggregate Level

- Only one major shock for the period 2000-2012 (limited data prior to 2000 due to Civil War).
- High cost (approx. 31% of GAO)

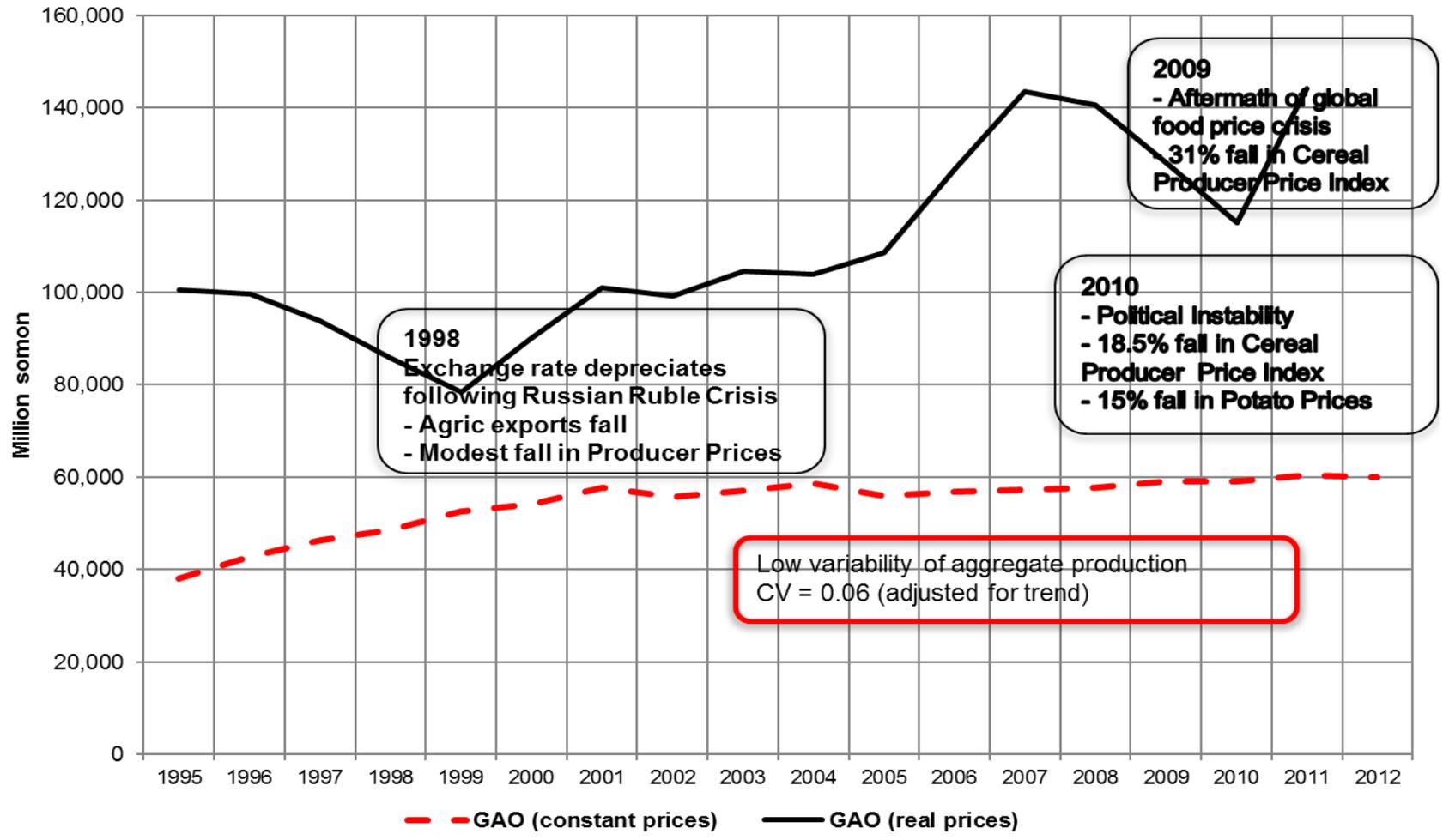
❑ Low Variability in Aggregate Physical Output

- 70% of arable land is irrigated
- Diversified production base
 - Most important crop accounts for 12% of value of GAO
 - 3 most important crops account for 32% of value of GAO
 - Livestock account for 23% of value of GAO

❑ Vulnerable to Price Shocks

- High poverty levels; households' reduce food consumption when faced with hardship (demand and prices fall)
- Weak domestic markets exacerbate price volatility
- Border Closures (dependence on trade via Uzbekistan)
- Instability in regional markets (Kyrgyzstan, Kazakhstan)

Kyrgyz Republic - Trends in Gross Agricultural Output



Kyrgyz Republic - Sector Level Risks

☐ At Aggregate Level

- Largest shock: fall in (real) producer prices from 2009-2010 due to global food price crisis correction (2009) and political instability (2010)
- Low Cost (less than 1% of GAO in 2010)

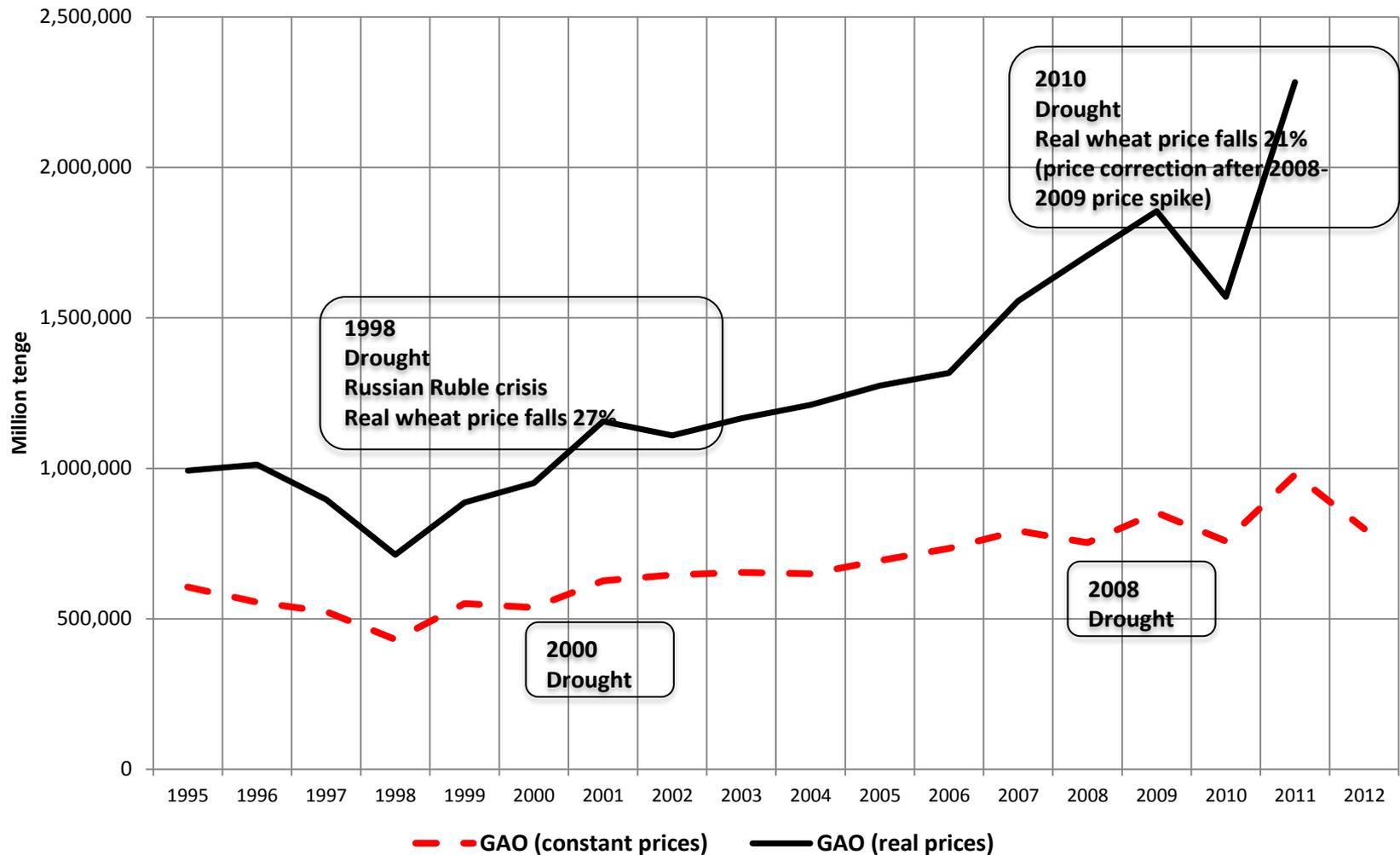
☐ Low Variability in Aggregate Physical Output

- 78% of arable land is irrigated
- Diversified production base
 - Most important crop accounts for 13% of value of GAO
 - 3 most important crops account for 25% of value of GAO
 - Livestock account for 50% of value of GAO

☐ Sector Output is Vulnerable to Price Shocks

- Weak domestic markets exacerbate price volatility
- Border Closures/Export bans (Kazakhstan, Uzbekistan) and instability in regional markets further exacerbate price volatility for export commodities

Kazakhstan - Trends in Gross Agricultural Output



Kazakhstan - Trends in Gross Agricultural Output

□ At Aggregate Level

- Two major shocks for period 1995-2012
 - Both due to combined impact of drought and fall in cereal prices
 - High Costs (13% of GAO in 1998; 6% GAO in 2010)

□ Vulnerable to Production Shocks

- Low rainfall, frequent droughts, 8% of arable land irrigated
- Grain production concentrated in a few areas
- Less diversified production base
 - Most important crop (wheat) accounts for 25% of value of GAO
 - 3 most important crops account for 35% of value of GAO
 - Livestock account for 35% of value of GAO

– Vulnerable to Price Shocks

- Major commodity (wheat) dependent on world markets
- Weak capacity to mitigate price risks

Current Framework for Agricultural Risk Management

- ❑ Current focus of public institutions is on the mitigation of production risks (crop and livestock disease, locusts etc).
 - Preliminary analysis shows that while these risks are higher frequency, their impact is highly localized and losses are low.
 - Locust risks likely to increase in response to global warming (higher temperatures favor breeding)
 - Minimal budgetary resources allocated to managing these risks.

- ❑ Crop Insurance is officially compulsory in some countries, but its use is minimal or limited.

- ❑ Most risk management occurs at farm and household level through access to irrigation and the diversification of production systems (coping strategies).
 - Effective maintenance of irrigation infrastructure is vital for risk management.
 - Continued support for the diversification of agriculture is also critical

Current Framework for ARM (cont)

- Price and market risks will become increasingly important as exports to regional markets increase.
 - The private and public sector capacity to manage price risk is weak.
 - Improved mitigation of these risks will require:
 - Continued measures to strengthen and deepen domestic markets
 - Continued emphasis on supply chain development and improved contractual relationships between buyers and sellers along the value chain.
 - Increased emphasis on measures to facilitate regional trade and keep borders open to reduce price volatility.
 - Increased emphasis on disease management, SPS and product quality to ensure access to export markets

Final Comments

- ❑ The low incidence of risk observed at aggregate level typically masks much higher risks for particular commodities, regions or types of farmer. The more disaggregated analysis to follow will identify such risks and consider how best to respond to them.
- ❑ Vulnerability to risk is a function of both the level of risk and the capacity to manage it. Consideration of both factors is central to improving risk management.