

Conference
"EUROPE-INBO 2014"
ON THE IMPLEMENTATION OF THE WATER
FRAMEWORK DIRECTIVE
12-15 November 2014, Bucharest, Romania



Aquifer System TDA (Transboundary Diagnostic Analysis)
and Legal Frameworks – what lesson for DIKTAS?

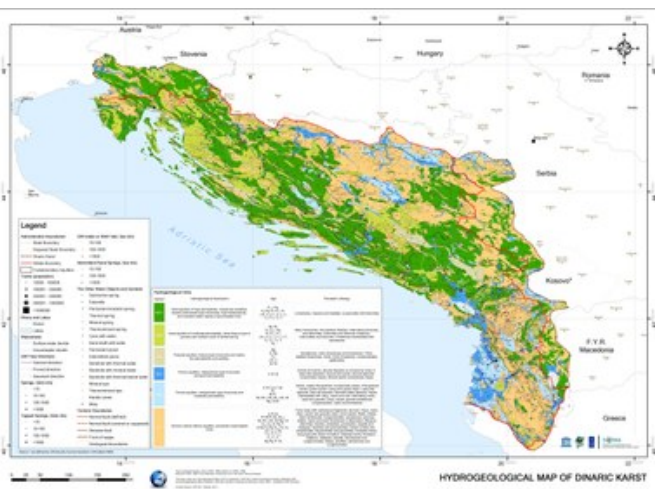
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Presented in 2014 in the:
International Conference and Field Seminar
KARST WITHOUT BOUNDARIES
11-15 June 2014, Trebinje & Dubrovnik



Dinaric Karst
Aquifer System



- Dinaric Alps stretches (in several separate mountain ranges) from southern edges of the Eastern Alps in Slovenia and Italy further across the western side of the Balkan peninsula, NE of the Adriatic Sea and south of Sava river basin in Pannonian plain, until it touches the westernmost parts of the old Rhodope mountains in central and southern Serbia, and reaches Pindus mountain chain in northern Albania and Sara mountain system near Kosovo, on its SE end along the Drin river
- **The project area consists of karst areas in the four project countries (Albania, Bosnia and Herzegovina, Croatia and Montenegro)**
- **Covers most of the Dinaric mountain chain or Dinaric Alps**

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Overview

GEF's TDA & SAP

ILC's Draft Articles

Converging TDA's
with Draft Articles

Examples of
Aquifer TDAS

Benchmarking
legislation

GEF's global
environmental
gain

GEF's – Global Environment Facilities
TDA - Transboundary Diagnostic Analysis
SAP – Strategic Action Plan

ILC – International Law Commission
UNECE - United Nations Economic
Commission for Europe

- ▶ Practically all GEF funded projects in International Waters require a TDA & a SAP – they also apply to 'aquifer systems'
- ▶ The ILC has developed Draft Articles that have been uniquely formulated to apply to aquifer systems
- ▶ Analysis of several aquifer TDA's suggests that the ILC Draft Articles framework is key to bringing consistency across them
- ▶ Examples of some major aquifer TDA's findings follow
- ▶ National legislation on aquifers can be benchmarked against Draft Articles to provide harmonisation framework
- ▶ The GEF's aim at achieving global environmental gains could be enhanced through such efforts

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TDA & SAP

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- ▶ Transboundary Diagnostic Analysis (TDA) is the essential start point for projects that deal with 'international waters' where countries share aquifers
- ▶ The premise is that sharing countries will each conduct analyses of the aspects of the aquifer system that have an impact beyond their own territory
- ▶ Following this, sharing countries will compare their own analyses with those of their counterparts to devise consistency and conformity based on good science
- ▶ Countries will then reach a consensus on key issues on which they would collaborate to minimise / mitigate negative impacts, usually through causal chain analysis
- ▶ Agreed actions are included into a Strategic Action Plan (SAP)

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Links

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- ▶ Transposing the TDA guidance into the Draft Articles:
- ▶ “Aquifer System States will take into account all relevant factors, including:
 - ▶ (a) population dependent on the aquifer system in each aquifer State;
 - ▶ (b) social, economic needs, present and future, of the aquifer States;
 - ▶ (c) natural characteristics of the aquifer or aquifer system;
 - ▶ (d) the contribution to the formation and recharge of the aquifer system;
 - ▶ (e) existing and potential utilization of the aquifer system;
 - ▶ (f) actual & potential effects of the utilization of the aquifer system in one aquifer State on other aquifer States;
 - ▶ (g) availability of alternatives to a particular utilization of the aquifer or aquifer system;
 - ▶ (h) development, protection and conservation of the aquifer system & costs of measures;
 - ▶ (i) the role of the aquifer system in the related ecosystem.”
- ▶ [based on Article 5 – Factor relevant to equitable and reasonable utilisation]

Some TDA's – key points

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- ▶ Guarani (Latin America) – pollution in the aquifer and wells, impact of overexploitation and macro challenges related to aquifer management
- ▶ Nubian (Northern Africa) – declining water levels, threats to dependent ecosystems, water quality deterioration, and climate change
- ▶ Iullemeden (Western Africa) – change in available resources, degradation of water quality and climate variability.
- ▶ DIKTAS (SE Europe) – still evolving, but key issue is matching surface to groundwater catchment areas for policy considerations

National to transboundary legislation

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- ▶ National legislation focuses on internal country management – seldom has provisions for transboundary management
- ▶ TDA's reveal those aspects of national regulations that may need adjustment or enactment, eg the Guarani required new regulation on thermal properties of the aquifer
- ▶ It is seldom that national instruments exist which enable transboundary investments for Strategic Action Programme actions to be made
- ▶ Countries will benefit if the provisions of the Draft Articles are used as a benchmark of their domestic regulations for addressing transboundary issues, thus harmonising the relative parts rules required to adopt a common SAP

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Global environmental gain

GEF's TDA & SAP

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- ▶ The hypothesis put forward is:
- ▶ *Aquifer TDA's and SAP's can be made significantly more effective, if they are developed within the framework of an international legal instrument, which provides countries with a legal base, on which to promote actions to yield global environmental gains.*
- ▶ For aquifer systems in particular, the Draft Articles would appear to provide the required benchmark
- ▶ GEF funded projects on aquifer systems could benefit from such an approach

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Final Remarks – TDA–SAP & Draft Articles

- ▶ Over 300 transboundary aquifers across all Continents
- ▶ The largest contain enough freshwater to provide for the whole planet for 200 years (eg Guarani, Nubian, Rum–Saq)
- ▶ Many contain hydrogeothermal energy, can store and deliver potable water, can purify water in the natural filtration process
- ▶ Some contain useful dissolved minerals, can be used to sequester CO₂, and some are linked to Shale gas reservoirs
- ▶ Better understanding, protection, conservation and good governance is urgently needed, through the adoption of the ILC's Draft Articles

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Thanks you for your attention !

Questions?

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