Central Eurasian Growth and Environmental Security: Conflict and Cooperation

Max Spoor
Institute of Social Studies/Erasmus University Rotterdam
Central Eurasia

• Central Eurasia recovering from the shock of post-Soviet disintegration

• Since 1991, the formation of new states in the Central Eurasian region, such as:
  – Caucasus (Armenia, Georgia, Azerbaijan)
  – Central Asia (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan)

• Important changes in other states such as China and Mongolia (economic growth)

• Conflicts arising in other states such as Afghanistan, Iran and Pakistan, bordering the Central Eurasian region
• The presentation is around two themes:
  – Economic recovery and growth (mostly based on resource extraction)
  – Environmental security (in relation to the use of energy resources, water and the consequences of mismanagement of resource use, and environmental degradation)
Structure

- Part 1: Economic recovery and growth in Central Asian economies (resource extraction)
- Part 2: Environmental degradation and resource mining; water and energy issues
- Part 3: Conflict and cooperation: environmental and human (in)security
Part 1

Economic recovery and growth in Central Asian economies (resource extraction)
Crisis and Recovery

- Until the mid-1990s the newly born countries in Central Eurasia were in deep economic and transformational crisis
- They struggled with various legacies:
  - Low levels of industrialization (except for some *focos*)
  - Largely rural societies (except for Armenia, and partly Kazakhstan)
  - Dependency on primary resource extraction (oil, natural gas, metals, cotton)
  - Environmental degradation (Aral Sea dessication; pollution of Issyk Kul; Semipalatinsk nuclear spills; etc.)
Resource Endowments

- Kazakhstan and Turkmenistan have large reserves of hydrocarbons;
- Uzbekistan less, but sufficient
- Kyrgyz Republic and Tajikistan are resource poor countries
- Water resources (for irrigation and hydro-power) is in abundance all over the region, but unequally distributed!
Transition Policies

• Economic policies in post-independence period were very different
  – Kazakhstan and Kyrgyz Republic pushed towards market economies in the mid-1990s (in part through ‘shock therapy’)
  – Tajikistan suffered a civil war, and only by the late 1990s reforms took place
  – Uzbekistan and Turkmenistan showed much more state intervention in their transformation
Table 1
Economic Reform Indicators
Central Asian States (1997-2008)

<table>
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<th>Country</th>
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</tbody>
</table>

Sources: EBRD (1997, 2000, 2008);
Notes: (1) 1997; (2) 2000; (3) 2008; the indicators of reform are varying between 1 (=lowest/no reform) and 4+ (=highest/full-scale reform).
Transition Performance

• The EBRD Transition Reports give marks (notas) for the performance in:
  – Large-scale privatization
  – Small-scale enterprise privatization
  – Governance restructuring
  – Markets & Trade/Price Liberalization
  – Trade and Foreign Exchange
  – Financial System Competition Policy
  – Bank Reforms/Interest Rates
  – Security Markets/Non-bank Institutions
Economic Performance

- The economic crisis until the mid-1990s was a deep and devastating one
- Not to be compared with the current global crisis, as it was much more profound
- Some countries decreased their GDP with more than 50%, while also income distribution worsened substantially!
- Since 1995 recovery, with a dip in 1998-99 (impact of the Russian financial crisis)
- Since 2001 rapid economic growth
Crisis and Recovery

GDP Growth Central Asian Economies

Annual Growth Rate (%)

1991 1993 1995 1997 1999 2001 2003 2005 2007

Kazakhstan  Kyrgyz Rep.  Tajikistan  Turkmenistan  Uzbekistan
• Clear division between resource-poor and resource-rich countries
• Economic indicators have improved substantially:
  – Inflation dropped rapidly from very high levels
  – Budget deficits reduced (except for Tajikistan and the Kyrgyz Republic)
  – Trade Balances have improved (again with mounting deficits for the resource-poor countries)
State Budgets

Central Asian Budget Balances

<table>
<thead>
<tr>
<th>Year</th>
<th>Kazakhstan</th>
<th>Kyrgyz Rep.</th>
<th>Tajikistan</th>
<th>Turkmenistan</th>
<th>Uzbekistan</th>
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<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
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</table>

The diagram shows the share of budget balance in GDP for Central Asian countries from 1991 to 2007.
Trade Balances

Trade Balance Central Asia

Year

X-M (Trade Balance)

Kazakhstan X-M
Kyrgyz Rep. X-M
Tajikistan X-M
Turkmenistan X-M
Uzbekistan X-M
• Initial conditions were different between the five states
• Different reform strategies and resource endowments have led to bigger diversion (not conversion!)
• Kazakhstan, Turkmenistan and then Uzbekistan are best off, Tajikistan and the Kyrgyz Republic are the poorest economies
• Growth paths very much based on resource extraction (Kazakhstan: oil; Turkmenistan: natural gas)
• The down-side........
Income differences

Average Income (GDP/Capita)

<table>
<thead>
<tr>
<th></th>
<th>Kazakhstan</th>
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<td>GDP/Capita (US$)</td>
<td>6669</td>
<td>717</td>
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<td>GDP/Capita (US$ PPP)</td>
<td>10760</td>
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<td>1669</td>
<td>6389</td>
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</table>

Source: EIU (2008, 2009, various countries)

- Poverty levels are still high, in particular rural poverty
- Urban-rural income gap is on the rise
- Social services are deteriorating in rural areas
Part 2

Environmental degradation and resource mining; water and energy issues
Environment

• Main environmental problems in Central Eurasia:
  – Overexploitation water resources, dessication of Aral Sea
  – Water quality problems (salinization, nutrient residues, non-point pollution)
  – Desertification, soil salinization, in particular in downstream countries
  – Air pollution caused by nitrification, soil salinization etc.
  – Loss of biodiversity in various water basins
  – Pollution caused by open pit mining
  – Pollution caused by oil spills and nuclear waste
Soil and Water Degradation

- In countries such as Tajikistan, Turkmenistan and Uzbekistan (but also in neighbouring Xinjiang, China) ‘cotton is king’.
- Soil degradation because of ‘over-irrigation’, inadequate drainage, water-logging.
- Soil salinization has negative impact on crop output and health (air pollution).
- Water conflicts, loss in biodiversity (upstream-downward conflicts), downstream water quality reduction.
- Shrinking of the Aral Sea and climate change have strong negative effects on rural livelihoods.
Soil Salinity in Uzbekistan and Turkmenistan

Figure 3
Land salinity Uzbekistan, Turkmenistan

### Population Affected by Water and Air Pollution in Uzbekistan (1998)

<table>
<thead>
<tr>
<th>(x 1,000 persons)</th>
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<th>Air</th>
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<td>Khorezm</td>
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<td>113</td>
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<td>444</td>
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</table>

• Consequences for the Aral Sea have been disastrous and are well-known:
  – Reduced in volume to one quarter of 1960 level
  – Broken up into three mean parts (north, west and east)
  – Exposed salt sea beds and related salt particles spread by desert winds
  – Widespread respiratory diseases in the area
  – BBC called this once “environmental aids”)
Figure 2
Images of a Shrinking Aral Sea (1960-2010)
Ships in the Aral Sea
Part 3

Conflict and cooperation: Environmental and human (in) security
Water-Energy Conflicts

- Water-energy related conflicts are quite prominent in the Central Eurasian region.
- Upstream countries most often need energy from hydro-power generation (in severe winters).
- Downstream countries need water resources in the summer for their agricultural sectors (grain and cotton).
- Hydrocarbon deposits are mostly found in the downstream areas (around Aral and Caspian seas).
Water Stress in Central Eurasia
‘Follow de Water’

- Conflicts could emerge over water, but also water can become a main vehicle for cooperation (inter-state, intra-state, downstream-upstream)
- ‘Water wars’? Possible, but not very likely
- Regional cooperation frameworks are already available (even from Soviet times, such as the BVOs, or River Basin Commissions)
- Local initiatives on Integrated Water Management Systems, Polluter Pays Principles, and Water User’s Associations
Potential Water Conflicts
Environmental Insecurity?

- In the Central Eurasian region environment is intimately linked with human development
- In the areas were land, water and air pollution are important problems, human insecurity and poverty rates are high
- Economic recovery and recent high growth rates have emerged because of intensive ‘resource mining’
- More sustainable models of growth and development need to be developed, in order to improve environmental security