



ANSWERS TO QUESTIONNAIRE ON „THE ROLE OF SCIENCE IN ENVIRONMENTAL ADJUDICATION”

Dr. Katalin Sulyok (ELTE Law)
Dr. Fruzsina Bögös (EUFJE)

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OUTLINE

1) Background to the questionnaire

- ✓ Main issues of interests

2) Analysis of the answers received

- ✓ Science enters adjudication
- ✓ Using expert advice
- ✓ Evidentiary rules
- ✓ Judges' overall perception of the adequacy of scientific engagement

3) Some analytic findings

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BACKGROUND TO THE QUESTIONNAIRE

- ✓ science-intensive cases: science and law intertwined in many ways
- ✓ scientific arguments are seen as a requisite to rational judicial decision-making
- ✓ but scientific expertise is usually not incorporated in the court
- ✓ judges ought not to delegate the judicial task inadvertently to experts (retain control over the scientific aspects)
- ✓ aim: to appraise divergencies and commonalities between different jurisdictions' approaches to expert evidence and to the scrutiny of scientific conclusions of administrative authorities



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MAIN ISSUES OF INTEREST IN THE QUESTIONNAIRE

- ✓ in what forms do judges encounter with scientific arguments and expert evidence?
- ✓ various evidentiary procedures for gathering and evaluating expert evidence
- ✓ to what extent are courts deferential towards authorities' scientific assessments?
- ✓ implications for the uniform application of EU environmental law
- ✓ implications for preserving judicial control over scientific expertise in deciding the dispute
- ✓ challenges of science-intensive adjudication: what are the biggest challenges perceived by judges?
- ✓ what are the preferred ways of scientific capacity-building?

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SCIENCE ENTERS ADJUDICATION: USING GEOSPATIAL TECHNOLOGIES (GIS)

- ✓ most jurisdictions use them, even frequently, some still do not avail themselves of GIS
- ✓ types: Google Earth, google maps, aerial photos, satellites
- ✓ some countries have their own central GIS platform to reach open access, free GIS data
 - Italian initiative: a special software for spatial modelling and data visualization to aid prosecutors
- ✓ in most jurisdictions: court's own motion is possible
- ✓ purpose: fact checking, up-to-date data, real time inspections, spot illegal activity, verify changes over time (before vs after), replacing site visits

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SCIENCE ENTERS ADJUDICATION: USING GIS

- ✓ Usage: a variety of cases – including waste landfill, land use, permitting process, nature conservation, etc.
- ✓ Advantages and challenges:
 - environmental changes are temporally spread out – GIS can assist
 - vast amount of free and open-access data
 - but specialized GIS softwares require expertise
 - high enough resolution?



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USING EXPERT ADVICE — CASES OF GATHERING EXPERTISE

Ways of distinguishing scientific and legal questions:

1. Majority: case-by-case basis – role of judicial discretion!
 2. Indicative list of areas requiring scientific expertise - guidance (UA)
 3. Expert/technical judges – assist lawyer judges to engage with scientific evidence
- dangers of defining legal issues too extensively by incl. factual questions

Ex officio investigation:

1. In two-thirds of the jurisdictions: full competence to investigate ex officio
2. Only in particular cases
3. No ex officio investigation – parties have full control over revealing the scientific aspects

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USING EXPERT ADVICE — SELECTION OF EXPERTS

Selection criteria:

- ✓ Expert/technical judges
- ✓ No specific rules
- ✓ Diverse criteria (degree, trainings, national register, experience)

Reasons for challenging expert appointment:

- ✓ Bias and lack of impartiality (different procedural rules)

Exercising control over scientific fact-finding process:

- ✓ Most common form: defining the scope of the appointment
- ✓ Unique solutions: expert judges define the scope of relevant scientific evidence (FI), judge may attend expert session (F)

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EVIDENTIARY ISSUES: STANDARD OF PROOF IN ENVIRONMENTAL CASES

- ✓ The standard is not set in legislation
- ✓ Most frequently: the preponderance of evidence standard
 - except for criminal cases: BRD
 - the preponderance standard is responsive to scientific uncertainty
- ✓ Probability of causing damage establishes partial liability for toxic torts corresponding to the likelihood of causation (CZ)
- ✓ Presuming causal links in case of probabilistic evidence („based on serious and concordant evidence” - F)



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EVIDENTIARY ISSUES: BURDEN OF PROOF

- ✓ Generally: on the alleging party, no special rule for environmental cases
- ✓ Peculiar solutions:
 - precautionary principle in permitting cases (FI, SE)
 - in admin cases: the burden in on the authority (UA)
 - more weight is given to the authority's evidence (CJEU)
 - lawfulness of agency's conclusions is presumed (FI, ES)

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EVIDENTIARY ISSUES: WEIGHING COMPETING EVIDENCE



- ✓ Free evaluation of evidence principle – but countries differ as to how judges ought to evaluate conflicting expert evidence
 - courts on their own – cannot rely on court-appointed experts
 - with the help of expert judges
 - by appointing a third expert, or a college of experts
 - asking an expert institution to resolve contradictions
- ✓ Judges apply varying criteria for choosing among competing pieces of evidence:
 - conforms to state-of-the-art scientific methodology
 - more coherent, comprehensible
 - has more justified authority
 - altogether shows a more probable line of reasoning

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EVIDENTIARY ISSUES: STANDARD (INTENSITY) OF REVIEW

- ✓ Intensity of reviewing domestic authorities' scientific conclusions: jurisdictions vary between total deference (automatic acceptance of the findings) and de novo review (re-evaluating the findings based on the evidence)
 - total deference is exceptional (UA)
 - some are expressly deferential (Estonia, CJEU)
 - de novo review in jurisdictions where judicial revision of admin acts are possible (e.g. SE, HR, HU, CZ, DE, BLG)
 - others: certain degree of scrutiny
- ✓ Intensity of the review seems to be closely tied to the court's competence (cassation/reformatory competence)

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EVIDENTIARY ISSUES: STANDARD OF REVIEW

✓ Jurisdictions apply various tests for their judicial review – these are not set in legislation (role of judicial discretion):

- manifest error
- illogical or absurd result
- whether a scientific claim conforms to applicable guidelines and state of the art science,
- whether the necessary procedure has been followed,
- reasonableness, coherency of the scientific assessment
- whether there were significant shortcomings in the authority's assessment
- or any type of test as long as it is justified in the reasoning

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SCIENTIFIC ENGAGEMENT – OVERALL ASSESSMENT

1) SCIENCE AS A CHALLENGE FOR ADJUDICATION

✓ „relevant factor”, „biggest problem”, „it is essential”, entails dilemmas of „very sensitive” nature, „major/significant challenge”

✓ characteristic difficulties of environmental cases:

- incompleteness of data
- difficulty of predicting future changes
- distinguishing between legal and scientific issues
- finding proper experts
- 'partisan' experts
- distinguishing between honest errors and biases
- judges are left alone in certain jurisdictions to evaluate the scientific dimensions
- "judges do not completely understand the ratio of the case"
- judges cannot navigate among competing interpretations given by experts
- how to preserve the judicial control over the experts
- how courts can evaluate expert evidence while not making scientific assessments themselves
- how to gather independent expertise at low cost



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SCIENTIFIC ENGAGEMENT — OVERALL ASSESSMENT

2) PRESERVING JUDICIAL CONTROL OVER EXPERTISE

- ✓ Majority: current rules satisfactory - though some would favor certain improvements
 - need for allowing independent expert advice
 - appointing independent experts more frequently
 - expert judges – can make scientific information understandable for legal judges in a non-partisan way
 - judges need to be able to ask 'the right question'
 - stricter control over authorities' assessments
- ✓ Some favor less close engagement with expertise
 - expert assessment should be done by the agencies not by the court

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SCIENTIFIC ENGAGEMENT — OVERALL ASSESSMENT

3) CONCERNS ABOUT UNIFORM APPLICATION OF EU LAW

- ✓ majority sees no formal obstacle
 - ✓ one respondent: low quality scientific fact-finding and reluctance of courts to intervene may occasionally endanger it
 - ✓ divergent rules of scientific fact-finding may be a corollary of procedural autonomy of EU MS
- the role of science varies greatly in the courts' legal assessment among MS - plaintiffs in different MS face difficulties with proving their science-backed claims to varying extent

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SCIENTIFIC ENGAGEMENT – OVERALL ASSESSMENT

3) NEED FOR SCIENTIFIC CAPACITY BUILDING

- ✓ Virtually universal support for scientific capacity building
- ✓ Capacity building for judges and/or staff to increase knowledge in environmental sciences:
 - by taking courses/formal training in environmental sciences
 - by appointing expert judges
 - by appointing in-house experts
- ✓ Requirements for prospective environmental judges:
 - gaining expertise in relevant industry
 - long-term experience in the field



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SOME ANALYTIC FINDINGS (1)

- ✓ Science is seen by the overwhelming majority as a significant challenge in judicial practice
- ✓ Jurisdictions differ to a considerable extent in their procedural rules of scientific engagement
- ✓ Judges bear the burden of investigation – though their task is very different depending on the type of expert advice they are allowed to use
- ✓ Some favour greater expert involvement – but important to preserve control over expertise
- ✓ Others are contented with current involvement, but emphasize:
 - importance of not making scientific assessments by judges
 - dangers of partisan evidence
- ✓ Majority is allowed to use and do in fact rely on a number of scientific references other than experts' reports

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SOME ANALYTIC FINDINGS (2)

- ✓ Awareness of and access to GIS data can be improved in certain jurisdictions - real time, free of charge geospatial information enhances data accuracy (temporally and spatially) - developing such capacities for courts?
- ✓ Courts also vary in terms of how deep they want to go to the scientific aspects of authorities' conclusions – divergent standards of review, the majority is not deferential to competent authorities
- ✓ Even deferential jurisdictions allow the parties to submit contradictory evidence – preserving judicial control over scientific expertise
- ✓ Overwhelming support for different forms of scientific capacity building for judges and/or staff – this also supports that science is an influential factor in environmental adjudication

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SOME ANALYTIC FINDINGS (3)



- ✓ Some answers commented on the task of courts:
 - not to decide about scientific „truth” but to decide the question in law
 - judges will need to "do with" the scientific elements, even if those are insufficient, uncertain or contradictory,
 - have to make normative judgments about the science involved from a position of a “reasonably intelligent laymen”
- ✓ **Judges are key:** they have discretion in delineating scientific/legal issues, setting the standard of review and in conducting a free evaluation of the evidence – efficiency of legal protection of the environment influenced by how judges approach science

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THANK YOU FOR YOUR ATTENTION

Any questions and comments are welcome:

katalinsulyok@alumni.harvard.edu

eufje.bogoss@gmail.com

