

論文

The Evolution of International Environmental Regimes: Responding to the Difficulty of Effective Implementation in Developing Countries

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INTRODUCTION

Various international environmental regimes deal with international public goods such as space, climate, air, the oceans and their basins, and nature. These regimes stipulate the obligations of parties and implementation procedures. Such obligations are presented as either quantitative targets or practical actions, while implementation procedures are adopted through either enforcement or promotional measures.

International regimes seek to preserve the ecosystem and define the responsibilities of member states for this purpose. However, the friction between an international regime and national sovereignty often prevents the regime from being effective. Thus, “the basic weakness of international environmental regimes has tended to be their inability to reach agreements on difficult issues or to ensure the full participation of all of the most closely concerned states” [Brinie & Boyle 2002]. As said, a binding scheme is essential to protect ecosystems, but such schemes raise challenges to national sovereignty, causing friction. For example, the climate is the most important international public goods [Barret 2007], and the climate regime reflects the difficulty in managing it; the post-Kyoto Protocol negotiations clearly highlight this issue. However, twenty years ago, ozone ranked as the most critical of public goods, and today, the ozone regime stands as a model of success.

Recently, international regimes have supplemented legally nonbinding instruments with binding ones. For a long time, legally binding instruments were regarded as the best alternative. It was assumed that all member states would comply with the obligations of treaties. Therefore, treaties held great significance, and regimes were viewed from a static perspective. However, current international environmental regimes are observed from a dynamic perspective [Abbott & Snidal 2000; Victor 2007; Bodansky 2010]. The number of treaties such as the 1985 Vienna Convention for the Protection of the Ozone Layer (VC) and the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that stipulate only data reporting as an obligation of the parties has increased. In addition, flexible instruments such as guidelines, declarations, resolutions, and decisions have

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been frequently used as actual obligation instruments. As for implementation, sanctions have traditionally been regarded as the most effective enforcement measure. However, today, the promotional approach is perceived as a useful adjunct to enforcement measures.

Since obligation and implementation measures vary, the interplay between them must also be considered. In the past, the creation of agreements was seen as the final target, but today, it is believed that commitment entails additional protocols and guidelines. Very few studies have focused on the interaction between obligation and implementation. Victor (2007) investigates the interplay between the legal status of commitments and the style of negotiation. He suggests that nonbinding agreements drafted by accountable political leaders are the most effective in situations wherein the international agreement aims to provide directions, but the cost of the effort and its technical feasibility are unclear.

This article examines the interaction between obligations and implementation, focusing on the regimes of international public goods including air (ozone depletion, climate change, and acid rain), the oceans (dumping and pollution prevention), and nature (trade of endangered species), which illustrate the evolutionary process in response to the dynamic change of international environmental circumstances. We survey the obligations and commitments in section 1 and investigate the implementation measures in section 2. In section 3, we discuss the interplay between them and the several patterns of the evolution of obligations and implementation. Finally, in the conclusion, we summarize the implications of our findings for environmental regimes in the future.

OBLIGATIONS OF REGIMES

Targets and actions

The commitment and obligation mechanism involves two styles: one focuses on quantitative targets, and the other, on practical actions.

An example of the first style is the emission reduction target in the 1979 Geneva Convention on Long-Range Transboundary Air Pollution (LRTAP), VC, and UNFCCC. A 30% reduction of sulphur oxides (SO_x) emissions or flows across borders was set as a target in the 1985 Helsinki Protocol on the Reduction of Sulphur Emissions (SP). Further, in the 1988 Sofia Protocol concerning the Control of Emissions of Nitrogen Oxides or Their Transboundary Fluxes (NP) of LRTAP, it was agreed that nitrogen oxides (NO_x) emissions should not exceed the 1987 level. The 1987 Montreal Protocol (MP) set a target of a 50% reduction in ozone depletion substance (ODS) consumption by 1998, and it defined specific targets for ODS reduction and gradual elimination. The UNFCCC/1997 Kyoto Protocol (KP) stipulated that carbon dioxide (CO₂) emissions be reduced by at least 5%.

Examples of practical actions include restrictions on the use and trade of ODS, elimination of ODS, and the actions of two marine pollution control regimes, the 1972 London Convention regulating Dumping at sea (LC) and the 1973 MARPOL Convention (MC). The LC aims to regulate the dumping of non-listed

substances in the oceans. The MC acts as a regulatory regime for controlling pollution by all kinds of marine vessels, including oil tankers. Moreover, the 1973 Convention on International Trade in Endangered Species (CITES) controls the trade of endangered species by means of mechanisms such as a permitting system.

However, which is a better alternative, quantitative targets or practical actions? Targets seem clear and well defined and many flexible mechanisms and a wide range of measures can be addressed to improving efficiency and reducing cost [Michaelowa 2007]. On the other hand, their compliance cannot be verified until the beginning of the target year, because it is very difficult to ascertain the reliability of reported emission data [Schelling 2002; Vezirgiannidou 2009]. Practical actions are more transparent and easier to monitor. However, in the case of MC, an old-fashioned, uniform compulsory measure was defined, and proved to be less costly [de Coninck et al 2008]. Besides, they are more effective and practical in the case of developing countries, because they provide beneficial information and assistance [Victor 2007].

Legally binding and nonbinding instruments

Authorities have focused on creating legally binding instruments (hard law), combining them with more flexible, nonbinding ones (soft law)⁽¹⁾. Traditionally, legally binding instruments have been regarded favorably, since governments take measures to enforce them by domestic law [Abbot & Snidal 2000; Victor 2007; Bodansky 2010; Bodansky & Dringer 2010]. Generally, private parties or companies are not bound by international law if there are no domestic laws determining their actions. Thus, new domestic legislation must be implemented to enforce national obligations [Birnie et al, 2009; Victor 2007; Bodansky 2010].

On the other hand, legally nonbinding instruments have been attracting attention because they can be adopted and changed more promptly. Further, they are more flexible, and they require a lower level of commitment. In addition, they provide states with a way to test an approach without fully committing themselves to it—a feature that is particularly attractive in the case of high uncertainty [Abbott & Snidal 2000; Shelton 2000; Gehring 2007; Bodansky 2010]. Nonbinding instruments have another advantage in that they encourage greater participation by the private sector [Shelton 2000]. For example, the Asia Pacific Clean Partnership on Clean Development and Climate (APPC) involved many relevant private sector entities.

Thus, while soft law and hard law play different roles, they are, at the same time, inextricably intertwined. The combination of the two can be categorized into three different approaches. First, in the process of devising laws, apart from the agreement on formal treaties, political agreement is reached in advance through negotiations. In this case, soft law is relevant primarily as an intermediate step in the process of various forms of binding agreements. Several applications of this approach can be observed in recent history. Second, since uncertainty still remains with regard to many environmental issues, a flexible mechanism is needed, and softer forms of law, such as guidelines, declarations, resolutions, and decisions are created through meetings between the involved parties. This approach can be observed in many nonbinding resolutions for the implementation

of the CITES. The LRTAP, VC, and UNFCCC have the form of a full-fledged international treaty, although they lack important substantive obligations; additional soft instruments clarify the actual responsibilities of the parties. Third, in addition to formal, legally binding agreements, political decisions are made. In this case, soft law is a supplementary instrument within an established treaty system in response to differences in capacities to enforce obligations among member states. As an application of this approach, in the LRTAP, NO_x emission levels are set as those prescribed by the NP; however, at the same time, additional reducing emission agreement by 30% was in a joint political declaration.

Therefore, obligation is specified by either quantitative targets or practical actions and either legally binding or nonbinding measures. The need for flexibility and expediency in international regimes has changed the perception of legally binding agreements, which were formerly preferred. In other words, nonbinding instruments have gained prominence in the context of emerging environmental issues. Thus, as Victor [2007] suggests, nonbinding instruments should be considered in conjunction with other implementation methods⁽²⁾.

IMPLEMENTATION

The enforcement approach and the promotion approach

Implementation measures in international environmental regimes involve enforcement and promotion. In descending order of strength, these measures include collective sanctions, trade and domestic measures, data reporting, and technical and financial assistance.

The enforcement approach concerns compulsory measures and fines, while the promotional approach involves discussions, recommendations, and transparency. Bodansky [2010] proposed two models, i.e. the enforcement model and the managerial model; the latter model assumes that most non-compliance events result from mistake or lack of capacity, so that encouragement and facilitation of implementation is the key.

The two approaches are based on different but not mutually exclusive premises [Bodansky 2010]. The CITES, for example, has attempted to balance them, utilizing sanctions along with facilitation, funding, and capacity building [Reeve 2006].

Traditional international law recognizes the importance of collective commitments and control through multilateral negotiation and implementation by collective sanctions. In reality, however, collective sanctions have been rarely enforced. Compulsory measures cannot work by themselves, as developing countries have come to play a larger role than that of developed ones. The participation of developing countries makes enforcement difficult since their non-compliance cannot be enforced simply because of their poor capabilities. Furthermore, the suspension of the rights of some parties is not an effective way to deal with global public goods. In contrast, the trade sanctions are effective in the trade regime, as they target private goods. However, for public goods, the free-rider incentive is strong; therefore, effective implementation mechanisms are needed for enforcement [Barret 2007]. Thus, the promotional approach, and collective assistance in particular, has gained popularity⁽³⁾.

Domestic measures

Domestic measures are conventional ones in enforcement. The implementation of international environmental regimes requires legally binding domestic legislation; otherwise, private parties or companies are not, in general, bound by public international law. Therefore, it is very important to stipulate the content of domestic measures in the article of treaties.

The function of domestic measures varies in many ways. First, they function as the main tools for enforcing treaties. For example, the MP controls the production and consumption of ODS; the LC, dumping in the oceans; and the MC, the spillage of oil into the sea. Second, domestic measures are a means to fulfill quantitative target obligations. For example, the LRTAP/SP-II stipulates the following: apply emission limit values to major stationary combustion sources, and apply national standards for the sulphur content of gas oil. Third, they serve as supplements to trade measures. For example, in the CITES, the enactment of national legislation was requested through several COP decisions⁽⁴⁾.

On the other hand, the UNFCCC and KP do not require domestic legislation⁽⁵⁾. Emission reduction targets are to be achieved through non-regulatory means [Bodansky 2010]. This provides little guarantee in ensuring that the targets are met. In 2010, the 2010 Cancun Agreement (CA) requests member states to draft low carbon development plans. Providing agreements with a mandate for controlling substantive domestic measures is one of the choices for future regimes.

Data reporting

A compliance system is only as good as its information base. In particular, data reporting on domestic conditions is the basis of implementation. Therefore, the collection, analysis, and dissemination of information on violations and obedience and on production and emissions are essential for the development of trust and implementation assurance among the parties [Chayes & Chayes 1995]. Otherwise, the free-rider issue emerges.

Many regimes stipulate that data reporting is a member's fundamental obligation. The 1977 Program for Monitoring and Evaluation of Long-Range Transmission of Air Pollutants in Europe requests parties to disclose information on emissions and domestic actions. The CITES functions well at providing information [Reeve 2002].

The important issue is how to ensure good reporting performance, particularly during its initial stages. The reporting performance of MP is relatively accurate. This relative success in data reporting has been achieved by the creation of national capacities through funding and assistance and by the threat of losing the status of a developing country [Reeve 2002]. The review system is also crucial, even though developing countries do not have much capacity to respond. In the UNFCCC, parties are requested to submit their national communications, but those currently submitted by developed parties undergo in-depth review. Noting that this reviewing system is helpful and that monitoring is another way to promote enforcement, Wettestad [2004] divided monitoring

status into three stages: first, lax reporting, second, more careful reporting, and third, sophisticated reporting.

Financial and technical assistance

Providing special benefits to parties is another incentive underlying enforcement measures. In international regimes, this approach involves transaction and fringe benefits [Sand 1999]. Transactions are related to trade, while fringe benefits can be obtained through technical and financial assistance. In developing countries, the lack of financial and technical capacities leads to non-compliance; therefore, a combination of assistance and enforcement is inevitable.

The VC is considered to be the most successful case. The prohibition on producing ODS in developing countries is inevitable; if not prohibited, these substances could leak into developing countries. To ensure enforcement of these prohibitions in developing countries, the MP established the Multilateral Fund for the Implementation of the Montreal Protocol (MF) to provide financial support for implementation. The concurrent use of sanctions and financial assistance has proved to be a highly effective enforcement approach. For example, in 1995, five parties indicated their non-compliance; the Global Environmental Facility provided the funding, and the Implementation Committee gave technical assistance to ensure adherence with the protocol (Victor, 1998).

The combination of assistances is also required to make participation beneficial to all parties. Technology assistance often aids implementation by transferring cost reduction measures [Urpelainen 2012].

DISCUSSION

Evolution of obligation and implementation

We have observed the changing nature of the obligation mechanism in Section 1. and compliance mechanism in Sec 2.

In this section, we examine the patterns of the obligation and implementation mechanisms. In many cases, regimes have been developing toward the workable protocol based on the treaties designed to ensure implementation, for example, SP based on LRTAP, MP based on VC, and KP based on UNFCCC. However, soft law has attracted attention in the sense that it can ensure effective implementation in combination with hard law. We can observe three patterns: (1) the shift from soft law to hard law, (2) a shift from hard law to soft law, and (3) an alteration from hard law to soft law and back to hard law.

The first pattern is based on following situation. Rapid responses are required to various environmental problems before formal decisions can be made. Many general principles such as Agenda 21 include a norm of conduct; subsequently, a legally binding treaty was formed on the basis of the norm of conduct. Many such cases exist. Member states tend to start the process of soft law in dealing with new environmental issues, if the adoption of hard law proves to be difficult. The content may then be converted into hard law if relevant

members agree with it subsequently [Gehring 2007].

This approach assumes that the ultimate goal is hard law and that soft law is an intermediate type of international regime [Bodansky & Diringer 2010]. In some cases, a non-binding consensus is first proposed before seeking a legally binding agreement, as is observed in many treaties like the UNFCCC. For example, the Helsinki Declaration of VC was endorsed in a London COP. Through the KP in the UNFCCC in 2005, the signatory nations adopted *de facto* the Protocol's compliance procedure, but deferred formal agreement on the matter [Toope 2007]. In these cases, although they ultimately agreed to a legal framework, the parties began from a non-binding framework. This pattern does not imply that all soft law agreements will evolve into hard law regimes since, nowadays, dominant countries oppose enforcement mechanisms that may be employed against them, blocking such hard law regimes in preference for soft law agreements that allow them to reshape the law in their favor [Krisch 2005]. Similarly, developing countries are prudently wary of converting to hard law regimes, perhaps noting that, compared with 20 years ago, the current situation is far less conducive to reaching an easy compromise that would create such a regime [Dubash 2012].

The second pattern is increasing in frequency, responding to dynamic change in the nature of the problems faced and the numerous needs of member countries within a regime. Softer instruments such as guidelines, resolutions, and decisions are required based on the conclusion of formal treaties. Such a flexible mechanism is required because of increasing uncertainty and differences in the responding capabilities of member states⁽⁶⁾. In the CITES, trade measures are at the core of implementation and are supplemented by nonbinding domestic actions and voluntary trade restrictions. The resolutions adopted in COP are nonbinding; 1992 CITES Resolution National Laws for Implementation of the Convention extended the coverage of domestic law beyond the formal binding obligation of the CITES. This case involves the VC, particularly high involvement of developing countries by provision of assistance including establishment of the MF.

Finally, the third pattern is emerging in practice where as additional obligations would be added to an existing, original regime first in a soft form and would later become binding. This is found in the LRTAP's strategy for reduction of SO_x and NO_x emissions. An agreement on the first phase of reduction is found in the 1988 Sofia Protocol. A political declaration for a 30% reduction in emissions was later adopted to supplement the original agreement, concurrent with a formal agreement on NP. Similarly, the political declaration of additional NO_x emissions reduction was endorsed in the 1999 Gothenburg Protocol to Abate Acidification, Eutrophication, and Ground-level Ozone (AP). In the LC, a 1983 resolution to prohibit the dumping of radioactive waste was adopted as non-binding, later becoming a binding resolution in 1993. In the UNFCCC, through a legally binding agreement of the KP, strong political commitments were adopted by the listed parties to the 2009 Copenhagen Accord (CPA) at its formation. The CPA transformed commitments in the CA, making them into more concrete, formal decisions. This in turn led to the later formation of a consolidated agreement through the discussions related to the 2011 Durban Platform for Enhanced Action. In the past,

strong political commitments triggered a turning point, and generally, such political commitments are without any obligatory stipulation.

The evolution responding the effective implementation in developing countries

We can also observe an evolution of implementation methods. The enforcement approach has been favored in trade regime, but the promotional approach is attracting attention, in the regime dealing with public goods, regardless of whether the obligation is binding or nonbinding. In any case, the method must be suitable for the circumstances. This indicates two directions of implementation: one stipulates strong binding enforcement and the other stipulates assistance in the case of implementing regimes. Sanction for breach was not available in many cases, only threats of sanction. The VC is one of the most successful regimes, combining strong obligations with promotional measures.

Actually, the success of the VC depends on its effective financial assistance through the MF and the technical assistance offered for smooth implementation. The VC agreement represented that first case of a developing country's participation being induced by financial and technical assistance [Hoffman 2005].

However, as the promotional approach is a softer form, it is critical to ensure its enforcement. As Victor [2007] stated, even if nonbinding instruments are more applicable, several elements are necessary for ensuring their effectiveness, such as a high level of commitment, detailed performance reviews, and their interaction and linkage. For example, a review of the data reporting process is essential for transparency and compliance⁽⁷⁾. In the initial stage, the verification or non-compliance of data review is not defined. Until 1991, the LRTAP lacked the independent verification of non-compliance. The next step comprises monitoring and verification. The CITES presents an effective method, TRAFIC, a refined information source [Reeve 2002; Wettstad 2007]. Further, the VC/MP established an Implementation Committee. In the UNFCCC, an in-depth review process is applied only to developed parties, and a data verification process remains a controversial issue among member parties.

On the other hand, ensuring compliance and obligation requires a high-quality standard of capability. Furthermore, a great deal of fundamental infrastructure is required for implementation. If the necessary technology is not sufficient to provide the capability to comply, the regime must strengthen the assistance for these capabilities. The development of adequate methodological and technological background for performance is important. In the case of CITES, even in 2007, the CITES secretariat found more than half of the CITES parties lacked fully adequate implementing legislation [Bodansky 2010]. Through the CITES trust fund, the secretariat can provide technical assistance to support the development of CITES related legislation.

Along with the 2010 Cancun Agreement, the COP endorsed further assistance mechanisms crucial to support action on mitigation and adaptation in developing parties. Thus, a technology mechanism and a financial mechanism (including the Climate Technology Center and the Green Climate Fund) were agreed to

as well as creation of a registry, including the facilitation of matching finance, technology, and capacity building. Future frameworks for effective implementation mechanisms under UNFCCC depend on what combination of promotional measures and obligations is determined to be best.

In summary, in terms of evolution of regimes, in principal, there is a shift in the use of implementation mechanisms, on the one hand, from the soft approach to the enforcement approach, and on the other hand, from the enforcement instruments to an improved transparency of soft implementation involving data reporting, review processes, or financial and technical assistance that are essential to acquire wider commitments of parties.

CONCLUSION

In this article, we examined major international environmental regimes and investigated their obligation and implementation methods.

The creation and evolution of an international environmental regime is related to the conclusion of numerous multilateral treaties, which should be negotiated and adopted predominantly within the framework of the existing international environmental regimes [Gehring 2007]. Therefore, it is crucial to consider the various regimes and their evolutionary process. In particular, the appropriate combination of obligation and commitment and its effective implementation are essential. In these processes, nonbinding instruments occasionally replace binding ones; alternatively, nonbinding approaches based on established legally binding regimes are adopted by interested parties. From our perspective, nonbinding and binding instruments are not contradictory but complementary measures. The promotional approach is now attracting attention, and the enforcement and promotional approaches have intermingled. These suggestions will contribute to the design of a suitable future regime.

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Note

- (1) Hard law usually implies legally binding instruments, while soft law ranges from weak legally binding instruments to political declaration and no clear boundaries between the two (Abbot & Snidal, 2000, Raustiala, 2005). In this article, soft law is considered to exclude general principles such as the 1972 Stockholm Declaration, Agenda 21, and the description of the preambles of treaties.
- (2) In fact, Skjærseth et al. (2006) indicated that it is less likely that the transformation of soft law to hard law will improve implementation.
- (3) The implementation of VC/MP is a good example of soft enforcement, but at the same time, it is not very lenient. Furthermore, it enables the parties to focus on their responsibility (Birnie et al., 2009).
- (4) The 1973 Convention on International Trade in Endangered Species stipulates only trade measures and has no mandate for controlling domestic law. Nonetheless, the COP had adopted the resolution of "national reports" enacting domestic legislations, because the lack of domestic legislations triggered non-compliance.
- (5) Regarding data reporting, Article 5 of the KP urges parties to create domestic legislations for data reporting.
- (6) Low & Murina [2010] said WTO has also a similar evolutionary process with environmental regime, and its obligation has grown gradually.

- (7) For example, the 1988 Political Declaration calling for NOx reductions in the order of 30 percent by 1998 was not widely adhered to because of the lack of a review structure [Skjærseth et al. 2006].

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