

**Drought Management and Mitigation Assessment
for Central Asia and the Caucasus :
Briefing note on the Financial and Planning Implications of the Study**

The countries of Central Asia and the Caucasus are highly exposed to meteorological and hydrological drought. In drought-prone areas, severe thermal and moisture droughts covering a large expanse occur once or twice per decade. Following prolonged meteorological drought, water resources are depleted around 20-45%. Wet and flood years often follow drought. If climate change prognoses are accurate, exposure to both droughts and floods in Central Asia will grow during the twenty-first century.

National hydrometeorological services lack the support required to conduct effective observation and early warning for drought. Many stations and posts are out of commission, and attempts at modernization are incomplete and piecemeal. Prognosis of meteorological or agricultural drought is often possible only for the short term, and early warning products are often available sporadically and/or only to ministries or local governments. Quite often farmers rely upon folk methods of forecasting drought.

The impacts of drought are severe and wide-ranging, in large part owing to vulnerabilities in agriculture and water supply. Although impact assessment is incomplete and sometimes inaccurate, the impact of drought upon agriculture, is significant. For example, a severe and widespread drought in 2000-01 wiped out at least 10-26% of crop and livestock production in Armenia, Georgia, and Tajikistan (or three to six percent of overall GDP, as show below). The drought stymied development in the rural areas of these countries and in some instances increased already significant financing gaps and external deficits at the national level. Villagers experienced lack of income and increased poverty, malnutrition, scarcity of drinking water, and social stress and conflicts. The hardest-hit communities required food, drinking water, and agricultural input supply relief, which in 2000-01 cost at least \$19 million to \$104 million in some countries.

Minimum Losses Due to Agricultural Drought and Cost of Relief Operations in Central Asia and the Caucasus, 2000-01				
	Ag Losses (million USD)	% of GDP	% of Ag GDP	Relief Operations (million USD)
Armenia	110-143	2.7	10.1	19.2
Azerbaijan	110	1.0	6.0	n.a.
Georgia	350-460	5.6	25.5	40.9
Tajikistan	100-159	4.8	16.8	104.4
Uzbekistan	130	0.8	2.4	22.9
Total	800	2.0	7.9	187.5

Drought impacts can be mitigated through reducing vulnerability and increasing capacity. A wide range of measures can be mainstreamed into ongoing and pipeline projects for agriculture (diversification of production, herd mobility, insurance), land and water management (integrated water shortage planning and conservation, rangeland and community watershed management), and other sectors (e.g. financial risk management mechanisms). Disaster management requires more comprehensive and integrated contingency planning and impact assessment. Modest investments into meteorological, hydrological, and agrometeorological observation and early warning systems would yield significant benefits for disaster mitigation, economic development, and environmental monitoring and amelioration. Measures for the management and mitigation of drought should be integrated with and/or augment those taken for other natural disasters, in

particular floods. National development strategies and poverty studies that support them should more fully consider the costs associated with and need to mitigate drought.