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**Fostering Legal
Indicators for
Sustainable
Development**

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Executive Summary

It is increasingly recognized that effectively enforced environmental law is critical to attaining the Sustainable Development Goals (SDGs). However, the SDG global indicator framework, as approved by the UN General Assembly in 2017, has generally overlooked environment-specific legal indicators, undermining the role of environmental law in achieving the SDGs.

As a result, existing indicators for measuring progress on SDG implementation seldom refer to the contribution of environmental law and hardly reflect qualitative data that would allow its effectivity to be gauged, thereby disregarding the impact of environmental legislation on the success or failure of environmental policies.

States need to accurately assess the effectivity of environmental laws and treaties by means of consistent legal indicators. This can assist governments, parliaments and civil society to track progress, gaps and regressions, so as to precisely measure the extent to which existing laws and treaties are effectively implemented, and to chart the path to suitable reforms, as appropriate. Their mathematical processing makes it possible to produce decision-making dashboards, and to visually identify the levels of application of the law, together with areas for improvement.

From this perspective, the International Center for Comparative Environmental Law (CIDCE) has outlined an innovative methodology for the development of science-based legal indicators of effectivity. This paper illustrates their usefulness, advocating their establishment to accurately evaluate the effectivity of environmental law at national, regional and global levels, including for reviewing progress in achieving relevant SDGs.

The paper explores ways to foster the use of the suggested indicators for furthering the implementation of SDGs having direct bearing on the legal protection of the environment. This entails refinements to the SDG global indicator framework, conceivably involving the addition of new indicators or the revision of current indicators with a view to advancing the realization of environment-related SDGs.

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Introduction

As phrased by the philosopher Henri Lévy-Bruhl, knowledge of the legal facts “can not do without precise and methodically established numerical data.”¹ Similarly, philosopher, mathematician and politician, Nicolas de Condorcet argued that progress of quantification should go hand in hand with the design of a uniform and universal legal system, one in which it should be possible to “calculate” the legal rules applicable to all humankind.²

While this vision seems particularly appropriate for assessing the effectivity of environmental law, given its universal character and its applicability to humanity as a whole, no thorough research work has been conducted for the creation of legal indicators intended to evaluate precisely how effective it actually is. In recent years, some empirical studies have partially dealt with particular phases of law enforcement procedures, but they did not embrace all the legal steps involved in the implementation process. Hence, the effectivity of environmental law has not yet been methodically investigated and measured, due to the lack of specific legal evaluation tools.³

To address this gap, the International Center for Comparative Environmental Law (CIDCE) carried out a study on proper tools for environmental law effectivity, outlining a novel methodology for the design of legal indicators of effectivity. Published in 2018, this

study was sponsored by the Institute of La Francophonie for Sustainable Development (IFDD), in partnership with UNEP, the International Union for Conservation of Nature (IUCN) and the Economic Community of West African States.⁴

In 2019, research on legal indicators was included in the Normandy Chair for Peace Programme within the area of Law for Future Generations. A seminar at the University of Caen undertook to extend previous research on this assessment tool to produce practical outcomes that could be replicated globally and nationally. After testing the tool for effectivity evaluation in Europe (France and Portugal), Africa (Tunisia) and South America (Brazil), it will be possible to apply it not only to environmental law in other regions of the world, but also towards measuring achievement of the SDGs through effective use of existing legal instruments. In light of this experience, an expanded edition of the initial publication was produced in 2020 under the title “Measuring the Effectivity of Environmental Law. Legal Indicators for Sustainable Development.”⁵

The proposed legal indicators are intended to scrutinize the different phases of the legal process of environmental law application. Creating this new tool should make it possible to statistically and mathematically measure, on scientific grounds, the various factors that contribute to the effective implementation of national

and international environmental law and sustainable development law.

In this context, the term “effectivity” is deliberately used rather than the more usual word “effectiveness”. The notion of “effectivity” denotes what produces real and concrete effects. “Effective” law is law in action. It is “living” law or “real” law, beyond formal law or law on the books. “Effectivity” is the intersection of the law and fact, which ideally leads to unity of the law and fact. Consequently, a legal rule should not only exist, but also be applicable, respected, enforced and sanctioned by the administration or the court.

On the other hand, using the term “effectiveness” would entail the risk of semantic confusion and substantive inaccuracy, as its common equivalent is *efficacité* in French and *eficacia* in Spanish, which both generally translate as

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“efficiency”.⁶ Yet, “efficiency” carries quite a different connotation: a rule is considered “efficient” if it ends up being socially relevant and beneficial. “Efficiency” refers to the useful impact of a legal norm on society, its contribution to achieving a positive result outside the legal system, whereas the “effectivity” of law is measured within the legal system.

As such, “effectivity” does not carry the same significance in domestic law and international law. In domestic law, it is a non-legal concept questioning the conditions of application of the law.⁷ In international law, it is a legal criterion conditioning the application of the law through identification of the subjects of law and the appropriation of territories.⁸ Designing legal indicators for objectively assessing the effectivity of environmental law is therefore needed at both levels.

Based on the findings of the referenced publications,⁹ this paper discusses the essential questions: why legal indicators are needed, how they are developed, and how they are measured.

1. The usefulness of legal indicators

Official assessments of environmental policies through state-of-the-environment reports do not presently allow accounting for the existence nor effectivity of environmental legislation, as they only refer to scientific, economic or social indicators. Legal indicators are not mentioned simply because they do not yet exist. With such a glaring absence of law in formal reporting, its weight is often undervalued or denied.

That is why environment-specific legal indicators would represent a key contribution to rigorous evaluations of environmental policies. At the same time, these assessments would help to draw

the attention of policy makers, elected officials and civil society to gaps in or regressions of the law. Legal indicators would also enable law enforcement officers and the general public to be better informed about the role that environmental law could play in the success or failure of environmental policies.

In this connection, some scholars have reflected on whether and how law can be measured in a scientific way. For example, under the “numerical comparative law” method, the types of indicators that can be combined for measurement purposes include: functional indicators for issues to be considered in a comparative law perspective; indicators to determine the quality of political institutions or judicial systems; and indicators to survey public and private perceptions of the conditions of law enforcement. Setting a numerical level of the effectivity of a piece of law would require the aggregation of performance figures and perception data.¹⁰

However, few environmental legal texts explicitly require legal indicators, domestically or globally. Examples at the national level include the 2014 sustainable development acts of Burkina Faso¹¹ and Côte d’Ivoire,¹² which provide for the creation of specific indicators to monitor progress in attaining sustainable development. At the regional level, the 2008 Protocol on Integrated Coastal Zone Management (ICZM) in the Mediterranean requires Parties to define suitable indicators to evaluate ICZM strategies, plans and programmes. Under the 2018 Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, environmental performance reviews must take into account common indicators to evaluate the efficacy, effectiveness and progress of national environmental policies

in fulfillment of national and international commitments. At the world level, the 2006 International Tropical Timber Agreement calls for criteria and indicators to assess, monitor and promote progress towards sustainable forest management. However, the indicators referred to in these instruments are not characterized as being scientific, economic, social, legal or otherwise.

To support the construction of environment-specific legal indicators, similar existing indicators were identified and studied for reference and inspiration, outside and within the field of the environment. In total, 37 official, academic and non-government organization (NGO) indicator initiatives were systematically reviewed.¹³ They broadly pertain to three categories:

1. Indicators on human rights, such as those developed by the Office of the High Commissioner for Human Rights and the Inter-American Commission on Human Rights, as well as the Human Freedom Index and the Core Humanitarian Standard indicators;
2. Indicators that occasionally address the environment, such as the United Nations Rule of Law Index, the United Nations Development Programme (UNDP) Human Development Index, the World Bank Worldwide Governance Indicators, and the World Justice Project Rule of Law Index; and
3. Indicators that particularly focus on the environment, such as the Environmental Performance Index, the Environmental Democracy Index, the UN Environment indicators, the Organization for Economic Co-operation and Development (OECD) environmental indicators, and the European Union indicators

for monitoring compliance with environmental law. In this last category, the United Nations SDG indicators are of particular importance and are therefore discussed separately.

Conclusions drawn from the review of these indicator experiences include that:

- Lawyers who reflected on the effectivity of environmental law have not seriously considered actually measuring the conditions of its enforcement;
- Aside from the environment, legal indicators have been significantly tested in two areas: human rights and the rule of law;
- While it is generally agreed that environmental indicators are needed, legal indicators have only been regarded as necessary in exceptional circumstances;
- Rarely used, the term “legal indicator” could be found only on three occasions;
- Environmental law evaluations commonly cover three levels – global, regional and national –, but legal indicators should be dealt with separately at the international and domestic levels;
- General and sectoral indicators should be differentiated, as in human rights, where a

distinction is made between structural, process and outcome indicators; and that

- Legal indicators of effectivity can only be relevant if they complement purely legal data with institutional, social and financial data.

2. The SDGs deserve legal indicators

In 2015, through Resolution 70/1, the United Nations General Assembly (UNGA) adopted the 2030 Agenda for Sustainable Development, including the 17 SDGs it sets out and their 169 targets. The Resolution prescribed regular review of these goals and targets, using a set of global indicators. To this effect, it mandated the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) to develop a global indicator framework. A list of 231 indicators, produced by the IAEG-SDGs and agreed by the UN Statistical Commission, was endorsed in 2017 by UNGA in Resolution 71/313. The Statistical Commission was requested, through the IAEG-SDGs, to refine the global indicators annually and to review them compressively in 2020 and 2025.

Since then, efforts towards SDG implementation have been reported against selected indicators for which sufficient data exist. According to the latest UN report on the SDGs for

2020,¹⁴ progress remains uneven and the world is not on track to meet the SDGs by 2030. Because of the COVID-19 pandemic, achievement of the SDGs has become even more challenging. Nevertheless, the report found that 21 of the 169 SDG targets have matured. Of these 21 targets, 12 are linked to the Aichi targets under the Convention on Biological Diversity.

Although the SDGs are not legally binding, they must be implemented in accordance with international law. And since they are also perceived as political and moral commitments, national reviews of their implementation are voluntarily submitted by States and examined within the High Level Political Forum on Sustainable Development.

Additionally, the SDGs often refer to legal elements, with numerous occurrences of the words “human rights” (11 times), “convention” (11 times), “international law” (8 times), “legislation” or “law” (5 times), “international agreements” (3 times), and “rule of law” (3 times). Among the 169 targets, at least 15 are direct references to the law. Among the 231 indicators, “legislation”, “law”, “legal framework”, “application” or “implementation” are mentioned 35 times. And of the same 231 indicators, 93 address the environment and 2/3 address human rights.¹⁵ However, environmental law is not specifically referenced in

SDGs mostly connected to the environment



the SDGs, and none of the global indicators is of a legal nature.

The Statistical Commission made adjustments to the SDG global indicator framework in 2018, 2019 and 2020, involving 36 useful refinements.¹⁶ Yet, none of these had to do with indicators for the effectivity of the law. Hence, the SDGs continue to lack truly legal indicators, although many of them clearly have a marked legal dimension, including with regard to environmental matters.

Among them, those most closely linked to the environment are SDGs 2, 3, 6, 7, and 11 to 16. Some of them directly underpin environment-related human rights, such as SDG 2 for the right to food, SDG 3 for the right to health, or SDG 6 for the right to water. Others interface with climate law (SDG 13), the law of the sea (SDG 14), or biodiversity law (SDG 15).¹⁷ And through SDG 16 on governance, fundamental freedoms such access to justice, access to information and public participation are reinforced.

In its first global report on the environmental rule of law, UNEP highlighted the interrelationship between the law and the SDGs. Emphasizing the need for indicators to measure, track and report on environmental rule of law performance, the report found that, to be able to draw lessons about positive and negative outcomes, it is necessary to utilize a set of consistent indicators that allow for comparison and track progress, nationally and globally. To this end, it put forward a detailed Indicator Framework for Environmental Rule of Law.¹⁸

The SDGs have become part of the landscape of environmental governance. They serve as a guide and reference point for political and legal action by States on environmental matters. The law's role within the SDGs should

therefore be further clarified and enhanced to ensure that official indicators successfully convey the effectivity of the law applicable to their implementation.

To be effective, each SDG must rely on existing law and often depends on the creation of new law to achieve the stated objectives. The law and the SDGs are therefore mutually-reinforcing, as illustrated in the figure given below.

From this perspective, the Statistical Commission should be encouraged to work out specific legal indicators for environment-related SDGs, either by adopting new indicators or by refining existing indicators, in order to help advance their realization.

3. The design of legal indicators

Creating legal indicators is a complex multidisciplinary task that

requires a robust team of lawyers specializing in environmental law along with experts in other disciplines, including mathematics, statistics, sociology, ecology and political science. The design process starts with the selection of the area of law to be evaluated.

This is followed by the identification of categories of effectivity criteria, and then the development of questionnaires for the formulation of legal indicators, to be used for the assessment of general or specific environmental law issues.

Selecting the area of measurement

The first step in the creation of legal indicators is to determine the area of environmental law to be evaluated, or area of measurement.

This may be:

- Chosen from a list of 35 environmental topics covered by the law, which include

SDGs and environmental rule of law, mutually supportive



Source: UNEP, Environmental Rule of Law, 2019 ¹⁹

for example: water, air, soils, forests, wildlife, protected areas, pollution, wastes, chemicals;

- Related to a general principle of environmental law, such as information, participation, access to justice, prevention, precaution, non-regression or planetary limits;
- Linked to a cross-cutting theme or general issue, such as: biodiversity, climate change, right to the environment, environmental justice, sustainable development or renewable energy; or
- Connected to an entity involved in environmental matters, such as: environment ministry, advisory bodies, local authorities, judicial bodies, international agencies or treaty secretariats.

To assist in the choice of the measurement area, a survey among experts should first be carried out to select priority themes from the 35-topic list. Themes should then be ranked in order of importance from 1 to 35, according to their legal usefulness for a better environment, with 1 being

the most important. This would result in a country-specific ranking that would allow priorities to be discerned for adopting or reinforcing environmental norms.

Identifying the families of effectivity criteria

The next step in the indicators design process is to identify relevant categories of effectivity criteria. By convention, the different components of environmental law implementation have been divided into six families of effectivity criteria, of which five are purely legal and one lies outside the law. These are:

- Existential criteria: To be effective, a norm must obviously exist. Its existence is ascertained through its legal source: treaty, constitution, parliamentary act, government decree, policy tool, court ruling, etc.;
- Applicability criteria: To be effective, a norm must be legally applicable with varying degrees of enforceability. Applicability is observed through the way in which the norm is made public, and is also determined by the enactment of implementing rules;
- Substantive criteria: To be effective, a norm must be specific or general in content. Its substance is scrutinized in terms of what it forbids and what it allows, and whether it is progressive or regressive;
- Institutional criteria: To be effective, a norm must be implemented by appropriate institutions, at central and local levels, with sufficient human, technical, scientific and financial resources;
- Enforcement criteria: To be effective, a norm must be truly enforced, with its enforcement actually reviewed and appraised by administrative and judicial bodies and by civil society organizations; and
- Non-legal criteria affecting effectivity: To be effective, a norm must meet economic, social and cultural requirements. Non-

legal factors likely to influence application of the law, such as local customs, traditional beliefs or corrupt behaviors, need therefore to be considered.

Developing questionnaires for the formulation of legal indicators

Afterwards, formulating the legal indicators involves a rigorous 12-stage development process, which embraces the following constituents in sequence:

1. Establishing a committee of experts: This should include 10 to 15 members, two-thirds of whom are environmental lawyers and the others statisticians, mathematicians, political scientists, sociologists and historians;
2. Determining the measurement area: The committee should identify priority area(s) to be evaluated for effectivity, specifying the international, national, regional or local scope of the assessment;
3. Inventory of applicable law: The committee should clearly determine all sources of international, regional and domestic law that may apply to the selected measurement area, possibly ranking them from 1 to x, depending on their expected contribution to effectivity;
4. Creating the questionnaire: The committee should prepare questions and sub-questions of relevance to the six families of criteria, to be worded in a way that allows for mathematical measurement of the responses;
5. Grading scale for answers: Among the answers usually available ("yes", "often", "sometimes", "rarely", "no", and "don't know"), the committee should choose those to include and agree on the value to be given to each answer, resulting in the grading scale of the response options;
6. Structuring questions and sub-questions: The committee should review, arrange and

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fine-tune all the questions and sub-questions to make sure they can be easily understood and answered;

7. Weighting of questions and sub-questions: The committee should assess the relative weight of each question and sub-question as a factor of effectivity, possibly from 10 to 1 – most to least important – which would provide a quantitative scale of law implementation effectivity;
8. Weighting of families of criteria: The committee should set the relative importance of the six families of effectivity criteria by applying a percentage to each based on their presumed weight, with the sum of these values being equal to 100 per cent;
9. Validating the questionnaires: The committee should finally validate the questionnaires and provide explanatory and guidance notes for respondents;
10. Forming the panel of respondents: All categories of actors involved in implementing the norm to be assessed should be represented in the panel of respondents, which could typically comprise 15 to 17 carefully selected members;
11. Conducting the survey: Ideally, this should be carried out through direct interviews, but it could also be conducted digitally, ensuring that potential respondents are widely reached out and appropriately briefed;

12. Processing answers and interpreting results: Eventually, the answers should be processed and the results interpreted as described in section 4, in view of which the committee should be able to formulate a diagnosis and recommend improvements.

Testing general and specific legal indicators

In the absence of a formal committee of experts, individual environmental law experts from Benin, Cameroon, Madagascar and Tunisia have tested the proposed legal indicators, using a set of 17 model questionnaires: eight for international law and nine for domestic law.²⁰ This experiment, which did not go on to concretely measure the questionnaires' respective weighting, addressed general and special indicators in respect of both international and national law.²¹

General indicators related to international law are intended to evaluate the legal factors that contribute to the effective enforcement of the legal requirements set out in international treaties. They aim to assess the formal mechanisms and procedures which make it possible to consider that the evaluated treaty is actually applied, while its substantive content is not examined. The formal issues covered are clustered around:

(a) institutional matters (secretariat, conference of parties, national focal points); (b) implementation monitoring (compliance committee, reporting system); and (c) dispute settlement (arbitration, recourse to the International Court of Justice). A yes/no answer allows a simple and fast treatment of the questions asked under each cluster of issues.

General indicators related to national law are focused on the effectivity of international law in domestic law, primarily addressing the following matters regarding environmental conventions: (a) ratification process; (b) incorporation into domestic law; (c) national treaty implementation; (d) NGO involvement and public participation; (e) national applicability of customary international law; and (f) non-legal conditions of effectivity (e.g., clarity of and access to treaty texts; technical capacity; pressure from interest groups to prevent enforcement).

From the standpoint of specific indicators, a limited number of areas/tools were selected to assess effective application of environmental law, domestically and internationally.

To assess domestic implementation of treaty law, six conventions were selected, of which two global in scope: the Ramsar Convention on Wetlands²² and the Paris Convention on World Cultural and Natural Heritage; and four

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