Geopolitical dimensions and interagency cooperation
Central Asia

Environmental Security Assessments: Methodologies and Practices
November 2010, Brussels
Methodology

Stage 1: Regional assessments

Stage 2: National and regional consultations

Stage 3: Regional work programmes, incl. clean up

Stage 4: Project implementation and lessons learned
Climate change and natural disaster impacts in the Ferghana Valley

Topography
- Lowlands and piedmont areas
- Mountainous regions (above 1500 metres)

Hydrometeorological hazards
- Risk of flooding
- Risk of mudflows and landslides
- Torrential rainfalls
- Impact of high temperatures and drought on food production and health

Essential earthquakes
- Earthquake epicenters depicted from the instrumental records
- Magnitude on Richter scale

Potential impacts of climate change
- Desertification (deserts, semi-arid, and arid lands expansion)
- Changes in productivity and elevational shift in alpine biodiversity
- Increase in health vulnerability
- Spread of malaria to higher altitudes
- Rapid melting of glaciers and ice caps
- Changes in snow cover, permafrost, and intensification of snow melt
- Reduction of summer river flow

Infrastructure under threat of destruction from natural disasters
- Industrial sites, dams and irrigation networks
Гидропроекты

Уровень в метрах:
- 3000 метров
- 1500 метров

Environment and Security assessment in the Amu Darya river basin, Central Asia
Lessons

• Participation, participation, participation
• Positive change
• Timing
• Financial and technical support
• Balance between technical and political cooperation
• Trust building and cooperation
• No one size fits all!
Conclusions

• Invest in early warning systems
• Support institutions
• Build capacity of stakeholders
• Identify potential hotspots
• Establish follow-up and monitoring
• Build on existing natural resource management programs
• Engage in public outreach
• Prioritize initiatives involving existing local governance structures
Central Asia: political transition and environmental risks

Nuclear legacies
- Nuclear power station (NPS)
- Nuclear powerplant closed or under construction
- Nuclear industry and research site (civil and military). Fuel production or recycling
- Radioactive waste site associated with uranium mines (active or closed) and other hazardous waste storage piles and ponds
- Nuclear weapons test site. Large areas contaminated with radioactive fallout
- Russian regions specialized in civil and military nuclear industries. Former relationship with Central Asian nuclear facilities.

Soviet legacy management
- Aral Sea and Surrounding Region
  - Diversion of rivers feeding the Aral Sea led to exposure of seabed to open air, allowing airborne transport of salts and heavy metals in a perimeter of 600-800 km. Desertification and salinization of arable land, resulting in the collapse of fisheries and agriculture, impoverishment, and outward migration.
  - Ferghana Valley
    - Densely populated, ethnically diverse region with severely degraded forests and soils. Limited rule of law, and widespread traffic in contraband merchandise. Lack of energy sources and supply and polluted waters. Region under the threat of collapse of

Water-related tensions:
- Conflicts over distribution of water between upstream and downstream countries. High economic dependence on irrigated agriculture (rice and cotton), with steadily deteriorating soils.

Mines in Kyrgyzstan, Tajikistan and South Kazakhstan
- Presence of poorly-maintained radioactive and chemical waste sites in seismically active zone, located near highly populated areas and important surface water

North-East Kazakhstan: Tselinny-Pavlodar-Semey-Oksemen and Aktau on the Caspian Sea coast
- Area contaminated with radioactive fallout from experimental nuclear explosions and inadequate waste storage. High mortality rate compared to Central Asian average.