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The role of science in environmental adjudication

Questionnaire

Introduction

Science and technology enter environmental adjudication in various forms ranging from competing science-based arguments to scientific evidence. These invite highly technical assessment from adjudicators and fundamentally impact the dynamic of the judicial process. Different national jurisdictions adopt divergent approaches to interpret such scientific input and employ different methods for *inter alia* scientific fact-finding, standards of review, as well as the standard and burden of proof.
This questionnaire seeks to map and better understand the various judicial tools with which different jurisdictions handle and engage with the techno-scientific aspects of environmental disputes. Our aim is two-fold: to appraise the differences and similarities in the judicial engagement with science of different national jurisdictions, and to evaluate whether such divergences in the treatment of science allow for preserving adequate judicial control over the resolution of scientific disputes on the one hand, and ensure uniform application of EU environmental law on the other hand.
Please answer the following questions by briefly illustrating them with specific examples from your practice where you deem appropriate.

Questions

1) Mandate of the court to review techno-scientific matters

a) In what forms do judges gather scientific advice (e.g. party-appointed experts, court-appointed experts, in-house experts, expert judges (legal adjudicators having a formal training in a certain scientific field), and/or expert assessors (scientific experts sitting with judges during the deliberation without the right to vote)? What is the task of these actors?

The procedural law of Ukraine provides such a party to a trial as an expert.
An expert can be a person who has the special knowledge necessary to clarify the relevant circumstances of the case. The expert may be appointed by the court or other party involved in the case.
The duty of an expert is to provide a substantiated and objective written opinion on the questions posed to him, that is, to make an appropriate examination.
A specialist, that is, a person who possesses the special knowledge and skills necessary for the application of technical means, may also take part in the case.
A specialist is appointed by the court for the provision of consultations and technical assistance in the course of the procedural actions involving the use of technical means (photographing, drawing up of schemes, plans, drawings, selection of samples for examination, etc.).
At the same time, the assistance and advice of a specialist do not replace the expert's conclusion.
The difference in the procedural status of an expert and a specialist is that the first one can be brought to a criminal liability for deliberate false conclusion.

b) What forms of scientific references are acceptable as bases for making persuasive scientific findings (E.g. expert evidence, standards issued by competent international or national organizations, regulatory trends of other states, etc.)?

The expert is obliged to conduct a full study and give a substantiated and objective written statement on the questions posed to him.
On request of the court the specialist is obliged to appear before the court to answer to the questions raised by the court, to provide consultations and explanations to provide and other technical assistance if necessary.

c) Can a higher court (e.g. appeal court, supreme court) in your jurisdiction investigate scientific questions, and/or review the scientific findings of lower courts? If so, to what extent?

The expert's conclusion, the specialist's explanation, is one along with other (written, real or digital) evidences in the case.
The court of cassation (Supreme Court) is deprived of the opportunity to provide evidence assessment. However, it can note on the procedural law violation made by the lower courts, that excluded the possibility to make findings that are relevant for the correct adjudication of the case, in particular, if the court did not examined the evidences gathered in the case (expert's conclusions).

d) How would you handle evidence derived from geospatial (GIS) technologies (such as satellite images, aerial photography, drones, etc.) (see for instance the use of geospatial intelligence in the Bialowieza case, C-441/17 R)? In what
type of cases and in what ways do you utilize them? How can they promote compliance monitoring and a more effective enforcement?

The Court of Cassation does not examine such evidence.

2) When do you gather expert advice?

a) How do you distinguish between technical/scientific questions and legal questions in fact-intensive disputes, where science and law are closely interlinked in the underlying legal rules and concepts?

The Law of Ukraine "On Judicial Expertise" states that judicial expertise is a study based on special knowledge in the field of science, technology, art, crafts, etc. objects, phenomena and processes in order to provide an opinion on issues that are or will be the subject of judicial matter.
The Ministry of Justice of Ukraine has approved the recommendations on the preparation and appointment of legal enquiry and expert studies, which contain an indicative list of issues that can be solved by one or another type of examination. Courts are guided by this list.
Also, the procedural law provides the possibility of involving an legal expert, that is, a person who has a scientific degree and is a recognized specialist in the field of law. The decision on admission of a legal expert and the attachment of his conclusion to the case file is made by the court.

b) Are there any types of cases and/or questions where gathering scientific evidence is mandatory under domestic law?

National laws do not define such cases (issues).

c) To what extent are judges allowed to investigate the scientific dimensions of cases *ex officio?*

The expert's conclusion, the expert's explanation, is one of the type of evidence in the case, along with other evidence (written, real, digital).
According to the procedural law, the court assesses evidence based on its internal conviction, based on a comprehensive, complete, objective and direct examination of the evidence available in the case.
There is no evidence for a court of a predetermined force. The court assesses the affiliation, admissibility, authenticity of each evidence separately, as well as the sufficiency and reciprocity of evidence in their totality.
The court assesses both the evidence collected in the case as a whole and each evidence (group of evidence of the same type) contained in the case, motivating the deviation or considering each proof (group of evidence).

3) Rules of expert appointment

a) What are the selection criteria of experts in your jurisdiction (e.g. having requisite training, being impartial, independent from the party, being enrolled on government-issued lists, etc.)?

Legal expert may be the person who has the necessary knowledge to provide an opinion on the issues under examination.
Legal expert of state specialized institutions may be a specialist who have the appropriate higher degree, have been trained and qualified properly and obtained the qualification of legal expert in particular sphere.
Legal experts are passing certification, after that they are included to the State Register of Certified Legal Experts, which is entrusted to the Ministry of Justice of Ukraine.
The concrete expert is determined by the state specialized institution according to the court's commission.

b) Whether and on what basis can a party challenge the appointment of a party-appointed/court-appointed/in-house expert?

An expert can not take part in the consideration of a case and is subject to withdrawal if:

1) *he is a member of the family or a close relative of the party or other participants in the trial;*
2) *he has participated in the case as a witness, specialist, translator, representative, lawyer, secretary of the court session, or provided the party or other participants with legal assistance in this or that case;*
3) *he is directly or indirectly biased in the outcome of the case;*
4) *the procedure for determining the expert was violated;*
5) *there are other circumstances that raise doubts about the impartiality or objectivity of the expert.*

Also, the expert can not participate in the consideration of the case, if he was or actually is in the service or other subordination on the other party of the case.
The content of expert opinions may be contested by a party when a court decision is appealed.

c) To what extent and in what ways do judges in your jurisdiction exercise control over the scientific fact-finding process (e.g. by defining precisely the scope of factual controversy needed to be addressed by experts)?

Such control is carried out only when assessing the expert's conclusion as the relevant evidence in the case. In some cases, the court may appoint a re-expert study.

4) Evidentiary issues: standard and burden of proof

a) What is the applicable standard of proof for environmental cases in administrative, civil and criminal law (e.g. preponderance of the evidence, beyond reasonable doubt, etc.)? Is it set in domestic law, or are judges free to adjust the standard as they deem fit?

In resolving environmental disputes the court applies a standard proving the prevalence of incontestable evidence.

There is no standard of proof in environmental disputes within the current procedural legislation.

b) What are the rules of allocating the burden of proof in science-intensive cases (maybe give one or two examples to indicate what is meant by scienceintensive cases)?

In the civil process, the burden of proof lies with the parties. Each party must prove the circumstances to which he\she refers as a basis for its claims or objections.
In the administrative process, as a general rule, each party must also prove the circumstances on which the claims and objections are based. However, in administrative cases regarding the wrongful acts or omissions of the subject of authority, the duty of proving lies with the defendant.
In the criminal process, the burden of proof lies with the state.

5) Rules of evaluating expert evidence: standard (intensity) of review

a) How do you choose between two competing or conflicting pieces of expert evidence?

The court chooses between two competing or contradictory pieces of expert evidence on the basis of the accuracy of the expert's statement of facts, and also given the completeness of the answer to the questions raised before the expert.

b) Could you review the scientific assessments and justifications made by a competent domestic authority (by conducting a *de novo* review of the evidence)? Or is your judicial review deferential towards the scientific claims of domestic authorities?

The court can not review the scientific assessments and conclusions of the competent domestic authorities.
References to scientific data of national authorities may be taken into account by the court.

c) What is the applicable standard of review to scrutinize the scientific assessments of domestic authorities (e.g. scrutinizing 'manifest errors', or the reasonableness/consistency/coherence of their scientific conclusions, or interrogating the scientific validity and factual correctness of the evidence, or reviewing the procedural aspects of science-based decision-making process at hand)?

The applicable standard of reviewing scientific assessments (findings of national authorities) is not fixed by the procedural law.
The court examines scientific assessments (conclusions of national authorities) for "obvious errors", consistency and consistency of scientific conclusions, their validity.

6) The role of science and technology in the courtroom - an overall assessment

a) To what extent do you consider the difficulties of scientific fact-finding to be a defining challenge in environmental adjudication compared to other difficulties?

The issue of scientific clarification of facts is essential for environmental justice.

b) Do you consider the domestic rules of expert involvement to be appropriate to secure judicial control/monopoly over deciding environmental disputes? Or do you think judges should exercise greater control over the scientific fact-finding process?

National procedure of experts involvement is appropriate.
The courts should not exercise more control over the process of scientific inquiry.

c) Do you consider the limits of curial supervision of fact-intensive cases are appropriate for providing effective judicial protection and promoting uniform application of EU law?

I believe that the existing limits of "procedural" supervision of fact-intensive cases are sufficient for effective judicial protection.

d) Do you think it is necessary and if so, in what ways, to improve the scientific engagement of judges (E.g. would you improve the procedural rules of scientific fact-finding, enhance the scientific competence of the judges through training and capacity building, or develop new legal tests to review contradicting scientific evidence, etc.)?

The scientific engagement of judges can be strengthened by increasing the scientific competence of judges by training and strengthening their capacity, developing new legal tests for review of contradictory scientific evidence.

7) Case study

How would you delineate applicable questions of law and science in the following cases, what types of expert evidence would be gathered, and how would they be evaluated?
Choose one of the following cases, according to your field of expertise:

a) The case brought before you is about a proposed artificial groundwater production plant that might impact a nearby Natura 2000 -site, whose conservation values are contingent on groundwater levels, thus being of concern when authorizing artificial groundwater undertaking outside the protected area. The Natura 2000 site has e.g. the region's largest sinkhole that has wetland at the bottom of it, and is thus connected with the groundwater formations. It also has coniferous forests on glaciofluvial eskers, and the site is generally described as having calcareous fens and springfens (all listed as Natura 2000 habitats). Up until now the plant has gained the required approvals. The groundwater model used in the proposed undertaking's plans modeled the water currents in the ground. As typical of such models, it was more uncertain in the rims of the area than in its centre. Coincidentally, these rims of the area also included especially sensitive and small wetland formation. The administrative authority, in its statement of reasons, discussed the role of the precautionary principle and scientific uncertainty, noting that neither formed as such a reason to not allow the venture. They only obliged the administration to establish such permit conditions that they adequately curbed the harmful impact. However, an environmental NGO brings a claim against the permit arguing that the permit should not have been granted at all. They claim that since the scientific assessments presented before the administrative authority did not remove all justified scientific uncertainty on the undertaking's consequences, and since there are thus

relevant risk of detrimental impact to the Natura 2000 -site, the plan should not be allowed to proceed.

The question of law:
- grounds for obtaining permission for the construction of the plant;
- grounds for refusal to obtain permission for the construction of the plant;
- compliance with the procedure for obtaining a permit;
- the right of an NGO to sue such claim;
- assessment of the importance of scientific uncertainties regarding the activities of the enterprise;
- preference of reasonable conclusion on the presence of scientific uncertainty over other evidence.

The question of science:
assessment of the correctness of constructing a model of water flow in the ground;
- the probability of the risk of harmful effects of the plant's construction on the Natura 2000 site;
- possible negative environmental impacts on the environment caused by the construction of the plant.

The answer to these questions of science is presented by the expert in the corresponding conclusion, which is assessed by the court along with other evidence in the case

b) The case brought before you is a case of illegal trade in birds protected under the EU CITES regulation Annex A (e.g. Red kite, Egyptian Vulture). Trade activities with respect to these birds are prohibited. There is an exception when one can prove that a specimen has been bred and born in captivity.
These birds can obtain a CITES-passport, which makes them marketable. Through forgery of rings and breeder's declarations, the defendants obtained CITES-certificates for "captive-born and bred species", which allowed them to commercialise the birds in spite of the general prohibition to trade EU CITES Regulation Annex A species. A bird protection NGO becomes a party to the criminal proceedings and claims moral damages because of the loss of the birds. Would this be evaluated by an expert? If not, how would the court estimate the amount of the compensation?