Nexus @ GEF project on transboundary Dniester river basin

UNECE Water Convention “nexus” global workshop
Geneva 6-7 December 2016

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The Dniester

1329 km long

Starts in Ukraine, flows through Moldova (225 km), reaches Ukraine again near the Black Sea

Population – ca 8 mln people

Issues:
- water flow regime (quantity and fluctuations)
- pollution (quality)
- loss of biodiversity
- climate change
- resources management
Experience on the nexus

• Since 2005 – support to various issues in the Dniester by the UNECE, OSCE, ENVSEC

• Principal result: Moldovan-Ukrainian Dniester river basin treaty signed in 2012

• UNECE pilot project on adaptation to climate change: water balance, modeling of water flow to the Dniester reservoir, modeling of water volume in the existing cascade of the Dniester reservoirs, delta ecosystem restoration
Hydropower in the Dniester basin

The Dniester cascade of power stations (state-owned)

- Dniester HPP-1 and HPP-2 - operating
- Dniester Pumped Storage Power Station - partially operating / under construction
- Dubasari HPP - operating / very silted

Mostly built during the Soviet Union era
Planned cascade in the Upper Dniester

- 5 run-of-the-river HPPs (8-9 m high dams)
- 1 derivation HPP
- Total planned capacity 560 MW
- Planned annual electricity production is 1780 mln kWt / hour
- EIA is to be contracted in 2017 (impacts on low stream are important)
Issues

- Sediment transportation
- Habitat connectivity for biodiversity
- Water flow during floods and low water
- Ecological flow (incl. delta)
- Climate change
- Stakeholders involvement
- Transboundary consultations
- Monitoring
- Cumulative effects
- Impacts on water use
GEF addressing the issues

GEF-funded project “Enabling transboundary cooperation and integrated water resources management in the Dniester River Basin” (2017 – 2020)

Currently at a Project Preparation Phase (PPG, 2016)

3 components:
1. Transboundary Diagnostic Analysis (TDA), water balance, adaptation to climate change
2. Strategic Action Programme (SAP), bilateral groups, twinning, hydropower
3. Monitoring, demo projects, public awareness
GEF nexus tasks @ the Dniester

Existing facilities
⇒ update the rules for operation of the water reservoirs considering climate change and ecological flow, using AGWA modeling
⇒ Include elements of assessment of env’l services and damage & consider findings for the WFD-compliant RBMP

The planned cascade in the Upper Dniester
⇒ A platform for discussion btw upstream and downstream stakeholders and sectors

Mini HPP around the basin
⇒ Address in the TDA
Methodological support

1. UNECE – Nexus and work in Central Asia on dams (this workshop, UKR HPP present)
2. ICPDR – WFD, hydropower, twinning
3. Albufeira Convention

4. Russian-Finnish experience
Methodological support

5. Belarus - a pilot study on planned cascade of 7 HPP in the Upper Dnieper (TB to Ukraine) – done in the EU-funded EPIRB project.

Basic results of the pilot project
«Preliminary assessment of the impact planned construction hydropower stations on the hydrological regime and preparation necessary amendments to RBMP of Upper Dnieper, Belarus»
(phase 1, 2 of the project)

«Предварительная оценка воздействия планируемого размещения ГЭС на реке Днепр на гидрологический режим и подготовка соответствующих дополнений к Плану управления речным бассейном Днепра на территории Республики Беларусь»

ъ фазы 1,2 выполнения проекта

Speeker: Vladimir Korneev
The Republican unitary enterprise
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The calculated water levels in the Dnieper river under natural conditions and after the placement of cascade hydroelectric power
More nexus in the Dniester

- Water balance – together with water authorities, MOE, MinAgri and FAO
- Adaptation to climate change – considering irrigation / MinAgri and FAO
- Ecosystems (focus on lower stream) – creative approach and best world practices on ecological flow (under climate change)
THANK YOU
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