



# **Review of Agricultural Research for Development in Central Asia and the Caucasus**

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**For GCARD**

# Outline

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- **Characteristics of the Region**
- **Development goals of the region**
- **Role of agriculture in development goals**
- **Major challenges facing agriculture in the region**
- **Priorities in agricultural research identified in the region**
- **Gaps between the identified priorities and needs to meet the challenges for research and NARES**
- **Key issues facing agriculture: both in research activities and systems**
- **CAC e-consultation**
- **Issues highlighted in CAC e-consultation**
- **Regional Face-2-Face Meeting**
- **Conclusion**

## The Caucasus and Central Asia



# **CAC Region: Characteristics**

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- **Vast land area:**
  - 419 million ha (mha); 11.4 mha irrigated, 256 mha rangelands, mountains
- **Poverty**
  - reduced compared with 2005, but ranges from 15.4% (Kazakhstan) to 75% (Tajikistan) (2007)
- **GDP per capita**
  - increased in 2007: range from US\$1,656 (Tajikistan) to 10,223 (Kazakhstan) (UNESCAP, 2008)

# CAC Region: Development Goal

## Improve the wellbeing of the people

- Providing fast and effective economic growth
  - Suitable economic, monetary policies and reforms for stable macroeconomic environment
- Implementing social reforms and programs
  - Spend major budget (1/3 ) for public infrastructures, and institutions/reforms for social and development programs
  - Poverty reduction, enhancing food security, and improving environment vital
- Realization for more attention and investments for agriculture sector and natural resources

# Agriculture Contribution to Development

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## Paramount importance in development needs

- Ensuring food security: Irrigated agriculture & dehkons
- Poverty reduction: Employment (10% in Armenia and 30% in Tajikistan) and livelihoods
- Significantly contributes to the GDP:
  - 6.3% in Kaz - 31% ? in Uzb)
  - important for hard currency earnings
- Vast rangelands: Feed, biodiversity and environment
- Protecting environment

# Potential for Contributions to Development

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- **Two important prerequisites, i.e., institutional infrastructure and human resources exist**
- **Traditional agricultural practices, rich genetic wealth and vast arable areas and rangelands: enormous future potential**
- **Inherited vast irrigation systems**
- **Good conditions for livestock production: vast rangelands**
- **Scope for use of quality seed, fertilizers and pesticides**
- **Good scope for the conservation of the vast plant and animal genetic resources**
- **Good potential for diversification of agriculture in the region**
- **Large area of reserve land in Kazakhstan for future use**

# Challenges for ARD in CAC Region

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- **Food security**
- **Improving the declining living standards and livelihoods**
- **Protecting the environment**
- **Achieving structural reforms**
- **Meeting the special challenges (both existing and future)**
- **Strengthening national agricultural research and extension systems**



# Priorities Identified in Agricultural Research

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## Three thematic areas:

- Genetic Resources Management (GRM)
- Natural Resource Management (NRM)
- Socio-economic, Policy Research and Capacity Building (SEPCAB)

# Sub-sets of Priorities under each Thematic Area

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## GRM:

- Exchange of Genetic Resources
- Documentation of Information on Genetic Resources
- Conservation of Genetic Resources
- Germplasm Enhancement
- Need for a Regional Strategy on Use of Biotechnological Tools in Crops
- Conservation, Documentation, Enhancement and Utilization of Animal Genetic Resources

# **Sub-sets of Priorities under each Thematic Area (contd.)**

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## **NRM:**

- **Management of Saline Environments**
- **Water Management, Water Use Efficiency and Water Quality in Irrigated and Dryland/Rainfed Areas**
- **Crop Diversification**
- **Land and Water Degradation, Loss of Biodiversity and Soil Fertility**
- **Pastures and Range Management**
- **Environmental Quality Concerns**

# **Sub-sets of Priorities under each Thematic Area (contd.)**

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## **SEPCAB:**

- **Extension and knowledge transfer**
- **Legal frameworks**
- **Gender research**
- **Livelihoods and poverty analysis**
- **Adoption and impact assessment**
- **Enabling policy options**
- **Land tenure**
- **Local institutions**
- **Marketing, competitiveness and trade**
- **Reorientation of agricultural innovation systems**

# Gaps between Identified Priorities and Needs

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## Research Areas:

- Livestock research
- Nutritional security: Horticulture, potato
- Need greater emphasis on seed production systems
- Climate Change
- Desertification
- Aral sea problem

## NARES:

- Need for greater investment in and restructuring of research system
- Changes in education system
- Much more emphasis on extension
- Integration of research, education and extension

# Challenges for ARD in CAC Region

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- Food security
- Improving the declining living standards and livelihoods
- Protecting the environment
- Achieving structural reforms
- Meeting the special challenges (both existing and future)
- Strengthening national agricultural research systems

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# Food Security: Key Issues

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- **Greater investment in agriculture**
- **Enhance crop production in irrigated and rainfed areas**
- **Explore potential of livestock production**
- **Special attention to horticulture**
- **Research on fisheries**
- **Attention to transboundary diseases**
- **Machinery for small-scale farmers**

# **Improving Living Standards/Livelihoods: Key Issues**

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- 1. Study and analyze livelihoods and poverty**
- 2. Improve livelihoods of subsistence farmers in mountains**
- 3. Diversification of household income**
- 4. Organize and promote roles of rural women**
- 5. Linking farmers to markets**
- 6. Creating employment opportunities in rural areas through private sector involvement**



# Protection of Environment: Key Issues

1. Protect land and water degradation
2. Protect forest degradation
3. Protect biodiversity

# Achieving Structural Reforms: Key Issues

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- Legal frameworks for land tenure and property rights
- Irrigation and drainage structures

# Meeting Special Challenges: Key Issues

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- 1. Climate change**
- 2. Issues relating to Aral sea problem**
- 3. Desertification**

# Strengthening NARES: Key Issues

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- **Greater Investment in and restructuring of research**
- **Changes in agricultural education system**
- **Creating effective extension system**
- **Capacity development to carry out research agenda**
- **Strengthening research linkages at national, sub-regional, regional and international levels**

# CAC e-Consultation

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- **E-consultation from 3 – 23 Sept**
- **Research review posted on CACAARI and GFAR sites**
- **78 participants and about 100 messages**
- **So far, encouraging feedback**
- **Feedback to be included in the final version**

# Issues Highlighted in CAC e-Consultation

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- Organic agriculture
- Nutritional security (horticultural crops, potato)
- Conservation agriculture
- Local capabilities in seed production
- Need for an effective extension system
- Greater support to agriculture sector
- Greater investment and restructuring of research and education
- Privatization process in agriculture
- Small farm sizes can be successful
- Farmers at the center stage of agriculture
- Access to markets
- Regional networks

# Regional Face-to-Face Meeting

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- **Tashkent, 16-17 Oct**
- **Revised Key Issues to be presented**
- **Suggestions to be included in the Review**
- **Final version to be ready by early-Nov**

# Conclusion

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- **CAC region may face:**
  - **Shortage of irrigated land**
  - **Shortage of water**
  - **Adverse effects of climate change**
  - **Increased population**
  - **Shortage of food**
- **Must invest in and pay good attention to agriculture**
- **On-going exercise is important**



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**Thank you**