Do MEAs contribute to SDGs? An assessment of effectiveness through legal indicators

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1. Introduction

In recent decades, international treaties directly or indirectly concerning the sustainable management of natural resources have proliferated. These treaties set new standards and innovations in their fields, which range from more environmentally-targeted domains comprising the international law of natural resources to areas that are at a first glance peripheral to the development of natural resources and that have direct implications for natural resources management in light of its economic, social and environmental impacts.

Despite the growing number of international legal instruments related to sustainable natural resources management, we still know very little of their actual contribution to sustainable development governance[1]. While a plethora of reports and academic studies highlight remarkable progress and improvement in sustainable development governance achieved by some countries, the quality of the environment has steadily declined and some problems, such as climate change, have become even worse. For instance, in 2019, global carbon dioxide emissions were much higher than in the early 1990s, when negotiations towards an international climate agreement began.

As has been noted, "effectiveness has been a long-neglected issue"[2], and effectiveness issues have only occasionally attracted the attention of international lawyers. In fact, the limited literature to date on the assessment of international law concerning sustainable development has focused mainly on conceptual concerns,[3] specific case studies concerning difficulties in the implementation process[4] or specific decisions of international courts and tribunals.[5]

Some studies offer useful insights on the real effects that sustainable development principles can have by imposing self-constraints upon political and economic actors. However, these experiences come with several limitations. First, most of the existing studies focus on few principles or specific aspects/case-studies and do not allow for comparability across countries

[1] Emmanuella Doussis, "Does International Law Matter in Sustainable Development?" *Yearbook of International Environmental Law*, 2017, 1-12.
[2] Sandrine Maljean-Dubois, "The Effectiveness of Environmental Law: A Key Topic" in: Sandrine Maljean-Dubois (ed.), *Effectiveness of Environmental Law*, Cambridge: Intersentia, 2017, 1-12.
[3] Michael A. Mehling, « Betwixt Scylla and Charybdis : The Concept of Effectiveness in International Environmental Law", 13 *Finnish Yearbook of International Law*, 2002, 129; Elli Louka, *International Environmental Law: Fairness, Effectiveness, and World Order*, Cambridge: Cambridge University Press, 2006, Chenaz B. Seelarbokuks, "International Environmental Agreements (IEAs): An Integrated Perspective on the Concept of Effectiveness", 2 *International Journal of Environmental Protection and Policy*, 2014, 76.
[4] Edith Brown Weiss and Harold K. Jacobson (eds.) *Engaging Countries. Strengthening Compliance with International Environmental Accords,* Cambridge MA & London, The MIT Press, 2000; Chris McGrath, *Does Environmental Law work?,* Lambert Academic Pub, 2010; Peter H. Sand, "The Effectiveness of Multilateral Environmental Agreements: Theory and Practice", 13th Training Course on International Environmental Law-Making and Diplomacy, Joensuu, Finland, November-December, 2016; Paul Martin, Ben Boer and Lydia Slobodian (eds.), *Framework for Assessing and Improving Law for Sustainability*, IUCN, 2016.
[5] Marie Claire Cordonnier Segger and HE Judge Christopher G. Weeramantry (eds.) *Sustainable Development Principles in the Decisions of International Court and Tribunals*, London & New York: Routledge, 2017.

or legal instruments. The role of international law in sustainable management of natural resources has not yet been systematically investigated or measured and there is no common methodological framework to this end. Second, most are qualitative studies which describe different aspects of effectiveness without always clarifying the meaning of the term, and they may have multiple meanings, from compliance to the imperatives of a treaty to solving the problem it was designed to address. Much depends on the criteria used for the evaluations. In sum, existing literature provides little evidence of the true value of legal instruments as tools for international sustainable development governance and sustainability.

Attempts to evaluate effectiveness of international environmental and sustainable development systems and their performance to achieve sustainability have been mostly undertaken by political scientists and analysts with a background in economics[6]. However, these empirical studies (both qualitative and quantitative) do not capture all of the legal steps involved in the implementation process. The same is true for the environment and/or sustainable development scorecards published regularly by states and international organizations, which report almost exclusively on scientific, economic and social data. A prominent example is the Sustainable Development Indicator Framework, adopted in 2017 by UN General Assembly Resolution 71/313 to review the progress of Sustainable Development Goals (SDGs).[7] This framework consists of 231 indicators to monitor progress towards achieving the seventeen SDGs and their 169 targets, many of which involve calculable or scientifically quantifiable benchmarks, while paying minor attention to international law agreements related to sustainable development. Indicators concerning the monitoring of progress of the SDGs with the most environmental linkages and with the highest demand for legal implementation (namely SDGs 2, 3, 6, 7 and 11-15) refer only to instruments related to climate change and ocean protection. Even the most relevant SDG for legal issues (SDG 16), which concerns access to justice, governance and institutions, does not make any reference to specific indicators related to international environmental agreements and their implementation. Rather, it only mentions the rule of law and international human rights instruments.

However, even when international law is taken into consideration in formal state-of-the environment reports, such as the OECD's Environmental Performance Reviews,[8] it is not the subject of in-depth evaluation. These reviews consider legal frameworks as essential components to address environmental protection and sustainability challenges. Nevertheless, it is not enough to simply tick the box concerning the ratification of an agreement and the existence of institutions to draw conclusions for the effectiveness of international legal instruments. Rather, it is necessary to go beyond the existence of legal instruments, principles and rules and explore if they actually work in practice.

In this context, a significant question arises: What does effectiveness mean? As a corollary, it must be asked what makes international sustainable development law effective. And if it is not effective, or not significantly effective, what can make it more so? Finally, it is essential to ask whether international law has made a difference in sustainable development governance, including solving, or at least ameliorating, important problems. This paper clarifies the meaning of effectiveness and the difficulties involved in assessing the effectiveness of international law related to sustainable development. It explains why it is important to integrate the true value of international law in assessing sustainable development governance and how

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[6] Jon Hovi, Detlef F. Sprinz and Arild Underdal, "The Oslo-Potsdam Solution to Measuring Regime Effectiveness: Critique, Response and the Road Ahead", 3 Global Environmental Politics, 2003, 74.
[7] https://undocs.org/A/RES/71/313.
[8] https://www.oecd-ilibrary.org/environment/oecd-environmental-performance-reviews_19900090

this could be eventually achieved, while highlighting the methodological challenges and their limitations. Finally, the paper concludes with some general remarks on future research paths.

2. What does effectiveness mean?

According to the literature, three "meanings"[9] or "levels"[10] of the term effectiveness exist:

-*legal effectiveness*, which "focuses on the issue of compliance (that is, whether outcomes conform to what a legal rule requires"[11], and hence is more related to the process of implementation of a legal rule.

-*behavioral effectiveness*, which focuses on the role of international law in influencing and even changing actors' behavior "in the 'right' direction, that is, towards achieving the treaty's objectives"[12].

-*problem-solving effectiveness*, which focuses on the ability of the legal rule to solve or mitigate the problem it was designed to address.

Lawyers usually tend to concentrate on legal effectiveness. This aspect is easier to assess than behavioral or problem-solving effectiveness. Indeed, evaluating legal effectiveness requires "compar[ing] what a norm requires with what actually takes place"[13]. For example, if a treaty sets forth obligations of conduct it is legally effective to the degree that states respect this requirement.

However, compliance by itself is a poor indicator of a rule's value.[14] A treaty may be legally effective without solving or mitigating the problem it was designed to address or changing the behavior of actors involved. This is because it may not be well designed or it may provide low ambition provisions. Similarly, compliance may also be incidental and not related to the implementation of a specific commitment.[15] Consequently, the true value of a legal rule cannot be fully assessed without considering behavioral or problem-solving effectiveness. Nevertheless, the task of evaluating these levels of effectiveness poses many challenges as they require comparing what takes place with what would have occurred in the absence of the legal rule. This involves counterfactual situations that need expertise from other disciplines and interdisciplinary tools that can match legal aspects with political and socio-economic aspects as well as environmental and scientific assessment.

Therefore, the weight and usefulness of international legal instruments in sustainable development governance seems to be underestimated. So far, the effectiveness of these instruments has not been methodically investigated and measured because of the lack of specific legal evaluation tools. It is evident that there is a methodological gap which needs to be addressed, and that international lawyers should participate in this process, as they are the best placed to identify advantages as well as difficulties inherent to all legal steps relating to the implementation of legal rules and principles, and to explore with, and even propose solutions to, policy makers.

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[9] Daniel Bodansky, "Implementation of International Environmental Law", 54 *Japanese Yearbook of International Law*, 2011, 62-96.

[10] Maljean-Dubois, supra note 2 at 1-12.

[11] Daniel Bodansky, supra note 13 at 63.

[12] *Ibid.* at 64.

[13] *Ibid.*

[14] *Ibid.* at 65; Sand, *supra* note 2 at 5.

[15] Maljean-Dubois, *supra* note 2 at 4.

3. Legal indicators as operational tools to measure effectiveness

How can effectiveness be measured in this context? The outcome document of the Rio+20 Conference on Sustainable Development highlighted that "indicators" are "valuable in measuring and accelerating progress"[16]. While the importance of indicators for assessing sustainable development is widely recognized, their use in evaluating legal systems has not yet become systematic. The journey from law-making to effective implementation depends, among others, on the availability of appropriate tools for evaluation.

3.1. What is a legal indicator?

A legal indicator is a tool, expressed through qualitative or quantitative language, for describing a particular phenomenon (such as the perception of corruption in a certain state or the level of compliance with human rights or the rule of law in another). Davis and Kingsbury define a legal indicator as "a named collection of rank-ordered data that purports to represent the past or projected performance of different units. The data are generated through a process that simplifies raw data about a complex social phenomenon. The data, in this simplified and processed form, are capable of being used to compare particular units of analysis (such as countries, institutions, or corporations), synchronically or over time, and to evaluate their performance by reference to one or more standards"[17].

Legal indicators measure "the performance of some component of one or more legal system along a particular dimension"[18]. Such components may include principles, rules (i.e. treaties and domestic legislation), practices (i.e. licensing systems, reporting systems, and the use of sanctions) and institutions (i.e. control bodies, administrative procedures and courts). For example, a legal indicator might focus on a specific sustainable development principle (that is, public participation), relevant international treaties and agreements to which a state is a party, the measures taken by states to implement this principle in the domestic context, including institutions and enforcement policies (i.e. regulations, administrative action, decision-making processes, penalties, control bodies, and remedies available), as well as changes in the behavior of concerned entities, including government actors and others involved in governance (i.e. evidence of their actions)[19].

3.2. The use of legal indicators to assess other legal systems

Legal indicators have been used by international organizations as governance tools, in particular to monitor the performance of international policies. The United Nations Office of the High Commissioner for Human Rights (OHCHR) has endorsed a list of quantitative and qualitative indicators to measure progress of international human rights norms and principles[20]. Further, the UN Rule of Law Indicators were created by the Department of Peacekeeping Operations and the OHCHR to monitor changes in the performance of criminal justice institutions in conflict and post-conflict situations.[21]

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[16] UN GA A/Res/66/288, 27 july 2012, *The future we want*, paragraph 104.

[17] Kevin E. Davis and Benedict Kingsbury (eds.), *Indicators as Interventions: Pitfalls and Prospects in Supporting Development Initiatives*, New York: Rockfeller Foundation, 2012, 73-74.

[18] Kevin E. Davis, "Legal Indicators: The Power of Quantitative Measures of Law", 10 *Annual Review of Law and Social Science*, 2014, 39.

[19] Doussis, *supra* note 1 at 7.

[20] UN Office of the Human Rights Commissioner for Human Rights, *Human Rights Indicators: A Guide to Measurement and Implementation*, 2012, https://www.ohchr.org/Documents/Publications/Human_rights_indicators_en.pdf

[21] UN Department of Peacekeeping Operations and Office of the High Commissioner for Human Rights, *The UN Rule of Law Indicators, Implementation Guide and Project Tools*, 2011, https://www.ohchr.org/Documents/Publications/Human_rights_indicators_en.pdf

The idea of using legal indicators in assessing international law related to sustainable development is not new. Legal indicators, such as the European Union's climate change and energy indicators[22] and the Mediterranean Sea indicators,[23] have been integrated to assess regional policies. At the universal level, a long-standing initiative is the National Legislation Project established by the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[24], which ranks the laws of State Parties and may give rise to trade sanctions for inadequate domestic laws.

These examples have revealed the multiple roles that indicators might play in assessing the performance of legal systems[25]. For instance, indicators:
- may influence behavior and align expectations of state and non-state actors in the same way as formal international norms do;
- may embarrass poorly ranked states and force them to take action in order to achieve a better ranking;[26]
- provide an alternative way for international organizations to communicate a lack of compliance, thus "naming and shaming" states into compliance;[27]
- provide an alternative monitoring mechanism, which allows international institutions to review the implementation of legal instruments even if they lack the formal mandate or the institutional capacity to engage in formal adjudication;
- may influence the incorporation of international law rules into domestic systems and provide a tool for domestic courts to interpret and apply international law;[28]
- may help State Parties to international treaties to record precise and relevant information for the treaty bodies and help assess progress in implementing treaty obligations;
- may also have broader impacts on global governance[29], as they can create horizontal or vertical spaces of interaction and political debate, where all actors (state and non-state) can interact. Horizontal spaces may serve as *lingua franca* for interaction among different systems. Vertical spaces open new areas of engagement between international institutions and domestic political processes. This aspect is of particular importance for the sustainable development legal framework, which is highly fragmented.

Indicators do, however, contain some limitations, perhaps most important being that they should be seen as tools to support qualitative assessments and should in no way be considered as a substitute for them.

3.3. **Methodological challenges**

There are numerous methodological challenges, as well as conceptual and empirical challenges, in constructing legal indicators to measure the effectiveness of international law related to sustainable development. What to measure, how to collect information and convert data into indicators, while at the same time avoiding the danger of misusing data, are only some initial concerns.

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[22] EEA, *Environmental Indicator Report*, 2017.
[23] UNEP, *Dashboard on the Sustainable Development in the Mediterranean*, 2017.
[24] Resolution Conf. 8.4 (Rev. CoP15, 1992/2010): National Law for Implementation of the Convention.
[25] See, Rene Uruena, "Indicators as Political Spaces: Law, International Organizations, and the Quantitative Callenges in Global Governance", 12 *International Organizations Law Review*, 2015, 1.
[26] Rene Uruena, *supra* note 25 at 9.
[27] *Ibid*. at 14.
[28] *Ibid.* at 10.
[29] *Ibid*. at 12.

A first challenge relates to the challenge of creating legal indicators meaningful for multiple multilateral environmental agreements (MEAs) dealing with natural resources governance. This is because these agreements have proliferated in number and, additionally, vary widely with respect to both the *spatial attributes* (i.e. nature and location) of the governed natural resources (global resources such as the climate vs. regionally located resources like forestry) and, with regards to the *regulatory approach*, are intended to ensure a sustainable management of the regulated resource. Further, the two elements do not always go hand in hand, resulting in competing, or even conflicting, governance and regulatory systems for similar issues. For example, the Montreal Protocol on Persistent Organic Pollutants and the Paris Agreement on Climate Change espouse two different regulatory approaches – that is, quantified limitation targets on production and consumption of covered substances vs bottom-up nationally determined contributions – but the former resembles the Basel Convention approach, which governs transboundary movements of hazardous waste. Because of this diversity of potential systems, a treaty-based approach is likely the best starting point, keeping in mind any potential for clustering agreements with a resource-based approach to be checked against regulatory approaches.

A second challenge relates to the identification of the type of information that legal indicators could/should convey. This is inherently linked to another question: what definition of effectiveness could/should be captured through legal indicators? Here, one could think of two main approaches. The more 'classical' approach consists of identifying indicators for measuring the degree to which international environmental law (IEL) is "domesticated". Under this approach, the focus should not be on the principles and rules per se, but, rather, on the consequences arising from the way they are implemented and enforced in practice. In other words, indicators should take into consideration all the legal steps involved in the implementation process: integration of the rule in the domestic system (the legislative – executive/administrative – judicial steps taken to implement international commitments), measures taken by states to implement this principle in the domestic context, including institutions and enforcement policies (i.e. regulations, administrative action, decision-making processes, penalties, control bodies, and remedies available), administrative and judicial control (i.e. whether courts apply international law directly or use it to interpret national law), as well as eventual changes in the behavior of concerned entities, serving as evidence of state actions. To the extent that this process requires an extensive analysis of the domestic legal frameworks of all the states that are parties to an MEA, this would be quite burdensome. What is more, such an approach would only convey information on *legal* effectiveness and would ignore, to a large extent, information on the behavioural and problem-solving connotations of effectiveness, which are ultimately the goal of natural resources governance.

A more pragmatic approach could consist of replicating the commitment-effort-result framework that is already common for other legal indicators so as to conceive structural-process-outcome indicators for MEAs that are focused on natural resources governance. This could cover all three connotations of effectiveness: (i) legal effectiveness could be checked against structural indicators aimed at assessing whether domestic systems accommodate for sufficient incorporation and enforcement of international legal obligations; (ii) behavioural effectiveness could be addressed by process indicators aimed at evaluating the adequacy of policy responses towards the MEA goal; and (iii) problem-solving effectiveness could be evaluated in light of outcome indicators informing all stakeholders of how the overall international system is from solving the problem regulated through the MEA. Within such a framework, structural indicators would be the closest alternative to 'classical' legal indicators

for the purposes of measuring legal effectiveness, with one fundamental difference: they could be formulated without necessarily inquiring into the specifics of domestic legal frameworks in a comprehensive way. These structural indicators could in fact just focus on aspects of domestic implementation that could be directly inferred by examining whether the international legal obligations directly descending from MEAs are being fulfilled by States.

As a concrete example, using the Paris Agreement, under the first scenario, classical legal indicators would require a full-fledged analysis of the legislative, administrative and judicial developments occurring in each of the State Parties. Under the second scenario, one may focus on one or two measures that synthesise the extent to which State Parties are in compliance with obligations directly arising out of the Paris Agreement, which would be already indicative in themselves of whether States are actually aligning their domestic legal frameworks. Corresponding process and outcome indicators would complement the picture by measuring the extent to which approximation of the adequacy of domestic responses, as captured by structural indicators, allows State Parties to meet the goal/s of the Agreement over time.

Box 1 Examples of the type of information that could be included into Paris Agreement-specific legal indicators
Structural indicators • Proportion of ratifying State Parties submitting an NDC in requisite timeframe • Proportion of ratifying State Parties submitting revised NDCs on time
Process indicators • Proportion of State Parties on track to meet the targets announced in their NDCs and revised NDCs • Proportion of State Parties submitting a longer-term strategy to the UNFCCC • Proportion of State Parties on track to reach global emissions peaking by 2030 and proportion of global GHG emissions covered • Number of State Parties committing to carbon neutrality by 2050 in their NDCs and proportion of global GHG emissions covered
Outcome indicators • Cumulative trajectory of global GHG emissions (peaking, carbon neutrality) • Cumulative increase in global temperature trajectory

Such a framework would have the advantage of translating already available (scientifically rooted and quantitatively determined) data into legally relevant information that could be presented in the form of indicators. As has been established, the availability of relevant and reliable data has in fact been a major problem for the formulation of legal indicators, and especially so for IEL treaties, which mostly rely on self-reporting. However, over the last years, many treaty body secretariats have developed monitoring practices that gather data concerning implementation. Moreover, independent sources of authoritative information have proliferated. These sources could facilitate the compilation of legally-relevant information that could be conveyed through structural-process-outcome indicators.

4. Future research paths

There are a number of potential, and often complementary, future research paths in relation to the development and implementation of legal indicators for the sustainable use of natural resources. One such path is the identification of a suitable structural-process-outcome framework through which to assess and promote the implementation of legal instruments that are either directly or indirectly related to sustainable management of natural resources. Another

path is to identify what legally relevant data and other information that is already currently or prospectively available could be translated into a list of illustrative legal indicators and initiate a validation process (discussion with experts from treaty bodies, international organizations and the civil society – discussion with national stakeholders responsible for reporting) to generate feedback.