

Adaptation to Climate Change and Drought

ICARDA focuses on poor, smallholder farmers in dry areas – the populations most affected by drought and desertification, and most vulnerable to the impacts of climate change. Many of the Center's research outputs contribute to mitigating drought impacts; and have potential application in addressing climate change implications as well. These areas will remain a major focus in the Strategy.

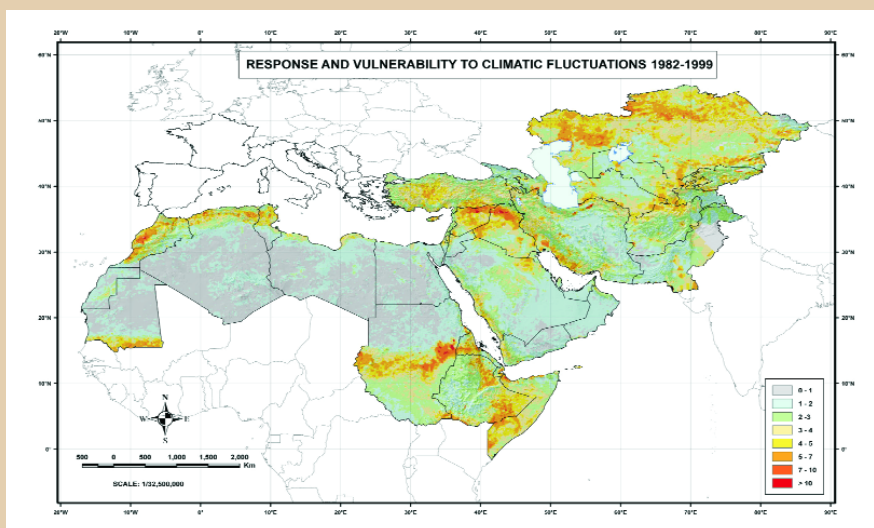
Several components and/or planned outputs in the Strategy contribute directly to meeting the challenges of climate change:

- Prospecting for genes for adaptation to drought and heat stress
- Developing plant germplasm with greater tolerance to climatic variability
- Reducing risks to pastoralists via improved rangeland management
- Developing feasibility studies for payments for environmental services
- Fostering community-based development plans that increase local capacity to co-manage natural resources
- Developing resilient crop-livestock pro-

duction systems through better soil and water management and higher water-use efficiency

- Crop rotations that sequester carbon, conserve water and maintain soil fertility
- Improved feed resources that reduce greenhouse gas emissions
- Scenario and model building for determining trade-offs between development and climate change, e.g. optimizing on-farm water allocation
- Livelihood analyses that include strategies to cope with unpredictable ecosystems and climate variability and change
- Enabling policy and institutional options to promote the uptake of technologies that enhance the capacity of communities to adapt to climate change

ICARDA is using GIS-based analysis to identify areas particularly vulnerable to climate change. The map below depicts the size of biomass fluctuations caused by current climatic variability during the period 1982-1999. Red and orange areas have the largest fluctuations, hence the greatest vulnerability to future climate change.



Hot spots of vulnerability in the CWANA region