

Environmental Crime and Punishment in Russia: Law as Reason for Breach

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Laws too gentle are seldom obeyed; too severe, seldom executed.
Benjamin Franklin, Poor Richard's Almanack, 1756

The effectiveness of any international agreement ultimately depends on the extent to which parties comply with their obligations. In most cases, compliance with international agreements needs to take place at the national level and through actors other than the state.⁶¹ Domestic constraints have been recognised as critical in shaping behaviour (Brown Weiss and Jacobson 1998; Victor, Raustiala, and Skolnikoff 1998). However, scholarly and policy analyses have largely focused on broader institutional factors such as the economic and political systems and a suite of socio-cultural variables constraining the process of putting specific rules into action. Rarely has the question of the adequacy and appropriateness of the rules themselves been asked. The explanatory determinants of deviant behaviour have therefore been traced to the procedural realm rather than to the substance of the legal regime. While this approach may indeed be valid for the US and other industrialised countries, it can be challenged for the economies in transition of Central and Eastern Europe and the New Independent States of the former Soviet Union where structural problems in the legal systems are still pervasive.

In this article, I extend the analysis on factors determining compliance to a deeper level of the regulatory chain—the nature of the requirements. The study points to a gap in the literature, which could be of special importance to the predictive power of theoretical frameworks regarding compliance with national as well as international obligations. In contrast to common belief that more stringent environmental

standards protect public health and the environment to a greater extent, I argue that excessive stringency can be detrimental to the attainment of these goals. The analysis presented is empirically grounded in an extensive research on water quality regulations in the Russian Federation and the New Independent States and the standards they impose.⁶³ Combining theoretical and empirical synthesis and analysis, I seek to (1) identify a set of critical factors for compliance, (2) assess the strength of each of these mechanisms in the Russian context, and (3) outline a possible reform path. I also examine the linkage between national and international compliance and the implications for compliance with international commitments.

The analysis leads to the conclusion that the burdensome complexity and excessive stringency characterising the current environmental standards system in Russia encourage evasion, create an adversarial regulatory climate, lead to a failure of understanding of the legal requirements, and allow for unchecked regulatory discretion and corruption. A general disbelief in the reasonableness of regulatory requirements is fostered, which ultimately leads to a collapse of belief in the law. The problems posed are thus not only of environmental character but have wider societal implications as rule of law is undermined through the perpetuation of a regulatory culture of non-compliance and non-enforcement. This practice is likely to be reflected in compliance behaviour vis-à-vis international commitments, demanding increased attention to structural problems at the national level.

Compliance theories and institutional implications

The problem of compliance with regulatory requirements has been examined extensively in the literature, giving rise to various explanations for observed behaviour of states and firms. Three major theoretical schools explaining compliance with national environmental laws can be distinguished. The assumption that firms are rational actors seeking to maximise their utility has determined the development of the

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⁶² Here one needs to distinguish procedural compliance from substantive compliance. Under procedural compliance with international agreements, a state might fulfill its obligations through submitting national reports and required data. Substantive compliance, on the other hand, requires that the obligations central to achieving the core goal of the accord are operationalized at the national or local level. For example, international commitment to a 20% reduction of SO₂ emissions would require appropriate national legislation mandating the attainment of the goal and the subsequent decrease of emissions from power plants and other relevant polluters.

⁶³ The research was undertaken in 1999–2000 by the author while working at the Environment Directorate of the Organization of Economic Cooperation and Development (OECD). This paper, therefore, draws on the report prepared for the OECD (Ivanova 2000).

rational polluter theory and has provided the underlying principle for environmental regulation (Maloney and McCormick 1982). More recent studies have challenged this approach and argued that pursuit of self-interest is not an accurate explanation of firm behaviour and that other factors are also at play. One critique, termed complexity theory (Spence 2001), challenges the rational polluter model as unrepresentative of reality and points to the complexity of the legal system as a major reason for firms' reduced capacity to comply. Another important strand of theory is the legitimacy-compliance theory, which views the legitimacy of the law and the legal process as the primary determinant of compliance (Tyler 1990). This section briefly examines the tenets of the three doctrines and identifies the critical determinants and mechanisms as suggested by each of them. The existence and strength of these mechanisms in the Russian context are then evaluated in the subsequent sections.

RATIONAL POLLUTER THEORY

The theory of polluters as rational actors is the foundation for much of environmental regulation. Its major assumptions derive from the economics literature, which explains behaviour of economic actors as a function of their efforts to maximise utility. Thus, the rational firm will be a rational polluter seeking to minimise costs by shifting them onto society (Tietenberg 2000; Gowdy and O'Hara 1995; Mitnick 1980). It will make decisions using an expected value calculation, which is a function of the economic benefit of non-compliance and the expected cost of non-compliance as determined by the probability of detection and the level of penalty imposed. The theory therefore predicts that pollution will occur unless actors are deterred by "coercion" (Hardin 1968) in the form of sanctions, penalties, or other adverse impacts.

The implications of the rational polluter theory are that to induce compliance, strong enforcement would be necessary increasing the cost of non-compliance through sanctions and high probability of detection. The availability of an adequate deterrence mechanism is therefore critical as it can alter actors' utility calculus through a modification of the incentives and disincentives. The rational polluter theory would thus suggest that public authorities concentrate their efforts on minimising the chances of violations going undetected, maximising the probability that sanctions will follow the detection of violations, or making sanctions substantive (Stigler 1970).

COMPLEXITY THEORY

Complexity theory challenges the assumption of the rational model that actors seek to maximise utility and respond to external incentives or sanctions. Instead, it assumes that motivations such as belief in the need to obey the rules and conviction of their appropriateness shape behaviour. Non-compliance is explained through ignorance on the part of the regulated community, misunderstanding about the requirements, or disagreement about their meaning (Spence 2001). The conclusions of complexity theory are that perfect compliance is unlikely and even unattainable. It also predicts that small enterprises would be more often in non-compliance than large facilities as the expertise and resources required to understand and implement the legal requirements would be lacking and unintentional violations would be more prevalent (Dasgupta, Hettige, and Wheeler 2000).⁶⁴

The policy implications of complexity theory are that regulations need to be simple, clear, and accessible. To comply with the law, the regulated community must first be able to understand it. Complexity theory would suggest that simple and precise language reduces ambiguities and inconsistencies, as well as the costs of learning about rules; minimises disputes during implementation; and improves compliance. Furthermore, complicated institutional landscapes and lack of clear division of responsibilities among various regulatory agencies would compromise compliance on the part of the regulated community.

LEGITIMACY THEORY

Legitimacy theory looks for explanations of behaviour beyond the cost-benefit analysis framework of a rational actor and beyond the complexity of the web of regulations, institutions, and social norms. The theory posits that the assumption of traditional scholarship that behaviour responds only to reward and punishment is insufficient and needs to be expanded to include normative values. Legitimacy theory thus attributes compliance to a perception of fairness, legitimacy, and morality of the law (Tyler 1990). This perception hinges on what Tyler terms "distributive justice" and "procedural justice," referring to the fairness of the outcome and the process respectively. Tyler's empirical findings suggest that "Respondents are almost equally likely to comply with the law because they view it as legitimate, whether they think

⁶⁴ The complexity theory explanation of non-compliance by small firms, however, competes with that of the rational school. The rational explanation contends that "because owner control is easier in smaller firms, the owner's incentives to violate the law exerts more influence over firm behavior." See Spence 2001 at 41.

the likelihood of their being caught is high or low, whether or not their peers would disapprove of law breaking, and whether or not they think law breaking is morally wrong" (Tyler 1990). The theory asserts that compliance with the law is often best achieved by assuring respect for it and those who implement it.

The factors that motivate compliance according to the legitimacy theory are sense of duty and trust in government, especially in the face of very low probability of detection (Scholz and Pinney 1995; Spence 2001). The implications from the theory are that regulatory requirements should not run contrary to fundamental legal principles as proportionality and equality before the law. Moreover, regulations should be developed in an open and transparent fashion, with appropriate procedures for effective and timely input from interested and affected parties.

FEASIBILITY FACTOR

While none of the three theories examines it explicitly, the feasibility of the requirements is a fundamental tenet of compliance. Feasible standards applicable to all producers, based on sound scientific criteria, risk assessment, and benefit-cost analysis, and underpinned by effective enforcement, are crucial to sound regulation (Hawkins 1984). Excessive stringency of regulatory requirements leads to pervasive non-compliance as governments cannot effectively enforce policies, which are widely perceived to be unrealistic, inequitable, or ill-conceived by those who are affected. At best, the outcome will be formal compliance that is effectively undermined by the exploitation of loopholes or other ways to subvert the goals of the policies. A system of stringent environmental requirements is indeed likely to produce a regulatory paradox bringing about the opposite effect to the one intended by inducing the regulated community to avoid complying with the law (Bardach and Kagan 1982).

The feasibility of requirements will have profound implications on the factors and institutional mechanisms purported as critical by all the three theories considered. Overly stringent standards will impose higher direct economic costs, altering the utility calculus of rational actors and promoting evasive behaviour. Unrealistic standards are also likely to undermine the culture of obedience and rule of law which complexity theory considers critical to compliance. Excessive stringency will also impact belief in the purpose of law and the rules that constitute it compromising its legitimacy. In sum, overly strict standards give a powerful incentive to industry to fight regulations and to agencies a powerful incentive not to enforce them. Feasibility of the legal requirements

is particularly important in the context of the Russian Federation and the New Independent States where the fundamental reform of the legal framework has not affected the system of environmental standards. Dating back to the 1960s environmental standards remain prohibitively stringent and therefore, non-enforced.

Compliance theory and practice in the Russian context

The environmental legal framework of today's Russia developed fairly early in the Soviet period. 139 environmental laws were enacted between 1924 and 1926 alone (Langrind 1990). Between 1957-63, each republic of the Soviet Union adopted nature conservation laws that laid down a rudimentary framework of conservation policies and principles most of which required further implementing legislation. By 1985, about 670 environmental enactments were listed in the USSR Code of Laws (Langrind 1990). However, environmental legislation operated in the context of a social ideology which claimed that pollution could not exist because it did not fit the philosophy of central planning and state ownership of the means of production (Greenspan Bell 1992). Thus, although Soviet environmental laws were sophisticated and comprehensive on paper, they were rarely enforced in practice, and were more aspirational than legally binding. This state of affairs had a corrosive effect on the role of law in Soviet society. Law was conceptualised as a set of norms emanating from and enforced by the state with no meaningful role for the public. This legacy is probably the most difficult and yet the most important to overcome in Russia today.

The process of transition to democracy and a market economy has ushered in far-reaching changes in the economic, social, and political spheres. Comprehensive regulatory reform, including environmental regulatory reform, has been initiated and Russia now faces the challenge of completing it. Ultimately, the effectiveness of regulatory reform will depend on the quality of the regulations it promotes and the ability of government to carry them through. This section examines the regulatory context in Russia against the theoretical framework laid out in the previous section. The analysis shows that the core factors and mechanisms identified by the theories of compliance—strong deterrence and enforcement, clarity and accessibility of regulations, and legitimacy of the legal framework—are lacking in the Russian context. Moreover, the unfeasibility of requirements is a fundamental problem of the environmental protection legislation, preventing the establishment of any effective

tive institutional mechanisms for compliance promotion or enforcement. Other structural problems—such as inconsistency of regulations with existing legislation and with the institutional framework, imprecision of authority delineation, inequality before the law, economic inefficiency, and lack of public participation—point to the low level of compliance and enforcement. Without a fundamental reform of at least several, if not all, of the factors determining compliance and enforcement, improvement in the environmental regime in Russia is unlikely.

FEASIBILITY OF REQUIREMENTS

Regulation is a practical compromise between the benefits and harms of unfettered economic activity. Therefore, from a social point of view, the question is not whether to allow pollution, but how much pollution to allow (Ackerman 1974). Environmental quality standards set the framework for environmental policy by representing society's judgement for appropriate environmental quality. They also serve as essential regulatory tools through specifying emission or effluent concentrations that the regulated community is required to comply with.

The system of environmental standards in Russia is comprehensive and ambitious, covering thousands of pollutants and mandating very low concentrations of contaminants. Environmental standards were developed in the Soviet Union with the specific purpose of protecting the health of current and future generations on the assumption that no level of risk to human health is acceptable for any pollutants (Derr et al. 1981). The zero risk assumption has consequently led to the elaboration of very strict ambient standards. Often, the concentration levels specified were so low as not to be detectable by the monitoring equipment. (Zholdakova et al.) Appendix 1 exemplifies some of the discrepancies between the standards in Russia and other New Independent States and the European Union.

While arguably very protective of human and ecosystem health, the environmental standards in Russia have contributed little to a decrease in pollution. To the contrary, the marked stringency has led to a consistent breach and a perception of standards principally as a unit of measurement rather than as the limits to be observed. The Federal Report on the State of the Environment in the Russian Federation, for example, cites that in 1993 in the Stavropol region the levels of cadmium in groundwater exceeded the standard by 4,000 times and of nickel 1,000 times. In the Angarsk region, groundwater sources were pol-

luted by methanol up to 150,000 times the permissible levels and by phenol up to 246,000 times the standard (Sokolovsky 1994).

The excessive stringency of standards has important implications for the cost-benefit calculus of the regulated community through the imposition of disproportionate economic costs and even technically impossible requirements. The cost of the additional treatment necessary, or even insufficient, to attain the effluent standards applicable to wastewater treatment plants, for example, is 20—50 times higher than the cost of the standard treatment while the environmental benefits are negligible (Nechaev 1999). Studies have shown that currently in Russia there are no wastewater treatment plants where the discharge limits are being met for all regulated substances (Nechaev 1999). As pointed out by the author of the Law On Environmental Protection of the Russian Federation, compliance with all of its requirements would lead to the bankruptcy of 80% of Russian enterprises (Dehgan 1993).

Moreover, the legal basis for effluent standard setting is unclear and contradictory, allowing for unchecked agency discretion and leading to an imposition of illogical requirements. For example, for discharges into water bodies classified as supporting fisheries, the concentration of contaminants in wastewater has to be lower than that for the same substances in drinking water. However, most watercourses bear a fishery classification that has remained unchanged since the 1950's. As enterprises use drinking water in production processes, in reality the law obliges them to discharge water cleaner than initially received.

In practice, the stringency of legal requirements is mitigated through the lack of enforcement. Thus, in the face of absence of explicit cost-benefit analysis requirements, economic considerations are taken into account as part of the enforcement, rather than the legislative process. While economists see such discretion in agency behaviour as predictable (Fenn and Veljanovski 1988), its consequences in Russia include further legitimisation of breach of the law as acceptable and even necessary behaviour, undermining efforts at building a rule of law society.

DETERRENCE MECHANISM

Incentives and disincentives for compliance are severely misaligned in the Russian legal and regulatory context. This stems from the outdated system of environmental standards, the inefficient system of fees and charges for pollution, the inadequate liability provisions, and the overall ineffective regulatory structure and practice.

Many legal acts encourage evasion and non-compliance through the imposition of unrealistic and unreasonable requirements. For example, the Instructions for Standard Setting of Discharges (Emissions) of Hazardous Substances in the Atmosphere and Water Bodies dictate that actual discharge levels be adopted as the legally required effluent standard when such discharges are lower than the legally mandated values. (§ 3.4 cited in (Gunter and Zhmur 2000)). This approach implies that temporary low levels of pollution (due to decreased production or other technical reasons for example) could become legally required values. It presents a clear and strong disincentive for industry to comply with standards and to invest in pollution reduction measures. Moreover, it creates hostile relations between the regulatory agencies and the enterprises as limits are adjusted downwards only for the law-abiding industries while the ones out of compliance continue to receive exemptions. Introducing stringent standards based on actual concentrations jeopardises the potential for growth and severely undermines compliance culture.

An important deterrence mechanism is the system of fees and charges for pollution. The Russian Federation has legislated a system of emissions, effluent, and solid waste fees based on a zero-threshold step function for assessment. Within allowable limits, each firm pays a fixed fee per unit of emissions. When the firm's emission limit has been reached, the fee increases from five to twenty-five times (Palmisano and Haddad 1992). However, the charges are derisory and enterprises find it more profitable to pay the higher fines for discharges above the limits than to invest in pollution control (Sedova 2000). While probably an exaggeration, the statement that "for the cost of flying an accountant from Moscow to New York, a major oil company could pollute the entire Black Sea" (Dehgan 1993) may in fact not be far from the truth. Furthermore, state-owned industries are subject to soft-budget constraints or may simply negotiate exemption from payments (Studies 2000). Non-compliance and non-enforcement are therefore seen as a legitimate way of levelling the regulatory playing field.

Liability is still not adequately addressed in environmental legislation. Although chapters declaring liability exist, they do not explicitly refer to other acts (Administrative Codes, the Criminal Code, etc.) for relevant sanctions against violators. Rather, the provisions are of general character: "the persons guilty of the violation of the water legislation bear administrative and criminal responsibility in accordance with the relevant legislation." The reimbursement of compensatory damages is also mandated by the Water Codes

but no specific mechanism is set forth. Hence, the legislative mandate, though stronger than ever before, is still not as direct, practical and forceful as necessary.

The probability of detection is, moreover, very low, as no continuous ambient monitoring takes place and the main responsibility for monitoring of discharges lies with enterprises themselves. Due to the lack of human and financial resources, monitoring by the regulatory agencies is confined to cross checking the reported values. In the marine inspectorate of St. Petersburg, for example, the budget cannot cover the salaries of the employees; 2.5 people are responsible for over 100 enterprises; the laboratories are in a decrepit condition, lacking basic reagents and instruments; the inspectors have limited access to one car; and an inspector's salary is 660 rubbles or \$22 a month (Emelkina 2000). The low remuneration of inspectors' work along with their discretionary powers to sanction non-compliance with the stringent requirements, open possibilities for corruption, invalidating any deterrence of breach of the legal requirements.

COMPLEXITY OF SYSTEM

The most noticeable achievement of environmental regulatory reform is the adoption of a comprehensive body of environmental legislation. However, the utility of the legal system has been undermined by the failure of the regulated community to understand the requirements due to the incomprehensibility of the legalistic language, the lack of awareness of the existence of specific provisions, and the complexity of the institutional system.

The regulatory system in the Russian Federation relies extensively on a large body of subordinate legislation—decrees, resolutions, regulations, administrative orders, decisions, etc. The regulated community must invest considerable time and resources in understanding the applicability of all regulatory documents, especially given the fact that regulations are not easily accessible. Subordinate legislative documents are not published and disseminated adequately resulting in ignorance about the requirements amongst the regulated.⁶⁵ Furthermore, the institutional framework for environmental management is overly complicated, leading to poor co-ordination among the various governmental bodies with parallel functions and a number of structural problems:

⁶⁵ In Georgia, for example, about 80 to 90% of the regulations mandated are never developed due to financial constraints, and for the same reasons, about 80% are never published (Ivaniashvili 2000). Similar constraints figure in Russia and the other New Independent States.

- there is uncertainty about exactly which agency should take overall responsibility and, as a result, action is delayed or not taken at all
- interagency and even interdepartmental rivalries result in the withholding of information that should be shared for the best solutions to be found
- each agency tends to have its own particular interests and constituency so that interagency conflict rather than co-operative problem-solving ensues
- technical expertise is divided between different agencies so that no one body can gather together the necessary scientific and managerial team.

An additional stress on the system is the fact that the structure of the executive is in a permanent state of reorganisation, centralisation, decentralisation, even liquidation of certain bodies, which are later restored. For example, in 1992 a decree by the President of the Russian Federation declared the establishment of the Ministry of Environment and Natural Resources, which was formed to replace seven abolished ministries of the USSR and four republican ones. Several other bodies were merged into the newly created Ministry, though retaining some independence. These included the State Committees for Hydrometeorology, Water Resources, Forestry, Geodesy and Cartography, Geology and Mineral Resources, and the Arctic and Antarctica. However, the newly created agency was not strong enough and by the middle of 1993 the committees became independent again. In 1996, the Ministry of Environment and Natural Resources shed its ecological division which became a State Committee (Goskomekologia) and became a Ministry of Natural Resources (Tzitsler 1996). On 6 July 2000, a presidential decree was issued to merge the two institutions again. The institution retains the name Ministry of Natural Resources.

The endless restructuring of central power structures has resulted in a confused system of regional agencies which are ultimately responsible for enforcement of the regulations. This cumbersome structure makes co-ordination difficult, delays decision making, and reduces transparency. Furthermore, the constant change of the institutional framework and structure has led to regulatory fatigue and disillusionment with the reform process.

LEGITIMACY OF REQUIREMENTS

The critical elements of legitimacy include perception that decisions have been taken through a procedurally fair process, that the parties involved have had an equal opportunity to participate, and that decision makers are neutral and unbiased, reaching conclusions based on objective information (Greenspan Bell

2000). The legitimacy of laws as commitments of society to achieve common goals has been undermined considerably during the Soviet period. Supremacy of economic goals, secrecy, and discretionary state regulatory power have led to disbelief in the rule of law and the ability of the state to fairly regulate, mediate, and arbitrate.

The illegitimacy of the legal system is grounded in the perception of unfairness and unreasonableness of its fundamental requirements. The environmental standard setting process in the Soviet Union was one of high secrecy and was confined solely to academic institutes associated with the respective sectoral ministries. The closed, technical process relied solely on experts without involvement of policy makers, industry or the general population. Insulated, exclusively science-driven and devoid of any inputs from concerned parties, standard setting was a routine scientific exercise rather than a policy process. While the level of democratisation of environmental policymaking and implementation has increased considerably in the 1990s, the process of standardisation remains as closed, inflexible and exclusive as previously. This exclusivity undermines severely belief in the reasonableness of the requirements, as the regulated community has not been involved at any stage of the process. In contrast, when standards are developed in an open dialogue with industry and consumer groups, combined with a research strategy to evaluate the feasibility of standards independently, compliance with the standards is much greater (Makkai and Braithwaite 1991; Ayres and Braithwaite 1992).

Legitimacy of legal rules in the Russian Federation is undermined further because of the perceived bias and corruption of the regulatory agencies. The unclear division of authority has vested discretionary powers in regulatory authorities while accountability mechanisms are poorly developed and not adequately applied. Enforcement is mainly within the prerogatives of regional and local authorities, which are closer, and often vulnerable to, well-organised lobbies and rent seekers. The capture of regulatory authorities by powerful interest groups has led to preferential treatment of certain industries (Baldwin and Cave 1999; Skilling and Griffiths 1971). Furthermore, the dependence of local authorities and whole communities on industrial complexes for employment and social services has promoted differentiated regulation and unethical practices, compromising the fundamental principle of equality before the law (Boots 1998).

Among the most notable innovations introduced into the Russian regulatory framework as a result of reform is the solidification of the right of citizens to

information and participation in decision-making. This right is unprecedented and increasingly recognised as an important vehicle for environmental protection. However, disclosure of information to the public is still insufficient, preventing an active, informed involvement of concerned individuals and groups in policy formulation and implementation. The information deficit is one of the most serious failures of the regulatory system. Overcoming this problem will be crucial for the successful implementation of legal requirements. Only when the regulated community possesses sufficient and comprehensible information on the regulatory regime with which it has to comply will it be in a position to do so. Furthermore, provision of information on performance by industry and government is the only viable way to ensure public involvement in the process of environmental policy formulation and implementation. Due to the fact that the public has remained poorly informed and educated about environmental issues, the demand for accountability of regulators has remained low, leading to a perpetuation of the inefficiency of regulations.

Reforming the system: Obstacles and opportunities

Environmental regulatory reform has been a prominent part of the reform agenda in the beginning of the transition process in the Russian Federation when environmental issues assumed high political visibility and served as a catalyst for wider political reforms. In general, reforms greatly accelerated the establishment of environmental laws. Compliance with the laws, however, has remained low and enforcement ineffective. The analysis in this article has shown that the major institutional mechanisms for compliance promotion are either lacking or inadequately developed in the Russian Federation. Moreover, while attention has largely focused on the procedural realm, the fundamental tenet of the legal and regulatory framework—the system of environmental standards—has remained unaltered since the 1960s and needs to be revised in light of the overall restructuring of economic and social relations and latest scientific knowledge.

Reform of the system of environmental quality standards will focus the debate on the central questions of environmental policy: What are the goals towards which society should aspire and how can they be achieved? As these issues are at the convergence point of economic, social and environmental priorities, explicit choices will have to be made which will inevitably require information disclosure, participa-

tion of major stakeholders in the policy formulation process and devising regulatory mechanisms to address conflicting interests. Thus, the process of formulating environmental standards could and should become a catalyst and supporter for wider democratic reforms and the establishment of rule of law in Russia. A number of serious obstacles that are likely to inhibit reform efforts of the standards system deserve particular attention.

THE STATUS QUO

The existing environmental standards system has been in place for over forty years and despite its ineffectiveness in improving environmental quality, is supported by regulators and regulated alike and even by the public. In the face of radical regulatory reform initiatives, the issue of environmental standards has remained virtually outside of the debate as each of the stakeholders benefits from the status quo. The stringency of standards makes them ideologically appealing to environmental agencies as it reinforces their commitment to environmental quality in the eyes of the public. Despite their low levels, charges collected from polluters provide a revenue stream for environmental authorities, which is likely to decrease if standards were relaxed and enforced. On the other hand, the technical and economic unfeasibility of standards presents a valid excuse for industry for non-compliance. A more realistic level of requirements, if coupled with a sound enforcement procedure, would entail an obligation to comply with the regulations and lead to greater economic costs. The interests of oligarch groups who have largely captured natural resource extraction industries will be threatened by a stronger, enforceable environmental regime. As natural resource extraction is connected with potentially grave environmental impacts, the economic costs these industries face from environmental enforcement are immense. Thus, the current status quo of strict standards and lax enforcement benefits the powerful interest groups and reforms of the system are likely to be strongly opposed by them.

Furthermore, the population is lulled into the false belief that its health and the health of future generations are protected through the system of stringent environmental requirements on polluters. The lack of comprehensible information on the state of environment and performance by industry as well as regulators undermines awareness and public pressure for improved environmental performance. Moreover, the general level of understanding of environmental problems is extremely limited, as the public has not received sufficient education in the linkages between pollution and public health. The revision of the pres-

ent system and development of new standards will involve many more stakeholders and the authority of the environmental and health agencies and their regulatory logic is likely to be challenged and their status possibly threatened. The current regulatory structure also possesses an ideological appeal as the Soviet system of environmental standards has long been boasted the most stringent and therefore protective of human health in the world (Keep 1995). Currently, when the economic, military and political reality has compromised most aspects of Soviet governance, the environmental standards system provides a last holdout of ideological superiority.

SCALE AND SCOPE

The revision of environmental standards will require not only a change of numerical values but a broad-based reform encompassing the principles of standard setting, the institutional framework, the legal basis and enforcement mechanisms. Introduction of a radically different regulatory approach, one of transparency, accountability, co-operation, information and burden sharing would be necessitated. It is therefore not surprising that the scale and scope of the reform might seem prohibitive and discourage agencies from initiating a reform process.

Environmental reform will inevitably be linked to the pace, scale and scope of overall reform and will depend on the capacities of institutions to carry out the necessary revisions. Where economic and political reforms have been slow or perfunctory, environmental regulatory reform has lagged behind as well. However, the urgency of environmental problems in relation to their immediate impact on human health and standard of living presents a challenge for environmental reform to be at vanguard. It can in turn trigger wider social changes and facilitate the implementation of larger reform efforts.

ACTORS

A number of institutions with often conflicting interests share responsibility for standard setting. Consensus among health, environment, fisheries and natural resources ministries and committees is imperative for the success of any standardisation reform and a challenging task. Furthermore, the target groups affected by standards are numerous, including industry, agriculture, water and water services suppliers, public utilities, and commercial users. If a comprehensive revision process is launched involving all stakeholders, inputs from all the target groups might lead to conflicting demands and considerable time and effort will be required to reach a consensus, a process in which Russia has little experience. The

power to reform the environmental standard system lies within the authority of national decision makers while the effects of the current ineffective system are felt at the local level. Institutional inertia and regulatory capture are therefore a major deterrent of reform.

COMPLEXITY OF SUBJECT MATTER

Environmental standards imply a possession of knowledge about environmental phenomena which is not available to any one institution. The complexity of the subject requires the consideration of a multitude of questions including natural sciences (ecosystem centred and human health centred studies), economics, technological considerations, social concerns, etc. Most officials within regulatory agencies in the NIS are trained in the natural sciences and lack the legal, economic and management knowledge necessary for a revision of the system. The interdisciplinary character of the process of environmental standards setting would require extensive education and training of scientists, officials, industry representatives, and the population at large.

Implications for international compliance

Compliance with international environmental agreements has received increasing attention in the academic literature (Chayes and Chayes 1995; Cameron et al. 1996) and especially so in the wake of the Cold War and the emergence of a multilateral world (Koh 1997; Brown Weiss 1993). International agreements present an intriguing research object as they impose obligations but lack concrete implementation tools and rely on national institutions to ensure implementation and compliance. The linkage between national capacity and international performance is therefore critical and of particular interest in countries where domestic constraints systematically hinder compliance.

To explain and predict compliance with international obligations, two levels of analysis need to be considered—the influence of the domestic context on international compliance and the influence of international institutions on domestic constraints. The analysis in this article has shown that domestic constraints can be severe and difficult to overcome. The logical prediction from the assessment of the Russian national regulatory context, characterised by low level of compliance, would be the absence of compliance with international agreements as a result of the structural domestic problems. However, studies of Russia's performance in regimes like the Montreal Protocol, for example, have shown that compliance can be

induced if certain institutional mechanisms are deployed (Brown Weiss and Jacobson 1998; Victor, Raustiala, and Skolnikoff 1998). The financing mechanism and national capacity building measures of the Montreal Protocol, coupled with strong procedural requirements such as monitoring and reporting, have facilitated national compliance where none would have occurred. International institutions, therefore, could alter and realign incentive structures at the national level and promote change in behaviour.

The implications of these findings merit further research, particularly at the interface of international relations and law on the one hand and comparative law and politics on the other. The role of institutional mechanisms at the international level in realigning domestic preferences and behaviour will be critical to understanding domestic compliance determinants as well as to efforts at designing more effective international governance structures.

Conclusion

A central function of the modern state is to provide economic and social welfare for its citizens, including macroeconomic stability, improved education and training, equality of opportunity, and high environmental quality. Governments use various mechanisms to attain these objectives, but laws and regulations aiming to align public and private interests have figured as prominent tools. The question of compliance with legal obligations and requirements has figured prominently in the literature, giving rise to various theoretical explanations. In this article, I have synthesised the propositions of the different theories regarding factors critical to enforcement and compliance and have pointed to a gap in the explanatory framework when it is applied to the context of the economies in transition of the former Soviet Union.

The system of environmental quality standards representing the objectives of environmental quality that society aspires to attain has remained virtually intact since the 1960s. The regulations on environmental quality have become an obstacle to achieving the purposes they were intended for due to their overly burdensome complexity, unfeasibility, affordability constraints, or miscommunication of requirements. Thus, they have a direct impact on the effectiveness of a deterrence mechanism, the complexity of the regulatory framework, and the legitimacy of the legal system. Environmental regulatory reform would ultimately depend on political commitment. Governments need to take the initiative to begin a process of reinvigorating the institutional framework and building trust in regulators through an endorsement

of a clear strategy and a sustained commitment to its execution. The emergence and empowerment of domestic constituencies with a stake in the reform process and outcome will be essential in strengthening the capacity and accountability of the state. To this end, improved access to information, awareness raising, environmental education, and greater transparency of the decision making process are critical. The impact of international institutional mechanism on realigning domestic constraints is an important area for further research and analysis.

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