

ENFORCEMENT OF ENVIRONMENTAL
LAW: GOOD PRACTICES FROM AFRICA,
CENTRAL ASIA, ASEAN COUNTRIES AND
CHINA



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Executive Summary

This booklet on Enforcement of Environmental Law: Good Practices from Africa, Central Asia, ASEAN Countries and China compiles and documents good practices on enforcement of environmental laws that were shared from selected countries as a tool to guide other countries when strengthening their enforcement. For any environmental legislation or regulation to be effective it requires to be adequately enforced. Environmental Laws do provide enforcement mechanisms and expect the responsible authorities to enforce the law. Developing countries have however been experiencing weak enforcement that is rendering the national environmental laws and regulations sometimes ineffective in deterring violations.

The fact that the experiences of developing countries on enforcing their environmental laws and regulations differ provides opportunities to learn from each other. This booklet is a collation of good practices on enforcement of environmental law that were generated by countries from the ASEAN region, selected African countries and selected Central Asian countries and China. These best practices were generated at an inter-regional meeting of experts on enforcement of environmental law, which provided a forum for countries to share expertise and learn from each other under the framework of South-South Cooperation.

The design of the booklet is such that the good practices on enforcement are presented in categories of Administrative Enforcement, Civil Enforcement and Criminal Enforcement which provides the reader with the three different perspectives of enforcement. In addition the good practices which were derived from developing countries provide for cost effective options which countries can use to strengthen and or perfect their systems. The regional networks and Institutions also provide a good opportunity to continue collaborating at the regional and sub-regional level to strengthen enforcement of environmental law.

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Chapter 1:

Enforcement of environmental law

1.1 Introduction to the problem

The object of this introductory guide is to provide information to countries and institutions on strengthening enforcement of environmental law.

Examples of good practices in the enforcement of environmental law are provided, with these having been chosen where there is evidence of their being successful in practice. By ‘good practices’ are meant solutions which have been implemented in particular countries, to particular difficulties of environmental law enforcement, and which have been successful in resolving those difficulties – or have at least shown significant promise. Good practices are proposed from selected countries, as the entire range of African and Asian countries could not be covered.

The scope of this guide is limited to enforcement, not compliance. ‘Enforcement’, for purposes of this guide, is defined as meaning:

the range of procedures and actions employed by a State, its competent authorities and agencies to ensure that organizations or persons, potentially failing to comply with environmental laws or regulations, can be brought or returned into compliance and/or punished through civil, administrative or criminal action.

‘Compliance’, by contrast, can be defined as meaning:

the state of conformity with obligations, imposed by a State, its competent authorities and agencies on the regulated community, whether directly or through conditions and requirements in permits, licences and authorizations.

Of course, there will on occasion be overlap – for instance, in order to determine a good practice one might need to investigate compliance issues to see whether the practice has been successful in a particular country.

Within national legal systems it is becoming increasingly apparent that merely having legislation ‘on the books’ is not sufficient – and that even in systems where criminal provisions are enforced effectively, criminal law by itself will never be sufficient. Effective administrative practices and the availability of means for civil society to become involved are just as important. Enhancement of all three of the areas of administrative, civil and criminal practices is needed for enforcement to be optimal. Within each of these three fields, and in the inter-relationships between them, innovation needs to be ongoing – and all actors can benefit from contact with,

and support from, each other. Against a background of internationalization, and significant resource constraints, states and actors within states should seek to learn from each other's experiences.

At the same time, however, environmental degradation is, at least in most countries, increasing; and existing enforcement of environmental laws is not proving as effective as might be hoped. The reasons for this are manifold, including human capacity and access to technology constraints suffered especially by developing countries; nation-wide drives toward rapid economic growth and poverty alleviation, again especially in developing countries; and, crucially, weak international communication and consequent lack of awareness of possible solutions which might be suitable, or adaptable, to countries' environmental enforcement needs.

Unfortunately, it seems that environmental problems are becoming worse and not better. Aside from a few limited success stories, habitats are shrinking, biodiversity's resilience capacity is being weakened, climates are changing, alien invasive species are increasing, and there is greater pressure on natural resources than ever before. Enforcement of environmental law needs to adapt. States have consequently begun to change their implementation and enforcement practices to move away from reliance on only the rigid imposition of sanctions for environmental violations, toward regarding enforcement through criminal sanctions as being merely one of the elements of a suite of actions which national governments need to take to achieve substantial compliance.

The relationship between national and international environmental law is increasingly important and increasingly acknowledged; and it is increasingly understood that effective enforcement of national environmental laws is required if international environmental law is to be effective. As our understanding of the growing complexity of environmental problems has increased, we have developed a more sophisticated understanding of what is required for effective enforcement of environmental law.

1.2 International environmental law and national environmental law enforcement

Although the main focus of this introductory guide is on sharing good practices in enforcement of national environmental law, national environmental law has a relationship with international environmental law. There are national laws that are enacted to implement international environmental agreements; and others that are enacted to manage the environment which are not implementing international environmental agreements. It is therefore important at the outset to understand the relationship between international and national law. States enter into international agreements (also called conventions or treaties) in terms of which they agree to enforce certain obligations within their own national legal systems. States are the main drivers for implementing international rules because international agreements must be incorporated within national legal systems if they are to have any chance of being effective. Whether national legal systems will prove effective depends, in turn, on a range of factors – such as the extent to which society accepts the rationale for laws regulating the environment;

the extent to which the State has the willingness to enact the required national environmental legislation and the capacity to enforce such laws; and the extent to which actors within both the international and national spheres consider the costs of abiding by such laws to outweigh the advantages that might be gained by disobeying them. It is important to note that the core multilateral environmental agreements, such as the Rio Conventions,¹ provide facilities and support to countries to enable them to enforce their laws more effectively at the national level.

Agenda 21, the global blueprint for sustainable development agreed to at the United Nations Conference on Environment and Development (UNCED), 1992, advocates for enforcement as important to make the laws effective in managing the environment and for sustainable development. Chapter 8 of Agenda 21, amongst other things, calls on governments to strengthen national institutional capability and capacity to integrate social, economic, developmental and environmental issues at all levels of development decision-making and implementation. Most specifically in relation to enforcement, Agenda 21 further records that:

amongst the important instruments for transforming environment and development policies into action are laws and regulations suited to country-specific conditions – but much of the law-making in many countries seems to be ad hoc and piecemeal, or has not been endowed with the necessary institutional machinery and authority for enforcement and timely adjustment; and many developing countries have been afflicted by shortcomings of laws and regulations.

Governments, according to Agenda 21 further:

- *should make their laws and regulations more effective;*
- *should establish judicial and administrative procedures for legal redress and remedy of actions affecting environment and development that may be unlawful or infringe on rights under the law;*
- *could usefully receive support from legal reference and support services, including competent intergovernmental and non-governmental organizations; and*
- *could usefully establish a cooperative training network for sustainable development law; and should develop integrated strategies to maximize compliance with its laws and regulations relating to sustainable development.*

In respect of strengthening legal and institutional capacity, Agenda 21 suggests that it is important to improve the ‘legal-institutional capacities of countries to cope with national problems of governance and effective law-making and law-applying in the field of environment and sustainable development’.

¹ Referring to conventions which emanated from the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, such as the UN Framework Convention on Climate Change, the UN Convention on Combating Desertification, and the Convention on Biological Diversity.

1.3 The 'gap' between commitment and enforcement

Despite this awareness of the gap between commitment and enforcement, international legal instruments have tended not to include concrete suggestions as to how successful enforcement of national environmental laws might be achieved. In some instances, the legal instruments have created a number of institutions through legislation empowering them with authority and mandating them to enforce particular legislation. However, in developing countries and countries with economies in transition, these developments have often because of competing needs not occurred in tandem with investment in staff capacity, knowledge bases, or equipment. Failure to pay adequate attention to inspection and monitoring, and failure to put in place procedures for engaging the regulated community and deterring violations, give rise to a culture of impunity and weaken the effectiveness of environmental laws.

Developing countries and countries with economies in transition have varying experiences in the enforcement of national environmental law. That they are grouped in the same category under the framework of South-South Cooperation provides them with an opportunity to learn from each other on how to tackle the current challenges that enforcement officials are faced with. South-South Cooperation in this regard refers to the opportunity for technical cooperation among countries and provides a platform for countries, in this instance these being selected countries in the African, ASEAN, Central Asian regions as well as experts from China, to share expertise and lessons learned for the purpose of strengthening their institutional capacity for enforcement.²

It is, however, significant that there is continued reiteration, after Agenda 21, the World Summit on Sustainable Development (WSSD) of 1992, and the United Nations Conference on Sustainable Development (UNCSD, the Rio+20 Conference), of the importance of having effective environmental laws. Multilateral environmental agreements, through their conferences and meetings of the parties, and their provision of financial mechanisms, institution of non-compliance mechanisms, clearing house and information facilities, capacity building programmes, reporting mechanisms and other facilities, and the growth in importance of principles such as the principle of common but differentiated responsibility, have provided new avenues to consider the situations of developing countries and countries with economies in transition and to afford support for enforcement in these countries.

1.4 The purpose of this introductory guide

This guide is intended to share is a set of good practices generated by experts from selected countries in the African, ASEAN, Central Asian regions as well as experts from China during a meeting convened in May 2014, peer-reviewed in August 2014, that can be used under the framework of South-South Cooperation to inform countries on options and solutions

2 Africa-Asia Expert Meeting on Enforcement of Environmental Law, Beijing, China, 19-22 May 2014, and Peer Review Meeting, Nairobi, Kenya, 13-14 August 2014. The Meetings were convened by UNEP and the People's Republic of China's Ministry of Environmental Protection through its China ASEAN Environmental Cooperation Centre, under the framework of South-South Cooperation.

to remedy deficiencies to address various enforcement challenges. This guide complements administrative, civil and criminal procedure codes by providing additional information on how enforcement gaps or challenges are being addressed by various countries. This includes lessons learned at the regional level to enhance the capacity of countries to enforce national environmental law.

For the purposes of this introductory guide, 'good practices' have been taken to mean practices and procedures, sometimes documented and sometimes undocumented, which countries or enforcement institutions have devised to provide options and solutions to solve enforcement challenges.

For ease of reference, this guide is structured so as to present the selected good practices in three main categories; namely:

- *Administrative Enforcement;*
- *Civil Enforcement; and*
- *Criminal Enforcement.*

Thereafter, *Regional and Sub-Regional Enforcement Initiatives* are presented as a separate category. Under each of these categories a set of areas are listed to enable the reader or user of the guide to retrieve appropriate information speedily. Finally, suggested *Information Sources* are listed.

- (i) On **administrative enforcement** the specific areas that relate to this kind of enforcement, and how they can be applied or adapted, are outlined. In addition the information is organized to refer to institutional coordination and collaboration; information sharing and knowledge management; tools equipment and training; inspection and monitoring; awareness and public engagement.
- (ii) On **civil enforcement** the scope of civil enforcement is defined and relevant good practices from countries are organised in categories. These categories include: tools, equipment and training; procedures; awareness and public engagement; information sharing and knowledge management; and finally appropriate dispute resolution.
- (iii) On **criminal enforcement** the scope is defined and then good practices suggested by countries are organised under a number of categories. These categories are institutional coordination and collaboration; tools, equipment, training, information sharing and knowledge management; procedures in the criminal law; awareness and public engagement; and remedies (criminal sanctions and penalties).
- (iv) In **Regional and Sub-Regional Enforcement Initiatives** a few good practices are considered from amongst the many networks that are available.
- (v) In **Sources of Information on Enforcement** some direction is given to academic and practical publications which provide information on problems of enforcement, the nature of enforcement, and suggested solutions.

1.5 International environmental agreements as a source of good practices

Although international environmental agreements rarely deal directly with enforcement, national laws which deal with enforcement often have the objective of putting international obligations into effect. For this reason, it is worth considering international agreements when seeking solutions at national level.

An example of how an international agreement might be a source for a good national practice can be seen in the Programme of Action for the Sustainable Development of Small Island Developing States (Barbados Programme of Action), adopted by the UN General Assembly in 1994. The Programme notes that:

Small island developing States are prone to extremely damaging natural disasters, primarily in the form of cyclones, volcanic eruptions and earthquakes. In some islands, the range of these disasters includes storm surges, landslides, extended droughts and extensive floods.

As a consequence, signatories are encouraged to:

i. Establish and/or strengthen disaster preparedness and management institutions and policies, including building codes and regulatory and enforcement systems, in order to mitigate, prepare for and respond to the increasing range and frequency of natural and environmental disasters and promote early warning systems and facilities for the rapid dissemination of information and warnings. ii. Strengthen the capacity of local broadcasting to assist remote rural and outer island communities within countries and among neighbouring countries during disaster events. iii. Establish a national disaster emergency fund with joint private and public sector support for areas where insurance is not available in the commercial market, taking into account the relevant experience to be gained from the operation of similar funds. iv. Integrate natural and environmental disaster policies into national development planning processes and encourage the development and implementation of public and private sector pre- and post-disaster recovery plans, drawing on the capacity of the United Nations Department of Humanitarian Affairs and bearing in mind the International Decade for Natural Disaster Reduction. v. Strengthen cultural and traditional systems that improve the resilience of local communities to disaster events.

It can therefore be concluded that good practices for countries to follow might include: establishing disaster preparedness systems in readiness for the likelihood that natural and environmental disasters will occur more often and cause greater damage; strengthening communication systems and preparedness; establishing disaster emergency funds, with both public and private sector support; integrating disaster response policies, including recovery plans, into national development planning processes; and strengthening the natural resilience to disasters of potentially affected communities.

The flow of ideas is not one-way. In many cases good practices will be included in international instruments, and repeated in subsequent such instruments, because they were originally found to be good practices within national legal systems.

However, while international instruments should be kept in mind, this guide deals more specifically with ideas suggested as examples from within national legal systems.

1.6 Adapting good practices to particular circumstances

It does need to be remembered that no two countries will have quite the same institutional arrangement – countries implement their laws in different ways, and have different structures for dealing with environmental issues. Ministries of environment and Environmental Protection Agencies, where these are established, have an important mandate in the enforcement of environmental law – as the sectoral Ministries who deal with various aspects of environmental resources they often also take the lead in specific areas of environmental protection and enforcement. Differences between countries may be influenced by factors such as climate, culture, economics, geography, legal systems, legal traditions, natural disasters, and many others. It is crucial therefore to consider the institutional settings within any particular country studied, and good practices suggested for improving enforcement should be adapted to the particular circumstances of individual countries.

For example, Singapore is a country with an environmental governance structure in which national government plays a strong central role – the government is the leading protagonist in driving environmental policy and enforcing environmental laws. Strong environmental regulation has led to the ‘city-state’ of Singapore even being labelled the ‘Garden City’. A National Environmental Agency (NEA) administers 12 environmental statutes and 40 sets of environmental regulations. Strict control of land use planning measures, and close attention to ongoing environmental monitoring, make this administration easier for the NEA.

Singapore’s small size, however, is one of the factors which make it possible for such a structure to be successful. In considerably larger China, by contrast, environmental governance is organised in terms of four levels: national, provincial, municipal and county. In recent times, China appears to be moving away from a centralised, essentially nationally controlled governance structure toward a more flexible, less centralised structure. This means that local authorities are able to take more control than they did in the past, while remaining subject to performance management restrictions (through national level environmental supervision bureaux) to ensure that environmental protection is not sacrificed in favour of economic growth in local areas. In fact, there are environmental monitoring corps to be found at all of the four levels, and six regional environmental supervision centres have been established. Some counties are even extending environmental enforcement units into rural areas, particularly to campaign for remediation of polluted sites. At the same time, the increasing involvement of NGOs has become a feature of environmental governance in China, with greater access to courts being given to civil society and individuals.

Considering a very different legal tradition, in Africa it is often the case that national governments are considered to have capacity constraints which make it difficult for centralised enforcement of environmental laws to be effective. Decentralisation is therefore a trend, with lower-level authorities – even at local community level – being given more authority for the enforcement of laws relating to environmental protection and use of natural resources. In Uganda, for example, there is a National Environmental Management Authority (NEMA) which has a mandate to coordinate, monitor and supervise all environmental activities. However, the NEMA is not considered to be an implementing institution and it performs its duties through ‘horizontal’ coordination with other institutions or ‘lead agencies’ (such as the National Forests Authority, the Ministry of Water and Environment and the National Roads Authority); and then through ‘vertical’ coordination with local government, the private sector, and civil society. Such decentralisation has been described as ‘not just a technocratic and administrative effort, but a political one as well’, with such decentralisation giving ‘stakeholders a greater role in decision-making’ and leading to ‘better decisions which are more broadly supported’ (Oosterveer and Van Vliet, Springer, 2010). Local community governance structures, civil society and even individuals are therefore able, and encouraged, to play a larger role in enforcement of environmental laws than in many other countries.

Law and preferred enforcement mechanisms are often highly country-specific, therefore. What works well in one country might need to be adapted if it is to be successful in another.

1.7 South-South cooperation

While what works well in one country might not work as well in another, there are many lessons which countries can learn from others which have dealt with similar issues. Many developing countries face similar developmental and financial constraints, and many international agreements call on countries as they implement multilateral environmental agreements (MEAs) to mainstream environmental issues in their planning processes for the purpose of ensuring that the environment as a sector are given due consideration; and investment concerns over enforcement, in terms of having adequate staff, are taken care of. South-South Cooperation provides an opportunity to leverage the potentials of countries in the South to learn from each other on what works in developing countries and countries with economies in transition for the purpose of adapting them to solve issues in their countries.

1.8 Readership

An introductory guide of this nature cannot be comprehensive. What it can do is provoke ideas and give its readers a sense of the sort of options that other countries have turned to as solutions for problems related to enforcement of environmental laws.

It is anticipated that a wide range of readers might find this guide useful. These readers might include Parliamentarians and members of legislative drafting teams; members of the Judiciary; Ministers and Ministerial officials; administrators of environmental enforcement legislation; administrators of environmental assessments and development approvals; and scholars and students interested in enforcement issues generally.

Chapter 2:

Administrative enforcement

2.1 Introduction

The scope of administrative enforcement can be described as a set of actions that regulatory institutions carry out to ensure compliance with environmental requirements. Certain types of sanctions may be included within administrative powers; as might be actions that are non-judicial in nature.

Administrative actions derive their power directly from the law, or indirectly (by delegation) from the state (which has executive powers).

A number of features are important and may be present:

1. Administrative enforcement includes many different administrative aspects (for instance, issuance of permits or consideration of Environmental Impact Assessment reports).
2. Decisions as to punishment may be made by office-bearers with administrative powers. (A range of non-judicial and quasi-judicial measures might be available to ensure compliance: such as monetary sanctions, suspension/cancellation of permits, and so forth.)
3. Administrative enforcement may include rewards or incentives ('carrots', as opposed to 'sticks').
4. Environmental decisions should be reviewable after they have been made.

2.2 Institutional coordination and collaboration

While every country will have a different governance structure, whether these differences are major or subtle, it can be assumed today that every country will have an institutional structure that contains an environmental Ministry. Each country will also have other Ministries, considered here to be sectoral Ministries, which deal with matters relevant to the environment (such as foreign affairs, health, land, minerals and mining, trade and industry, water, and so forth) but which focus more on their sector's different priorities. There will also be environmental protection agencies and other different entities within Ministries that deal, for example, with research. A problem common to all countries appears to be lack of coordination, cooperation and information between such Ministries and other entities, agencies, structures, and so forth, which exercise administrative powers. This common problem is often caused by a lack of clear articulation of roles in establishing or enabling statutes, or the appointing authority not being clear on each institution's role. This hampers effective enforcement and requires streamlining of roles to remove unnecessary conflicting mandates.

Good practices listed here are for dealing with lack of cooperation between relevant environment organs/entities (excluding courts and parliaments). The countries listed below took various measures to address coordination and collaboration weaknesses among the many institutions in their countries. While some measures are hierarchical and some horizontal, all are aimed at streamlining cooperation to enable countries to enforce laws effectively.

Thailand: A Memorandum of Understanding (MOU) has been agreed to among relevant coordinating agencies, recognising that different agencies and the laws in different sectors are equal. Although the MOU is not enforceable and does not create legal obligations, it is a good practice for the different agencies to have a common understanding.

Sierra Leone: Environmental matters fall under the direct purview of the State President and thus receive high level attention. There is a strategic planning unit that is responsible for coordinating different agencies responsible for environmental issues.

Cambodia: There is a national coordination committee (NCC), which is an inter-Ministerial committee to work on international conventions and chemicals. Technical officers from institution are assigned to work on monitoring and to coordinate environmental problems spanning sectors.

Indonesia: There is national, provincial and municipal level coordination, with specific and clear designation of functions at different levels. There is a decentralised model of governance so that local government has the authority to issue permits; however, federal law allows for a 'second line' of enforcement by federal government, which can withdraw permits issued by local government.

Tanzania: Joint inspections are conducted by several regulatory authorities (for example forestry, health and safety, mining agencies, and so forth), thereby leveraging on the expertise of different experts from various institutions.

Ghana, Malawi and Tanzania: Joint stakeholder inspections are conducted, and audits are conducted as per the permit conditions.

Kenya: Environmental management is made fully autonomous, but the Kenya Wildlife Service (KWS) is able to partner with different agencies.

This ability to enter partnership agreements is important as it is difficult to fight wildlife effectively as an isolated agency, and so the KWS collaborates with other agencies (such as the police and the Director of Public Prosecution), some of which have greater powers than KWS has to charge suspects, confiscate property acquired through crime, and so forth.

Nigeria: Nigeria has a national council on environment, established in 1990, at which, annually, the federal and state levels of government convene to share problems in each area and reach collaborative solutions.

This practice allows for general solutions to be found at federal level, as well as for solutions to be found for unique problems in particular states. The practice also helps to ensure consistency between federal and state laws, with federal laws being reviewed at each state level to ensure that they are relevant and helpful to the states.

China: Federal government provides direction, although not orders, for cooperation with selected provinces, so that there will be heightened attention no problem solving.

Historically, in China, responsibilities were shared amongst among Departments but experience showed that this did not work well and an independent Ministry of Environmental Protection was therefore established in 2008.

Singapore: Despite largely having a centralised governance system, Singapore finds that streamlining responsibilities of agencies helps to achieve efficiency and effectiveness. Cross-agency issues are tackled through technical working groups formed to address specific environmental issues. Transparency through external, independent audits available within the public domain helps to ensure that single authorities do not abuse power.

Uganda: A special environmental police unit has been formed under the Ministry of Water and Environment. This has enhanced enforcement of environmental laws by enabling swifter responses to criminal acts and by shortening the prosecution process.

Ghana: An internal audit agency has been created to check on the work of government institutions internally.

The Internal Audit Act 658 of 2003 created the Internal Audit Agency as the entity which, in Ghana, coordinates, facilitates, monitors and oversees internal audit facilities in governmental Ministries, Departments and Agencies.

Ghana: There is a Liaison Group for mining in forest reserves – this is a group of experts from the Forestry Commission, the Ministry of Lands and Natural Resources, the Minerals Commission, the Environmental Protection Agency, and the District Assembly, and who monitor the activities of mineral rights holders who are granted mining permits in forest reserves. They also form a Technical group which reviews EIAs when environmental permits are sought.

Indonesia: A ‘multi-door’ approach is taken as environmental cases are difficult for single agencies to handle. Both civil and criminal matters related to the environment often relate to other sectoral areas, for instance money laundering, so it is a good practice to involve other appropriate agencies and legislation.

Malaysia: Many cases of environmental enforcement are handled by the Department of Environment State Office together with Local Authority Departments (LAD).

2.3 Information sharing and knowledge management

A problem which many countries experience is that there is insufficient sharing of information. Effective use of administrative enforcement measures relies heavily upon adequate intelligence being available to the administrative powers and also to interested and affected parties. That such information is often not available, or is not easily accessible, may be due to fragmentation of institutions and responsibilities, and non-availability of platforms to share the required information. Some good practices which might help to alleviate this problem are listed.

It is important that there be continuity and preservation of knowledge within institutions. Personnel change, new people come into employment, and lessons from past successes and failures need to be learned. It is important also that knowledge be available to empower enforcement. Where possible, this knowledge should be made publicly available.

Nigeria: Procedural guidelines are in the public domain so that locally affected people are aware of the correct focal point to contact when environmental issues arise.

Indonesia: There is a hotline between federal and local government to ensure up-to-date sharing of information and knowledge between the local and federal levels. At this stage, the system appears to be working well as national level, although there still are teething difficulties at the local level.

China: There is a popular national hotline, managed by the Ministry of Environmental Protection, on which people can report any instances of environmental pollution.

In China, the hotline ('12369') was introduced in 2009 and has apparently been very successful – in 2013 almost 2000 complaints were received, 26% more than in 2012. The vast majority of these (70%) concerned air pollution, and some 80% were verified. Information is collected and then shared with various relevant agencies; and companies have been investigated, fined and even closed down.

China: Certain environmentally-relevant information (such as the issuance of permits) is disclosed compulsorily; other information may be made available on application.

Singapore: There is effective internal management of knowledge with a knowledge library of past major environmental pollution cases being held.

Thailand: There is an internal knowledge management system, with sharing of learnings within the members of agencies, and a points accrual system in place to incentivise government employees to learn.

Tanzania: Knowledge management is increased by having enforcement teams comprising members with different expertise, for example engineers or sociologists, so that cross-sectoral issues may be more effectively dealt with.

China: There is a publicly available ‘one stop’ database for all environmental enforcement legislation, permissible limits, and so forth. This operates to assist enforcement officers on the ground.

2.4 Tools, equipment, training

The world is changing at a rapid rate as technology advances, and successful enforcement requires that administrators keep at the forefront of appropriate technological tools and equipment to enable enforcement officials to discharge their duties effectively – and that appropriate training is prioritised to build the capacity of enforcement officials.

Ongoing monitoring is important. Tools for enhancing public engagement are playing increasingly important roles. Training is crucial, especially as new technologies become available.

Kenya, Malaysia and the Philippines: Environmental profiling is done using Google Earth or other similar services to monitor the impact of mining companies on the environment. Maps allowing overlaying of different map layers, for example for landslide areas, quake prone areas, and so forth to facilitate decision making. Pollution control officers assigned within private companies and the environmental agencies provide training for these officers to build capacity for environmental management.

Malaysia is using Mobile Rugged Tablets (MRTs) for GIS application in order to conduct verification and mapping of industrial sources. This system will be further linked to online enforcement reports and Department of Environment application systems and discharge monitoring reporting systems.

Malaysia is also using a system in terms of which, where possible non-compliance is detected on-site, compounds can be analysed straight away without awaiting chemical analysis results from Chemistry Department. DOE officers are also equipped with mobile enforcement (M-FORCE) tools, such as handheld and portable printers to enable them to issue immediate non-compliance citations.

The Philippines: A multipartite monitoring team (MMT) is used.

Pursuant to the Philippine Environmental Impact Statement (EIS) System and its Implementing Rules and Regulations (IRR) and Procedural Manual, MMTs shall be formed and in operation for environmentally critical projects (ECPs) and projects within environmentally critical areas (ECAs) that may potentially be under close watch due to the nature and scale of operations. MMTs involve the Department of Environment and Natural Resources Environment Management Bureau (DENR-EMB), project proponents, DENR field office/s, relevant government agencies, local government units (LGUs), NGOs/stakeholders. ECPs and some projects within ECAs are required to be monitored by MMTs to ensure public participation and transparency in the EIA process, and thereby to address potential concerns early. In addition to these requirements, the establishment and operation of MMTs are stipulated in the Environmental Compliance Certificate issued to proponents of ECPs and some projects within ECAs. The MMT operations have been successful in improving the level of compliance of industries/projects.

The Philippines: The installation of closed circuit television (CCTV) has led to the closure of facilities observed discharging untreated waste.

The good practice is requiring Treatment, Storage and Disposal (TSD) facilities to install CCTV cameras at strategic areas within their facilities. In 2011, a TSD facility in Bulacan Province was ordered to cease and desist from operating after validation of reported direct discharge of untreated hazardous wastes into the drain system. The discharge was recorded by the company's CCTV camera system. Recently, two TSD facilities were found to be in violation of the Philippine EIS System (Presidential Decree 1586) and Toxic Substances, Hazardous and Nuclear Wastes Control Act (Republic Act 6969). These facilities were required to install CCTV cameras. Increasingly, proponents of TSD facilities are being required to install CCTV cameras within their facilities.

Kyrgyzstan: Mobile sensors are used for monitoring in environmentally sensitive area.

Tanzania: Guidelines are provided showing the relationship between the amounts of penalty and the seriousness and scale of offences, so as to avoid overly disparate discretions being exercised by enforcement officers taking enforcement actions against offenders.

Ghana and Nigeria: Providing training manuals for enforcement officers is a good practice which helps to avoid arbitrariness. Even the judiciary benefits from guidance on enforcing environmental laws. The provision of such manuals does, however, need to be appropriate to a specific legal system – in Central Asian countries, such as **Tajikistan**, 'explanations of laws' are routine and are not considered to be an unusual practice.

The Philippines: Having clear timelines, which commence from the initiation of enforcement action, for follow-up by environmental agencies, has proved a good practice.

In the Philippines, ten months are given for criminal cases, and twelve months to solve civil and environmental cases. If the environmental damage involves two or more provinces, then the litigation can be heard in the Supreme Court.

Malaysia: Standard operating procedures (SOPs) have been devised to be followed by all enforcement officers.

These SOPs cover all aspects of environmental enforcement, from the development of annual inspection programmes, selection and categorization of industries accordance to previous compliance and records, procedures to be followed during inspection and investigation, formal sampling, collecting of evidence, recording of statements, issuing of detention orders and prohibition orders to stop specific pollution, up to preparation of investigation paper for prosecution in courts, and consent to prosecute from the Attorney General. Prosecutions are conducted by trained Department of Environment officers.

Thailand: A mobile phone application has been developed that allows the public to check current air quality in bigger cities.

Singapore: An environmental mobile application is available through which the public is encouraged to spot and report environmental violations.

Seychelles: There is a public ‘Greenline’ available on all mobile SIM cards upon purchase – action is then taken when environmental problems are reported.

Cambodia: There is information disclosure through the Ministry of the Environment website, so that the public can provide feedback on matters dealt with.

China: Several non-governmental organisations (NGOs) provide pollution maps for China.

For instance, the Institute of Public and Environmental Affairs website (<http://www.ipe.org.cn>), on which one can see regional air quality rankings, regional water pollutant discharges and regional solid waste pollutant discharge rankings, with search facilities for particular regions and also particular companies.

Ghana and Uzbekistan: Experts from environmental units, for example those responsible for forestry and rivers, provide training for government agencies to keep these agencies updated on the environmental situation in the various cities and provinces, and on how to manage various environmental issues.

2.5 Inspection and monitoring

Inspections provide an effective way of detecting violations of laws, and monitoring compliance with the law. While the regulated community might be trusted in self-regulation programmes, and reporting according to the permits that are provided by various agencies, it

remains important to inspect for the purpose of ensuring that enforcement requirements and standards are being adhered to by the regulated community to avoid violations.

While there will often be overlaps, there is a difference between monitoring and inspection, which would usually happen *ad hoc*, or where there is reason to believe that an offence may be committed, or as part of an investigation. Monitoring means ongoing, regular oversight of practices to ensure that legal requirements are adhered to. Monitoring is particularly useful in regard to high-risk industries or practices.

A criticism often levelled at law enforcement officials is that they are slow to prosecute alleged environmental crimes, in contrast to more 'traditional' categories of crimes (such as those involving fraud, theft or violence). Inspections and monitoring can expose 'triggers' which lead to prosecution.

China: Local environmental police conduct daily inspections of hotspots for pollution, such as rivers. This is not a common practice, but appears to be working well in Kunming City, Yunnan Province.

Malaysia: Environmental desktop enforcement has been enhanced and strengthened with electronic enforcement monitoring systems, and performance monitoring for self-compliance by industries.

Cambodia, the Philippines and Tanzania: Enforcement officers are being equipped with enforcement checklists, mobile laboratories and hand held monitoring devices for more effective enforcement.

Electronic enforcement systems have been developed for the usage of Department of Environment officers to monitor compliance of industries, such as Continuous Emission Monitoring Systems (CEMS) (which provide real-time data of emissions); Monthly Discharge Monitoring Report (MDMR) systems (for online reporting of the quantity and quality of wastewater discharges); Electronic Consignment Note (ECN) systems (for online reporting of generation of, and disposal of, hazardous wastes); and Online Notification and Registration of Environmentally Hazardous Substances (EHSNR) systems.

The Department of Environment (DOE) has its own online application system to record and track down the compliance history of industries based on inspections and investigations which are conducted with support from a GIS application system. From the desktop enforcement system, via these online application systems, DOE officers can track down specific industrial premises which have not submitted any reports, or have submitted discharge reports showing non-compliance, air emission non-compliances, and auditing in term of hazardous waste generated, stored on-site and the amounts of waste disposed of or sent for recovery at licensed facilities.

From these certification programmes, industries can ensure their own compliance as they must employ competent persons to conduct/operate their pollution control equipment and hazardous waste management systems. A specific regulation on competent persons has been drafted to control and maintain the professionalism of such employees in term of work ethics, knowledge and continuous professional development hours.

Nigeria: Self-monitoring has been found to help to create ‘green’ jobs – this is achieved by encouraging facilities to employ environmental officers, trained by the state. Also, green jobs are created indirectly through environmental requirements imposed by government – such as when the private sector needs to employ experts to conduct compulsory EIAs.

Cambodia: Routine inspection and monitoring are important and effective. Coupled with these, administrative fines and written orders requiring owners to correct violations within a specified time period are effective.

Kenya: Using intelligence and monitoring notorious importers has proved successful; although it is difficult as importers may respond by using different ports to evade the monitoring.

Kenya: A good practice is checking and monitoring of government organs, not just of external entities, which can be done in a cooperative way by drawing performance targets for all agencies at the beginning of each year and rating them at the end of each. Sometimes polluters might be government agents, local government especially.

Kenya, Malaysia and the Seychelles: What monitoring will be appropriate will depend on industry-types, regions and so forth. In some cases monthly monitoring will be all that is needed, in other cases weekly.

In Malaysia there is a self-regulatory programme for industry to monitor biological treatment systems requires daily monitoring for pH, dissolved oxygen (DO) and mixed liquor suspended solids (MLSS) as an indicator that the equipment is in optimal condition and that discharge standards are being complied with.

In the Seychelles, regular foot patrols are done in cities and trucks are monitored for quarry aggregates twice a week.

Ghana, Kenya and Zambia: Environmental audits are important, and various types may be appropriate.

In Kenya where there is a high-risk, audits are conducted regularly; where the risk is low audits might take place only every three years.

In Zambia, there are normal audits, impromptu audits, and self-audits. Impromptu audits can be varied, including at night.

In Kenya, air patrols with cameras and radios communicating with personnel on the ground are effective in the wildlife context.

Numerous countries: Online monitoring is increasingly used; as is the requirement for monthly or quarterly reports from industry – even real-time monitoring.

Singapore's experience shows that less monitoring is needed of companies which demonstrate compliance.

Malaysia's experience suggests that compliance monitoring is not enough, and that performance monitoring is needed.

In the **Philippines** a crime report hotline proved to be unsustainable, however, because of its very success – there were too many reports.

2.6 Awareness and public engagement

Nigeria: Environmental Impact Assessments conducted by companies are made available to host communities for them to comment on before developments are allowed to proceed.

The Philippines and Thailand: There is public consultation and hearings between governments, NGOs, and the public and private sectors before developments are allowed to proceed.

The Philippines and Thailand: A sense of 'ownership' is encouraged amongst local communities through initiatives such as the 'adoption' of rivers and public spaces.

Cambodia: Environmental debating programme at national level to spread awareness of environmental issues.

Indonesia and Ghana: Introducing colour coding rating systems for industries has proved a good practice – the publicity element is effective at encouraging industry to be environmentally compliant.

In Ghana the colour coding system for industry has led to over 200 companies being registered. The system is known as the AKOBEN (meaning 'Vigilance and Wariness') Environmental Rating and Disclosure Programme, and is an initiative of the Environment Protection Agency of Ghana. The ratings are reached by analysing over 100 performance indicators (both quantitative and qualitative) and indicate how well companies fare in meeting the commitments they make in the planning stages of Environmental Impact Assessments. Companies are rated as Red (Poor – 'Serious Risks'), Orange (Unsatisfactory – 'Not in Compliance'), Blue (Good – 'In Compliance'), Green (Very Good – 'Applies Best Practices') and Gold (Excellent – 'Committed to Social Performance'). There is a website (<http://www.epaghanaakoben.org/>) which explains the programme, and on which the performance ratings of particular companies may be viewed.

Singapore: Transparent audits, published annually, are effective.

Ghana, Malawi and Uganda: Environmental auditing is provided for projects that have commenced.

Indonesia, the Philippines, Tanzania and Uzbekistan: All of these countries consider environmental education initiatives to be extremely important.

Environmental education of the youth is one of the priorities of the state educational policy in Uzbekistan. The country has a system of continuous environmental education and training, with environmental education being included in all curricula of primary schools, academic lyceums, colleges and higher educational institutions.

In Indonesia the Ministry of Education has promoted a national schools initiative ('Green Schools') to encourage environmental 'ownership' and to promote awareness of environmental issues. There is then recognition of schools by the President on Environment Day.

The Philippines is building up the number of students studying environment and natural resources so as to increase the number of experts interested in the area of environmental protection. School curricula place emphasis on environmental courses.

In Tanzania the government encourages the creation of jobs related to the environmental sector, and encourages students to take specialised courses in environmental management.

Nigeria: Public awareness campaigns may, however, have their limitations, and they do need to be used appropriately. In Nigeria public-awareness raising has led to many complaints (mostly against industry) since 2007, but might be too expensive for the country in the long-term.

Uzbekistan: Public private partnerships encourage engagement of the private sector to fund environmental protection projects, while government can provide tax incentives to attract investors. For example, in the waste collection industry the private sector is encouraged to invest and build the facilities. The effect is a reduction of financial pressure on government.

Chapter 3:

Civil enforcement

3.1 Introduction

Civil enforcement implies a set of actions that can help governmental and non-governmental stakeholders and individuals to use civil or alternate remedies to assist in ensuring compliance with, and enforcement of, environmental requirements. Different ways can be found to involve non-governmental actors with environmental expertise that can supplement legal action by the state to bring wrongdoers into compliance.

3.2 Tools, equipment, training

In the context of enforcement, there are various items of equipment which might aid in detection of environmental offences – and in the prosecution thereof. In addition to technical items, relevant and appropriate training provide essential reinforcing aspects to effective enforcement.

Nigeria and Singapore: Equipment such as CCTV recording, noise meters and sound level meters, mobile air monitoring devices, dust sampling machines, and PH meters for the measuring of effluent levels have proved useful.

Ghana, Indonesia and Malawi: Training and exposing judges to major environmental issues appears to have improved their receptiveness to hearing environmental matters.

Ghana, Malawi and Tanzania: Training of members of Parliament is also considered important – members of the judiciary can only operate efficiently and effectively if the legislation with which they work is informed, up-to-date and clearly drafted.

Ghana: People with technical expertise are trained as prosecutors to prosecute environmental cases.

For example, conviction rates have improved in cases involving fisheries offences. Officials from the Attorney General's Departments of Regional Coordinating Directorates, Regional Police Commands, the Fisheries Commission, Circuit Court judges, Naval Commands and the Environmental Protection Agency have been trained on effective prosecution management.

Sierra Leone: There has been training of technical prosecutors – not to be lawyers, but to lead evidence and be cross-examined in support of environmental prosecutions.

Indonesia: Training of NGOs is considered important, especially as NGOs have *locus standi* in environmental cases.

The Philippines: Technical officers are trained to conduct confiscation and seizure operations.

Ghana: The police are trained so that they can aid in environmental investigations.

Kenya and Zambia: Specific lawyers and magistrates are identified to be trained, especially in the wildlife sector.

3.3 Procedures

In order to use civil enforcement measures to enhance effective environmental protection, it is essential that both potential civil litigants and judicial officials have a proper understanding of required procedures. Certain instruments can aid in ensuring that the correct procedures are followed. In particular, instruments which give practical guidance on procedural requirements are of great value.

Legislative provisions which encourage potential civil litigants are of great value. Such provisions include those that ground *locus standi in judicio* (the right and capacity to litigate) and those that remove disincentives to litigating.

Indonesia: A ‘Green Book’ is provided to aid judges handling environmental cases.

Ghana and Malawi: Sector specific guidelines are provided to aid both the general public and applicants in environmental matters.

Tanzania: Both a National Environmental Investigation Manual and penalty determination guidelines are provided.

China: The burden of proof in environmental cases has been shifted to rest on the defendant.

China passed a Tort Liability Law on 26 December 2009, in force from 1 July 2010. Chapter 8 of this statute concerns environmental civil wrongs and, amongst other things, provides unconditionally that a polluter is to be held liable for the pollution he or she causes (“With respect to any damage caused by environment pollution, the polluter shall bear tort liability”: Art. 65); and that the defendant in an environmental tort case will have the burden of proof to show that its actions did not cause the damage which the plaintiff has proved it suffered, or that the conduct is covered by one of a number of exemptions or mitigations (“In the event of any dispute arising from environmental pollution, the polluter shall bear the burden of proof with regard to the legal basis for bearing no liability or mitigation of its liability and the non-existence of causation between its act and the harmful consequences”: Art. 66).

Zambia: Unlimited *locus standi* in environmental matters is provided for in civil litigation. A court may not award adverse costs, unless it finds that the litigation was not in the public interest.

In Zambia unlimited *locus standi* was introduced in 2011 (Environmental Management Act 12 of 2011, s 110(4)) to give an opportunity to those who have the knowledge, voice and capacity to commence public interest litigation on behalf of those who do not know how to defend or to protect themselves. The non-awarding of costs is to protect those who sue on behalf of disadvantaged people from bearing the burden of legal costs unnecessarily. (The first court case using this provision is currently underway in the High Court, and so the practice has already encouraged litigation.)

South Africa: In the environmental context, *locus standi* has been expanded beyond that available in other areas of the law; and the disincentive of facing an adverse costs order should the litigation be unsuccessful has been ameliorated.

In South Africa, per the National Environmental Management Act 107 of 1998, s 32, a litigant seeking to enforce an environmental law may now 'seek appropriate relief' from a court 'in the interest of protecting the environment'. This has led to the *locus standi* of individuals and NGOs becoming a non-issue in recent environmental-related cases. The Act provides also that such a litigant who is unsuccessful may, as long as he or she acted reasonably 'out of a concern for the public interest or in the interest of protecting the environment', and had exhausted other reasonable avenues for relief before approaching the court, not be required to pay the legal costs of the successful party. This decision remains in the court's discretion, but has been a feature in judgments in recent years where a court has been sympathetic toward an environmental litigant's arguments and motives, despite finding for the other party.

Some countries do not, however, have longstanding traditions of public interest litigation. In **China** the involvement of civil society organisations in environmental law enforcement is increasing. This has led to increased legal provision being made for organisations which certain meet requirements).

China revised its Environmental Protection Law in 2014, with the revision due to come into effect in January 2015, and the new Article 58 provides that is an organisation has engaged in public service activities in environmental protection for more than five consecutive years without contravening any law, then that organisation may register with authorities (at or over city level), and may then litigate against polluting acts or acts that cause environmental harm. There is potential for such organisations to help to reduce prosecution costs, and to use their expertise to assist courts and officials, but this is obviously still at an early developmental stage.

3.4 Awareness and public engagement

Civil enforcement measures can provide important support mechanisms for administrative and criminal enforcement. To be really significant, however, what is needed is that civil society, the general public and individuals are aware of the measures available to them; and they must feel sufficiently engaged with the issues to be willing to use such measures.

Ghana and China: Both countries have public interest organizations which have been set by law to fight for the interests of citizens whose environmental rights may have been violated. They are made up of environmental technical experts and lawyers who work together to represent the people in court on environmental violations.

Kenya: A National Environmental Tribunal has been set up by an Act of Parliament (the Environmental Management and Coordination Act of 1999) and appears to have been highly successful in the years since then. Also, in 2011 a dedicated Environmental and Land Court was created to hear matters related to land and environment.

In Kenya the Environmental and Land Court Act of 2011 provides that the Court will have the power to hear and determine disputes relating to environment and land, including disputes relating, amongst other things, to environmental planning, land use planning, minerals and other natural resources; compulsory acquisition of land; land administration and management; land and contracts; and any other disputes relating to environment and land.

South Africa: Where a litigant seeking relief from a court in respect of the breach or threatened breach of an environmental statute is successful, the court may – on application by the successful litigant – order that the unsuccessful litigant pay any reasonable costs incurred by the successful party in investigating the matter and preparing for the proceedings.

Swaziland: Mock jury-based trials to raise awareness and inform the public are a promising practice.

In January 2013 an initiative of an NGO (the Regional Agricultural and Environment Innovations Network for Africa: <http://www.raein-africa.org/>) held a two-day ‘jury sitting’ at the University of Swaziland, at which evidence was presented for and against the question of ‘whether modern biotechnology is an answer to food security in Swaziland’. Expert witnesses were ‘summonsed’ to give testimony before a ‘jury’ of legal and non-legal experts, and a verdict finally given. Similar projects are to be pursued in countries like Botswana and Zambia.

3.5 Information sharing and knowledge management

Information is the lifeblood of effective environmental enforcement. Sharing and managing information and knowledge mean that institutional memory can be created, civil society can be empowered, and the wide-ranging, cross-cutting field of environmental enforcement can be more effectively managed.

Uganda: Local community members have been given a mandate to monitor environmental crimes, especially in the forestry sector, using cellphone-based technology.

Uganda is losing large amounts of forest cover annually, and the good practice is the creation of a Community-based Monitoring system for environmental crime, especially forest-related illegalities, with the monitoring done by relevant communities. This is being done through cooperation with civil society organizations, particularly the organisation CARE International (together with the Anticorruption Coalition of Uganda and Kampala-based NGO Joint Effort to Save the Environment). Training of selected monitors includes basic CBM System tools including forestry laws, rights and obligations of citizens. There is then establishing of the phone user group system to avoid the actors incurring costs, and to enhance information flow. The duty bearers and the monitors are provided with smart phones connected to the closed phone user group system to ensure communication between them. The ICT System is then set, allowing reporting via SMS from the standard phones and via application from the Smart phones. The ICT system also receives and stores reports, provides access to users and transforms data into statistics for later use in evaluations. An SMS alert system receives reports and forwards them to the list of the duty bearers who are expected to take action on the report. This good practice in monitoring, reporting and apprehending forest criminals has registered success in many ways.

The Philippines and Vietnam: Online meetings are held every month on live television to allow citizens to voice concerns over environmental issues.

Malaysia: Regular public availability of information pertaining to air quality has proved a good practice.

In Malaysia, nearly 20 years ago 56 Automatic Air Quality Monitoring Stations (AQMS) were installed throughout the country. The air quality data is transmitted hourly and then published through various media (including television, newspapers and billboards) as an Air Quality Index. This has proved a good practice, contributing to awareness and civil society engagement, and ultimately to improved enforcement of air quality-related laws. (A Real Time Air Quality Index Visual Map is available at the website <http://aqicn.org/map/malaysia/>.)

Tanzania: New media technology is used. There is an environmental media group which collaborates with personnel from the National Environmental Management Committee to ensure that environmental information is obtained. Blogs and mobile phones are used, and there is annual reporting.

3.6 Alternative Dispute Resolution

Alternative dispute resolution (ADR) can be used to support criminal prosecution – and may be more effective where civil litigation is at issue, especially as costs might be reduced and ongoing relationships not damaged. Civil society is often concerned less with punishment than with ensuring that damaging activities cease and are not repeated – and offenders will often be members of relevant communities.

There are different perspectives on the role of ADR – in **Ghana** ADR is not permitted for environmental cases.

In Ghana, the Alternative Dispute Resolution Act 798 of 2010 provides, in s 1, that the Act applies to matters other than those that relate to the national or public interest; the environment; the enforcement and interpretation of the Constitution; or any other matter that by law cannot be settled by an alternative dispute resolution method.

In **China** ADR is encouraged by way both of voluntary agreements between polluters and victims, and between environmental protection agencies and industries.

Chapter 4:

Criminal enforcement

4.1 Introduction

Probably the most common form of enforcement practice is the imposition of criminal sanctions. Due to a range of factors (including lack of coordination between relevant institutions; lack of an appreciation of environmental crime as being as serious as more 'traditional' crimes; and lack of expertise and financial or technical resources), however, these sanctions are not always as effective as they might be. As a result many countries are considering innovative ways of imposing sanctions; as well as ways to enhance investigation and prosecution techniques.

The institutional settings for criminal enforcement are likely to be similar to those for civil enforcement, but in many cases will be better developed given the long history of criminal prosecution as the primary means of enforcement of law.

4.2 Institutional coordination and collaboration

Despite many countries today having relatively well-developed environmental jurisprudences there still are many problems and weaknesses caused by the number of institutions with the potential to be involved. Environmental law is by its very nature a cross-cutting discipline, involving statutes and organs of state related to agriculture, criminal law, disaster management, energy, forestry, health, housing, impact assessment, industry, international relations, minerals and mining, natural resources, poverty alleviation, public services, security, trade, water, wildlife, and many more.

With so wide a field, it is no surprise that one of the criticisms most commonly made of environmental enforcement is that it suffers from 'fragmentation'. Streamlining procedures and coordinating enforcement efforts becomes crucial, and enhancing institutional coordination and collaboration vital.

Numerous countries: Joint inspection and joint investigation were recommended as good practices by numerous countries.

Mynamar and the Seychelles: Having a compliance and enforcement committee which carries out screening of developments, and which includes NGO representatives, has proved a good practice.

Indonesia: Combining the skills of different detection, investigation and prosecutorial officials is a good practice in a situation where enforcement is difficult to coordinate.

Indonesia has some 17 000 islands, only some 6 000 of which are inhabited, and enforcement of laws against the smuggling of toxic waste is therefore very difficult. Indonesia has introduced a ‘one roof’ enforcement system – where police, investigators, and prosecutors work together. This enhances the effectiveness of all.

The Seychelles: Having a task force combining the police, the navy, the army, environmental officers, and so forth, is recommended; as is having dedicated environmental police officers, using ex-police officers.

Sierra Leone and Zambia: Private prosecution in addition to public prosecution is recommended as a good practice. In **South Africa**, however, this is provided for but has hardly been used.

Myanmar: Collaboration between pollution control officials and city authorities is important, where these are not already together.

Ghana and Zambia: A good practice is for government departments lacking in capacity to enter into partnerships, or at least collaborations, with laboratories.

In the case of Zambia, the **Zambian Environmental Management Authority** does not currently have the capacity to operate an environmental laboratory, and so instead works with accredited laboratories to undertake analysis of samples collected from the field. The practice is working well, although different laboratories have very different analytical capacities.

Uganda: To deal with the problem of delayed investigations and insufficient police, a memorandum of understanding was agreed to between the Departments responsible for police and for environment – in terms of which some police were made available to the Environmental Department. The Environmental Protection Police were therefore established, with their duties including provision of security to environmental agency staff as well as functions such as monitoring and surveillance, investigation and arrest, and so forth.

The history of the establishment of the MOU in Uganda was that the lead agencies in the environmental sector, the NEMA, the National Forestry Agency/Authority, and the Wetland and Water Sector made a proposal to the line ministry of Water and Environment highlighting the need for armed police officers in the sector. A White Paper was presented by the line minister to Parliament endorsing the attachment of the police officers to the environmental sectors. A Memorandum of Understanding (MOU) was then made between the Ministry of Water and Environment (for the lead agencies) and the Ministry of Internal Affairs (for the police officers). The MOU allows the police to remain under the Ministry of Internal Affairs for command and control and these police continue drawing their salaries from their line Ministry despite focusing strictly on environmental laws.

This collaboration and coordination has registered success in many ways; including that since the establishment of the environmental police, no cases of attacks on the agency staff had been registered. Effectiveness in arrest, investigation and prosecution has improved as cases are handled onsite by the Environmental Police. Information sharing on environmental crimes between different sectors has drastically improved; and the rate of illegal activities has reduced since responses to environmental crimes are now faster.

Kenya: Collaboration may not be the best course in all circumstances. The Kenya Wildlife Service (KWS) is a key investigative body which does not rely on police assistance, but rather acts for itself especially in its efforts to respond to the ongoing innovations of wildlife smugglers.

The KWS even enters into international collaborations itself, for example with China. In July 2014, at the 65th Meeting of the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Secretary-General's Certificates of Commendation were awarded to China, Kenya (not to the country generally, but specifically to the KWS), and the Lusaka Agreement Task Force for their collaborative efforts in detecting, investigating and arresting the members of an international ivory smuggling network.

Malaysia: Working well is a Centralized Enforcement Team (CET) which was established in 2013, under direction from a Cabinet Parliamentary Committee chaired by the Prime Minister.

The Malaysian CET comprises agencies/departments from the police, Immigration, Department of Environment (DOE), Forestry, the Wildlife Department, Customs, the Land and District Department, the Ministry of Natural Resources and Environment (which serves as coordinator), Geoscience and Minerals, and so forth. The main focus of the collaborative effort is on enforcement of laws against environmental pollution.

4.3 Tools, equipment, training, information sharing and knowledge management

Environmental problems know few boundaries and, given the large number of organs of state which might be involved in different areas of enforcement, sharing of information is vital. There might also be cross-over offences, such as organised syndicates being involved in smuggling different kinds of contraband – some environmental in nature and some not. Fragmentation of institutions and responsibilities, and the non-sharing of or non-availability of information between different departments or regions, can lead to opportunities being lost to understand relationships. The core value of understanding linkages and relationships is that both detection of and prosecution of environmental crimes improve.

Effective prosecution relies on effective detection, investigation and preparation for trial. Increasingly, law enforcement officials need to be both well-equipped and well-trained if prosecutions are to be successful. Accused persons, especially where organised syndicates are involved, are more and more likely to have access to sophisticated equipment, modern technology, and skilled legal representation. Good practices such as those listed here can assist investigators and prosecutors to counter such difficulties and to present cases that will not be lost on technical grounds.

Ghana and Kenya: There is both national- and regional-level information sharing; including the sharing of information on non-compliance with customs in Kenya.

Zambia: A register is held to record all environmental complaints. The point of this is for management of all complaints to ascertain whether they have been attended to and to monitor how long it takes to clear them. It is an internal administrative arrangement, and has proved to be a very useful tool for monitoring how complaints are attended to.

Malaysia: Sharing of information, particularly to establish evidence in preparing investigation papers by the Department of Environment (DOE), with agencies like the Land and District Department, the Police, and Customs has been very helpful for the DOE in expediting cases and bringing them to the Green Court (which was established in 2012).

Thailand: Customs officials require specialized equipment, and having an identification manual, a manual for intelligence gathering, and access to such things as x-ray equipment and CCTV helps to curb smuggling and to provide evidence for successful prosecution.

Ghana: Having a dedicated fund which can be used to buy environmental equipment is a good practice.

Kenya and the Seychelles: Equipment used to detect locations of cellphones used by criminals is an important aid.

Numerous countries: It has proved effective to have agencies which have their own tools, ranging from their own cameras to their own laboratories.

Sometimes funds can be sourced through facilities provided by Multilateral Environmental Agreements, to buy equipment to assist different sectoral agencies to carry out their environmental roles. Effective equipment can include mobile laboratories to detect, for instance, pH levels; while more complicated, or follow-up, analyses can be outsourced to accredited laboratories, the Chemistry Departments of Universities and University laboratories.

Ghana, Kenya, Sierra Leone and Zambia: Ongoing training efforts are important, especially for evidence gathering, sample-taking, and prosecution techniques.

Zambia: Training of environmental inspectors is recommended as a good practice to enable inspectors to be as up to date as possible with advancements in the environment sector – the practice is effective, although the funding available for training is often limited.-

Ghana: Persuading the judiciary to take environmental training seriously is an issue, but the training of judges is critical. Often the laws are available, and what is needed is the sharing of practices.

The Philippines: As a good practice, Green Courts need to be streamlined and supported, not simply introduced.

Green Courts may have difficulties – in the Philippines, there are 117 environmental courts nationwide, handling approximately 1 000 cases, some of which cases have been going for decades.

Numerous countries and the Asian Development Bank (ADB): In Asia the senior judiciary has a key role to play in environmental enforcement – directly through the making of environmental decisions, the giving of direction to lower courts, and the establishment of Green Benches and Divisions; and indirectly through leading the legal profession toward credible jurisprudential systems that promote environmental sustainability. Judges may influence the entire legal system, including how legal and regulatory frameworks are interpreted and enforced. An Asian Judges Network on Environment has been created.

(The Asian Judges Network on Environment has a website: <http://www.asianjudges.org/>). Green Benches within courts have been established in Indonesia, Malaysia and Pakistan – in Bhutan a Bench Book has been developed to increase judicial capacity; and in Indonesia a Judicial Certification Programme on Environment has been introduced. The ADB has facilitated the creation of a judicial network on environment which has led to several symposia being held. An ADB project in Pakistan identified ‘champion judges’ in the environmental field, with the intention of motivating or influencing other judges in the field of environmental law and jurisprudence.

4.4 Procedures in the criminal law

For environment-related prosecutions to be effective, it is essential that their procedural requirements be clear, robust, streamlined and easily understandable. This may be more difficult in the field of the environment than in other fields, given its wide-ranging and cross-cutting nature. At the same time, there are innovation procedural practices which can be used to enhance prosecutions in particular jurisdictions.

The first indication of what is a good, or at least a promising, practice is probably that it is implemented according to the law. Procedures should be implemented according to procedures designed to enhance justice. The end result is not all that is important, procedure is important too. A practice is unlikely to be a good one if the government agencies implementing it do not operate legally.

Malaysia: Giving Department of Environment officers the power to effect arrests without warrants appears to be a good practice.

Sierra Leone and Zambia: Depending on the nature of the offence, environmental officers might arrest and hand over offenders to the police for prosecution; but certain agencies can prosecute offenders themselves.

Kenya and Zambia: If the gravity of an offence is low, then summary penalties might be imposed without offenders being taken to court. This is an effective tool for handling ‘minor’ environmental offences. High profile cases in Kenya are prosecuted by the Director of Public Prosecution whilst low profile cases are handled by ordinary prosecutors.

Kenya and Zambia: Alleged offenders may be summonsed to appear in courts without arrest. This is an effective practice as offenders rarely disobey court summonses.

Malaysia and Zambia: Negotiations may be entered into to reduce counts, with this being referred to as ‘case management procedure’ in certain jurisdictions. This is effective where an accused is willing to admit to an offence and avoid a full, lengthy trial.

In Zambia, however, second offenders are not given the option of avoiding court, which is effective for addressing enforcement gaps and continuous or ongoing non-compliance.

Kenya and Zambia: Managing Directors and Chief Executive Officers of corporate entities may be summonsed and, where convicted, might even be required to perform community service sentences. This then carries a ‘punitive’ publicity aspect.

China: There are special requirements which must be met in China when investigations are conducted.

In China, by regulation, data collected at a local level must be audited at the provincial level before it can be relied upon in court proceedings.

There is also a special institution to assess environmental damage, and if damage is minor (under 300 000 Yen) then the matter is treated as civil and not criminal.

Cambodia, India, Nigeria, the Philippines and Tanzania: Fast-tracking of environmental cases is important.

Cambodia has strict timelines for environmental cases. India coordinates civil and criminal cases in the environmental field.

However, on occasion a prosecutor might make the decision, as has happened in Tanzania, that prosecution makes matters worse as it takes too long and eventual sanctions are too low to be worth pursuing the matter.

Uganda: A good practice is moving courts to the locus of the alleged offence.

The purpose of moving to the locus is to allow a judicial officer to obtain first-hand information on a case, to understand the complexities of environmental matters better, and to make a more informed judgment. This was demonstrated to be a good practice in a 2009 case where certain alleged wrongdoers had obtained a temporary court injunction blocking Uganda's National Forest Agency from accessing and managing a particular forest reserve. Upon moving the court to the locus the court immediately appreciated the situation better and lifted the temporary injunction.

4.5 Awareness and public engagement

The deterrent and punitive aspects of criminal enforcement can be enhanced through appropriate engagement with the general public. The advantages flow in both directions. An informed, enlightened and engaged public can offer significant support to prosecutorial initiatives by reporting instances of environmental damage, supplying evidentiary material, and adding the element of local knowledge to investigations. At the same time, the punitive effect of a conviction in an environmental matter can be increased by publicity and public awareness.

Malaysia and South Africa: Offering a reward to informers for information on environmental offences can be seen as a good practice.

In Malaysia the Environment Quality Act (EQA) of 1974 (as amended, 2012) provides for a reward to be paid to an informer who provides any service, information, statement or assistance in connection with detection any offence under the EQA.

South Africa provides for this also – in terms of its National Environmental Management Act (NEMA) of 1998 any person, not in the employ of the State, who gives information leading to the conviction of an environmental offender will be entitled to an award of not more than one-quarter of any fine imposed.

Ghana, Kenya and Zambia: Publicly ‘naming and shaming’ (through the media and other networks) companies found guilty of environmental wrongdoing – even blacklisting shamed companies and denying them the opportunity to secure government contracts – is an effective practice.

South Africa and Zambia: Whistleblowers in environmental cases are given formal protection against dismissal, harassment, and so forth.

Numerous countries: For raising public awareness about environmental criminality, various good practices have been suggested – such as award-giving projects; brochures and publications; debates; drama and theatrical productions; exhibitions; inclusion of environmental subjects on school curricula; public meetings; and talks at schools.

Zambia: Provision of access to physical documents is effective. The ZEMA has a library where physical documents are stored – it is open, free of charge, to the public and has proved to be a very useful resource centre.

Thailand: Information posted at airports has proved a good practice, especially for wildlife-related crime.

4.6 Remedies

Standard sanctions available for criminal convictions include fines; imprisonment terms; community service orders; rehabilitation or remediation orders; forfeiture orders in respect of things either used in the commission of environmental offences or gained therefrom; closure of facilities where offences have occurred; and the withdrawal of licences or permits. Historically in many countries, polluting companies have treated fines as ‘costs of doing business’; but today, especially when used in combination, it is possible to impose sentences with significant deterrent effect. Where these do not have the desired effect, however, more innovative options might need to be found.

South Africa: In terms of some environmental statutes, such as the National Forests Act of 1998, if a court imposes a sentence of community service then that service should be service that is of benefit to the environment, if this is possible in the circumstances.

The Seychelles and Zambia: Enforcement notices are provided for, as starting points for enforcement. In Zambia they have proved effective as an administrative option prior to criminal prosecution.

Tajikistan: Funds collected from fines for environmental damage are put into a special Environmental Fund of the Committee on Nature Protection, and should be used only for environmental remediation activities.

China: China's current approach is that administrative penalties might not deter violators, and that heavier sanctions for criminal activities are needed.

South Africa: Legislation provides for the 'piercing of the corporate veil' where certain environmental offences have been committed, so that managers and directors of companies (or other legal entities with limited legal liability) may be convicted of the offences where the company has been convicted. This does not impose strict liability, but does help to prevent guilty parties avoiding prosecution by hiding behind the corporations which they control.

In South Africa in January 2014 a court convicted the managing director of a clay mining company which had caused environmental damage, in addition to convicting the company itself, and sentenced the director to a five year prison term (which was suspended for five years on condition that the relevant damaged environment be rehabilitated).

Zambia: Companies which have been convicted of criminal offences (not just environmental in nature) are 'blacklisted' and barred permanently from participating in public procurement. This is included in the Public Procurement Act 12 of 2008 (s 67) and has acted as an effective deterrent to commission of environmental crimes.

Nigeria: One of the biggest environmental problems Nigeria has is with the illegal importation of hazardous waste. Nigeria has a practice of confiscating any vessel involved in such importation.

South Africa: It is possible to impose upon an accused convicted of an environmental crime a range of sanctions which, cumulatively, can have far greater punitive and deterrent value than any one sanction on its own.

In South Africa legislation provides a range of sanctions that are available to prosecutors, including that on conviction of an offender for certain offences which caused damage to the environment a court may on application enquire summarily into the costs of rehabilitation. The court may then order that such amounts be paid, as though a civil judgment in favour of an organ of state or any person, in addition to any fine imposed. Further, such court may summarily enquire into and assess any amount gained, or likely to be gained, by the convicted accused through having committed the offence, and the court may order the payment of damages or compensation for such assessed amount. Further, such court may, on application by the prosecutor or another organ of state, order that the reasonable costs incurred by the state in investigating and prosecuting be paid by the convicted accused.

Chapter 5:

Regional and sub-regional enforcement initiatives

There are many international environmental agreements: more than 1100 multilateral, and more than 1500 bilateral. While high-profile multilateral agreements of global scope tend to receive most attention, there is increasing attention being paid to the value of regional and sub-regional agreements. There are a number of reasons why regional agreements might be of great value, including attention to relevant environmental problems; the application of local knowledge to potential solutions; and increased incentives to cooperate with neighbours.

Increasingly, environmental problems have transboundary dimensions and it is becoming more obvious that effective enforcement measures benefit greatly from regional cooperation. In some cases, such as with trafficking of hazardous wastes and smuggling of wildlife products, it is hard to see how enforcement can even be considered without regional, sub-regional or bilateral cooperation and sharing of information.

Numerous countries: The creation of Regional Enforcement Networks which focus on transboundary movement of hazardous waste is a good practice – the sharing of intelligence is very important.

The Association of South-East Asian Nations' Wildlife Enforcement Network (ASEAN-WEN), which was established in 2005 and first met in 2006, is the world's largest wildlife law enforcement network, involving customs officials, environment agencies and police services in Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Vietnam and Thailand.

ASEAN-WEN helps, through meetings, workshops and training, to increase capacity and coordination and collaboration between law enforcement agencies in South-East Asian countries. Various links are in place, such as with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Interpol, the US Fish and Wildlife Service, the US Department of Justice and other wildlife-related law enforcement groups. (Success stories can be seen on its website at <http://www.asean-wen.org/#>.)

Asian Environmental Compliance and Enforcement Network (AECEN): This Network (<http://www.aecen.org/about-aecen>) links environmental agencies from 13 Asian countries: Cambodia, India, Indonesia, Japan, Korea, People's Republic of China, Lao PDR, Malaysia, the Maldives, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam. The mission of AECEN is to promote improved compliance with environmental legal requirements in Asia through regional exchange of innovative policies and practices.

The AECEN has a set of 16 founding principles of enforcement which can be used to guide the implementation of enforcement mechanisms in national countries. The principles concern agency mandates and powers; subsidiarity and devolution; inter-agency cooperation; planning and priority-setting; monitoring and evaluating performance; capacity building; compliance monitoring and inspection; self-monitoring, record-keeping and self-reporting; permitting; the rule of law in environmental enforcement; fair, consistent and proportionate responses; compliance promotion; incentives-based instruments; access to information; stakeholder participation; and citizen enforcement.

Thailand: There is a Thailand-WEN (Wildlife Enforcement Network) which works toward regional interaction and increased border awareness.

The Thai-WEN was established in 2006 after establishment of the ASEAN-WEN, as a national task force for implementing ASEAN-WEN, and has had many successes. Thai-WEN has 22 collaborating agencies (five of these being key implementing agencies: the Departments of National Parks, Wildlife and Plant Conservation; Agriculture; Fisheries; Customs; and the Division of Natural Resources and Environmental Crime Suppression) and 155 national checkpoints (36 for wildlife; 22 for aquatic species; 31 for plant quarantine; and 66 customs checkpoints). Thai-WEN enters into bilateral agreements with neighbouring countries and partnership agreements with enforcement agencies and NGOs; conducts anti-smuggling detection operations, such as inspections and patrols; engages in training initiatives, such as courses on legislation and smuggling techniques for governmental officials and non-governmental parties; and fosters public awareness through initiatives such as airport signage.

Numerous countries: Taking a regional approach to wildlife law enforcement is very important in Africa. Numerous partnerships and collaborations exist with international organs, universities, NGOs, and so forth.

The Lusaka Agreement, which was adopted in 1994 and came into force in 1996, has Congo (Brazzaville), Kenya, Lesotho, Liberia, Tanzania, Uganda and Zambia as Parties; Ethiopia, South Africa and Swaziland as signatories. The Task Force comprises seconded law enforcement officials and local staff, and conducts cooperative investigations into the wildlife trade. The Task Force has entered into many partnership agreements, both with countries and with other organisations.

Kenya, Tanzania, Uganda: The East African Network for Environmental Compliance and Enforcement (EANECE) links over 50 government agencies in the region for the sharing of good practices.

In 2010 Burundi, Kenya, Rwanda, Tanzania and Uganda adopted the EANECE charter and committed themselves, through their respective national environmental protection agencies, to cooperate and collaborate in the implementation and enforcement of environmental legislation. Ethiopia and Zanzibar may soon join. The Network has a website (<http://inece.org/eanece/>) on which various practical resource documents are available, such as a database of materials on training for officials involved in environmental compliance.

Kenya, Tanzania, Uganda: The East African Network for Environmental Compliance and Enforcement (EANECE) has produced a *Harmonized Environmental Inspection and Investigation Manual for East Africa* (2012).

This EANECE Manual was developed through a consultative process with the participation of key personnel in East Africa. It is intended to provide both technical and procedural guidance for conducting inspections and investigations in East Africa, with the guidance being general in nature and intended to apply to diverse environmental situations.

Central Asia: The Aral Sea is in trouble, with fragmented sections meaning that it is now several smaller seas. Once the fourth largest lake in the world, the Aral Sea is now at 10% of its former area and holds 10% of its former water volume. Through regional cooperation, the situation is gradually improving.

Countries upstream in the Aral Sea, like Tajikistan and Kyrgyzstan, and countries downstream, like Kazakhstan, Turkmenistan and Uzbekistan, are cooperating under a regional programme (the Aral Sea Basin Programme) with the guidance of UNEP, the UN Development Programme and the World Bank. Without the adoption of integrated water management principles and the creation of a regional management organisation, it is unlikely that there will be effective enforcement of commitments made to national water quotas.

Numerous countries: In Asia, the judiciary can be very powerful where institutions are weak and lacking in capacity. A problem for judges, however, is that they often work ‘in isolation’ and so a good practice is to provide a neutral platform. Even if a judge is not encouraged to be environmentally active in his or her own country, he or she can become enthused by international contact.

The Asian Judges Network for Environment (AJNE) is working to build capacity in Asian judiciaries, providing judges with a like-minded support group, innovative ideas, and economical and technical education; through bringing together relevant stakeholders such as judges, lawyers, prosecutors, regulators, and civil society, at a neutral platform for frank discussions without any pressures or biases. A website (www.asianjudges.org) was then launched in December 2013 during the 2nd Asian Judges Symposium on Environment – amongst other information, the AJNE website provides laws, rules, regulations, and case law from several Asian countries.

Numerous countries: There is a need for a regional judges' forum in Africa, similar to the AJNE pioneered in Asia.

Malaysia and Singapore: For almost 30 years there has been a Malaysia-Singapore Joint Committee on the Environment (MSJCE), which is a direct platform for negotiation on issues related to monitoring and enforcement (particularly in respect of land-based pollution, air pollution from motor vehicles, and joint monitoring of marine water quality).

In April 2014 Malaysia and Singapore held a joint exercise to deal with a potential chemical spill at sea. The idea was to enhance the preparedness of both countries to deal with a potential environmental disaster with a transboundary nature.

Numerous countries: Generally, everything that is banned is subjected to organised crime, so investigation is crucial. It is a good practice to build up a database and to share knowledge at the regional level.

Ghana, Swaziland and Tanzania: Hazardous waste is a big problem – and treatment facilities are very expensive. A good practice for Africa would be further engagement under the Bamako Convention, 1991; sharing information; and investigating having regional disposal centres.

The Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa was adopted in 1991, came into force in 1998, and held its first Conference of the Parties in 2013. It provides that its Parties should ban both the import of hazardous and radioactive wastes and all forms of ocean disposal. Between African Parties trading in waste, there must be, among other controls, minimization of transboundary movement of wastes which should be conducted only with the consent of importing and transit states. Parties should minimize production of hazardous wastes and should cooperate to ensure that wastes are treated and disposed of in environmentally sound ways.

Chapter 6:

Suggested readings on enforcement

Asian Environmental Compliance and Enforcement Network (AECEN) *Principles and Practices for Improving Environmental Compliance and Enforcement in Asia* (2006)

http://www.aecen.org/sites/default/files/Regional_Principles_Web.pdf

UNEP *Compendium of Summaries of Judicial Decisions in Environment-Related Cases* (2007)

<http://www.unep.org/delc/Portals/119/UNEPCompendiumSummariesJudgementsEnvironment-relatedCases.pdf>

UNEP *The Environmental Crime Crisis: Threats to Sustainable Development from Illegal Exploitation and Trade in wildlife and forest resources* (2014)

<http://www.unep.org/publications/>

UNEP *Global Judges Programme* (2005)

<http://apps.unep.org/publications/pmtdocuments/-UNEP%20Global%20Judges%20Programme-20053747.pdf>

UNEP *Green Customs Guide to Multilateral Environmental Agreements* (2008)

http://www.greencustoms.org/reports/guide/Green_Customs_Guide_new.pdf

UNEP *Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements* (2001)

<http://www.unep.org/delc/Portals/119/UNEP.Guidelines.on.Compliance.MEA.pdf>

UNEP *Manual on Compliance with and Enforcement of Multilateral Environmental Agreements* (2006)

http://www.unep.org/delc/portals/119/UNEP_Manual.pdf

UNEP *Selected Texts of Legal Instruments in International Environmental Law* (2005)

http://www.unep.org/delc/Portals/119/publications/UNEP_Selected_Texts_Legal_Instruments_%20International_Environmental_Law.pdf

UNEP *UNEP Year Book 2014: emerging issues in our global environment* (2014)

<http://www.unep.org/publications/>

University of Eastern Finland / UNEP *International Environmental Law-making and Diplomacy Review 2004-2013: 2004 (Water); 2005 (Forests); 2006 (Biodiversity); 2007 (Chemicals); 2008 (Oceans); 2009 (Environmental Governance); 2010 (Climate Change); 2011 (Synergies Among Biodiversity-related Conventions); 2012 (Oceans Governance); 2013 (Natural Resources)*

<http://www.uef.fi/en/unep>; <http://www.uef.fi/en/unep/publications-and-materials>

Zaelke, D.; Kaniaru, D. & Kružíková, E. *Making Law Work: Environmental Compliance and Sustainable Development Vol. I and Vol. II* (2005) Institute for Governance and Sustainable Development

OZONACTION Training Manual for Customs and Enforcement Officers,

http://www.unep.fr/ozonaction/information/mmcfiles/7571-e-TM_Third_Edition.pdf

The Importance of the Judiciary in Environmental Compliance and Enforcement

Kenneth J. Markowitz

Earthpace LLC

Jo J.A. Gerardu

<http://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1695&context=peir>

UNEP/CBD A GOOD PRACTICE GUIDE SUSTAINABLE FOREST MANAGEMENT, BIODIVERSITY and LIVELIHOODS

<http://www.cbd.int/development/doc/cbd-good-practice-guide-forestry-booklet-web-en.pdf>

INECE Principles of Environmental Compliance and Enforcement Handbook

http://inece.org/principles/PrinciplesHandbook_23sept09.pdf

EU European Network of Prosecutors for the Environment (ENPE)

<http://www.environmentalprosecutors.eu>

REN Regional Enforcement Network for Chemicals and Waste (Project REN)<http://www.basel.int/Implementation/CountryLedInitiative/History/Combatingillegaltraffickmoreeffectively/EnforcementNetworks/ProjectREN/tabid/2921/Default.aspx>

http://www.projectren.org/project_information.php#

