Water-food-energy-ecosystems nexus in transboundary basins

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Main achievements in this area of work

• Consolidation of the nexus assessment methodology, its technical and governance analysis tracks. Refinement by integrating better the perspective of the benefits of cooperation, application to an aquifer and extending the use of participatory methods.

• Intersectoral transboundary dialogue promoted in the Drina and evidence presented about the benefits of cooperation and coordination. Awareness-raising, identification of the main issues and brainstorming about the solutions with stakeholder engagement in the NWSAS.

• Various sectoral and regional processes have been informed. Advocacy has resulted in water and environment issues better taken up in international energy sector fora; through the nexus approach, recognition of the transboundary dimension amplified in the SDG debates.
How was it achieved? Major milestones since 2016

- Strong capacity building, promoting practical addressing of the nexus and the exchange of experiences
  - Global workshop on assessing and addressing the nexus (2016)
- Building on 4 earlier basin assessments, 3 nexus basin projects in different stages of assessment: Drina, NWSAS, Drin
- 3 assessment reports: Syr Darya, Sava, Drina
- 4 policy briefs: Alazani/Ganykh, Sava, Drina, Syr Darya
- Policy brochure on renewable energy and nexus
- Synthesis: the consolidated methodology for nexus assessment & a summary published
- Experience shared in numerous events
Lessons learnt for future work

- **Challenging to engage** all relevant sectors and interests
- **Process design and communication** throughout the process crucial.
- **Appropriate institutional frameworks** are key not only for carrying out the assessment but also for fostering follow-up actions.
- **Many obstacles to response** actions, to implementation of solutions.
- **Advocacy and promoting uptake** of the assessments’ conclusions requires time and effort (not adequately resourced)
- Needed: **fit-for-purpose nexus tools**, and an orientation for using and soft-linking them to form effective toolkits. Better availability of **data**!
- The potential of the nexus perspective to add value in GEF projects/action merits further attention.
Methodology in a mature state: coupled technical and governance analysis, open & flexible framework

Mostly diagnostic (desk based) vs. Active engagement (workshops)

1. Socio-economic context
   - Factual questionnaire
   - Stakeholder mapping
2. Key sectors, key actors
   - Sectoral presentations
   - Brainstorming exercise
3. Analysis of key sectors
   - Opinion questionnaire
   - Nexus dialogue
4. Intersectoral issues
   - Nexus dialogue
   - Modelling using fit-for-purpose toolkits
5. Nexus dialogue
   - Assessment of benefits
6. Solutions and benefits
   - Nexus report of the basin:
   - Nexus issues, solutions and benefits

Participatory methods
- Nexus indicators
- Desk study:
  - Sectors, resources and governance analysis

Information and tools
- Nexus indicators
- Data to quantify interlinkages
- Opinion indicators

Outputs
Progression from the Sava to Drina

**Sava nexus assessment (2014-2015)**
- Identification of stakeholders, issues, possible directions for solutions
- Governance analysis, modelling

**Drina in-depth assessment (2016-2017)**
- Clusters of challenges & solutions packages defined
- Benefits of coordinated hydropower operation quantified
- Benefits of cooperation, participatory methods

**Drina follow-up project**
- Support to selected solutions. E.g. RES investment discussions take on water and environment considerations

**KTH, ISRBC, JRC**
- Network forming, sectors meeting & exchanging

**Italy, ISRBC, GERE, KTH, GEF, World Bank**
- Debate with utilities about the benefits; Publication with GERE: nexus and RES; Forums on Energy

**Italy, GERE, GWP, ADA**
- Regional level nexus initiative provides for sharing experience; transfer of lessons Drina -> Drin
Context specificity of nexus solutions: Hydropower: increasing sustainability, reducing trade-offs/impacts, exploring synergies and alternatives

Isonzo/Soča (incomplete)
- Link renewables generation to agriculture infrastructure (small hydro, solar, biomass); improve river continuity and increase drought resilience

Sava & Drina
- Develop hydropower sustainably (trade-offs!) and integrate other renewables; coordinated operation of HPPs

Alazani/Ganykh
- Facilitate access to modern energy sources and energy trade; minimize impacts from new hydropower development with international guidelines; reforestation & catchment management to control erosion

Syr Darya
- Promote restoring the grid and vitalizing energy market, develop the currently minimal trade in agricultural products; improve efficiency in energy generation, transmission & use; improve water efficiency (esp. agriculture)
Suggested future work

3.2.1 Sharing of experience & disseminating results from nexus assessments
- Synthesis document: part 2 on solutions to the nexus
- Dissemination of results from the nexus assessments. Share experience of the methodology. The 2030 Agenda related advocacy.
- Preparation of a brief as programmatic support to GEF projects (IW:LEARN).

3.2.2 Supporting intersectoral dialogues and assessments through the application of the Nexus approach
- Completion of the NWSAS assessment and in two transboundary river basins in the Western Balkans, follow-up project on the Drina River basin
- Advice will be provided to the nexus dialogue in the Niger basin.

3.2.3 Promoting sustainability, transboundary cooperation between basin countries and early consideration of water resources and dependent ecosystems in investments
- For renewable energy investments and development, a checklist or a resource document about taking into account water and environment related trade-offs and synergies, including transboundary considerations (with GERE)