JUDGES & Environmental Law

A Handbook for the Sri Lankan Judiciary

Judges & Environmental Law

A Handbook for the Sri Lankan Judiciary

UNEP

CERTI

2009

Published by : Environmental Foundation Limited
No. 146/ 34, Havelock Road
Colombo 5, Sri Lanka
Tel: + (94 11) 250 2609 Fax: + (94 11) 452 8483
Email: efl@sltnet.lk Website: www.efl.lk

Sponsored by : United Nations Environment Programme (UNEP)

DISCLAIMER

The contents and views expressed in this publication do not necessarily reflect the views or policies of the United Nations Environmental Programme or its member states.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of UNEP concerning the legal status of any country, territory or city or its authorities, or concerning the delimitations of its frontiers and boundaries.

This publication is available online from: www.sljti.org and www.efl.lk

ISBN : 978-955-8302-03-3

Designed & Printed by : Karunaratne & Sons (Pvt) Ltd.
No. 67, UDA Industrial Estate
Katuwana Road
Homagama, Sri Lanka
info@karusons.com

The Judicial Editorial Panel

The Judicial Editorial Panel appointed by the Sri Lanka Judges' Institute played an important role in the process leading up to this publication.

The panel, comprising of
Justice Shiranee Tilakawardane
(Judge of the Supreme Court of Sri Lanka),
Justice Nissanka Udalagama
(former Judge of the Supreme Court of Sri Lanka and
Director of the Sri Lanka Judges' Institute),
Justice N.E. Dissanayake
(former Judge of the Supreme Court of Sri Lanka)
&
Justice L.K. Wimalachandra
(former Judge of the Court of Appeal of Sri Lanka)
read and commented on drafts produced by the authors, and provided guidance and direction to the development of the several chapters.

This publication would not have been possible without their input.

Contributors

Editor

Mario Gomez

Authors

Chapter 1: Environmental Challenges and Basic Legal Principles
Manishka De Mel (Environmental Scientist) and
Nilshantha Sirimanne (Attorney-at-Law)

Chapter 2: Environmental Laws, Institutions and Mechanisms: An Overview
Anandalal Nanayakkara (Attorney-at-Law)

Chapter 3: How Environmental Cases Come before the Courts
Ruana Rajepakse (Attorney-at-Law)

Chapter 4: The Interpretation of Scientific Evidence in Environmental Cases
Jagath Gunawardana (Attorney-at-Law)

Chapter 5: Multilateral Environmental Agreements and the Sri Lankan Legal System
Rukshana Nanayakkara (Attorney-at-Law),
assisted by Wardani Karunaratne (Attorney-at-Law)

Editorial assistance

Venuri De Silva, Manishka De Mel and Wardani Karunaratne,
Environmental Foundation Limited

Acknowledgements

Many individuals and organisations contributed to this publication. Without their support the publication would not have been possible.

We would like to thank:

The Chief Justice Honourable Asoka de Silva for his support.

The Judicial Editorial Panel comprising of Justice Shiranee Tilakawardane (Judge of the Supreme Court of Sri Lanka), Justice Nissanka Udalagama (former Judge of the Supreme Court of Sri Lanka and Director of the Sri Lanka Judges' Institute), Justice N.E. Dissanayake (former Judge of the Supreme Court of Sri Lanka) and Justice L.K. Wimalachandra (former Judge of the Court of Appeal of Sri Lanka) for their input.

Former Chief Justice, Honourable Sarath N. Silva.

The Sri Lanka Judges' Institute.

The United Nations Environment Programme (UNEP) for financing this publication.

Bakary Kante, Director, Division of Environmental Law and Conventions (UNEP).

Lal Kurukulasuriya, Director, Centre for Environmental Research, Training and Information (CERTI) for conceptualising this publication, and for his support and direction.

The Editor of the publication, Mario Gomez.

The authors of this publication Ruana Rajepakse, Jagath Gunawardana, Anandalal Nanayakkara, Rukshana Nanayakkara, Nilshantha Sirimanne and Manishka De Mel.

Wardani Karunaratne for her research.

Sharmini Ratwatte, Chair of the Environmental Foundation Limited, for her guidance and inspiration.

Venuri De Silva, Manishka De Mel, Wardani Karunaratne and the team at Environmental Foundation Limited (EFL) for coordinating, providing editorial support and research for the publication.

Message from the Chief Justice of Sri Lanka

The purpose of law is to provide order, stability and justice. Thus viewed, the law consists of relatively fixed rules which regulate conduct according to the values shared by a community.

Many factors and institutions contribute to moulding the notion of justice. Individual perceptions of justice vary in terms of personality, training and social and economic position. Justice has different meanings to the employer and employee, to the millionaire and the pauper, to the industrial worker and the farmer, to a liberal and conservative.

The twentieth century saw tremendous strides made by man in the spheres of technology and industry. Yet this was accompanied by decades of neglect by man towards his natural surroundings. Modern society has come to realise that its very existence is intertwined with that of the environment. Thus the law incorporated this 'new value' of environmental conservation.

However it cannot be denied that for the effective maintenance of law and order in a state, action by government authorities alone to administer the law of the land is insufficient to secure the objectives, unless there is active cooperation of the citizens.

Modern environmental law provides for a system of regulation by statute. Administrative agencies established under the environmental statutes are required to implement legislative mandates. Due to various factors such as lack of staff or personnel, finances or will, these agencies failed to implement the laws under which they operate. The resulting position is that ecological degradation continues unabated. In this situation citizens have no choice but to seek redress from court.

The Environmental Foundation Limited has already taken the initial step of educating the public of the importance of conservation and protection of the Sri Lankan environment. By preparing the handbook for the judiciary in consultation with the Judges' Institute, they have gone one step further.

Judges cannot be expected to have all the laws at their fingertips. In this respect, 'Judges & Environmental Law: A Handbook for the Sri Lankan Judiciary', is a handy reference to assist them in dispensing justice in this field.

J.A.N. de Silva
Chief Justice

Message from the Judicial Editorial Panel

The judiciary plays a pivotal role in shielding and conserving the environment. Courts are the forum through which the environmental laws are implemented. Lawyers, prosecutors, aggrieved parties whether as individual petitioners or as public interest petitioners, must all necessarily access the courts system to ensure that both state and private sectors act in compliance with the legal regime on the environment.

This publication brings together a collection of essays on different aspects and perspectives of the environment and the law. It seeks to complement the knowledge of judges in the enforcement of Sri Lanka's environmental laws and recognises them as vital in the effectual implementation of environmental legislation and its policies. Despite considerable progress in recent years, much remains to be done to restore and preserve Sri Lanka's natural resources and its rich biodiversity. All Sri Lankans, as custodians of the environmental rights of future generations, share a common goal and responsibility to be accountable and responsible for long term environmental sustainability. Judges, as interpreters of the constitution, statutes and environmental policies, and as guardians of the rule of law, are recognised for their unique role in the substantive and effective implementation of the law.

This publication is the product of a process of collaboration between specialists on the environment and the law. We, as members of the Judicial Editorial Panel, are delighted to have been part of this important endeavour and to have contributed with suggestions and ideas to consolidate the drafts prepared by the individual authors.

We would like to thank the Sri Lanka Judges' Institute, the Environmental Foundation Limited, the United Nations Environmental Programme and the several authors for their invaluable input. We commend this publication and hope that it will make an important contribution to the environmental security in Sri Lanka.

Justice Shiranee Tilakawardane
Judge of the Supreme Court of Sri Lanka

Justice Nissanka Udalagama
Former Judge of the Supreme Court of Sri Lanka
Director of the Sri Lanka Judges' Institute

Justice N.E. Dissanayake
Former Judge of the Supreme Court of Sri Lanka

Justice L.K. Wimalachandra
Former Judge of the Court of Appeal of Sri Lanka

Message from Director
United Nations Environment Programme

I am happy to note that this publication, *Judges & Environmental Law: A Handbook for the Sri Lankan Judiciary* written under the editorial direction of a team of judges of the Supreme Court and Court of Appeal of Sri Lanka, explores the crucial link between the progressive development of the concepts, norms and principles of international environmental law through, *inter alia,* the negotiation and conclusion of multilateral environmental agreements, and their implementation at national level through judicial enforcement and interpretation. The publication constitutes an important step toward achieving effective implementation of, compliance with and enforcement of environmental law, which is one of the key objectives of UNEP's Fourth Programme for the Development and Periodic Review of Environmental Law (Montevideo Programme IV) adopted at the twenty-fifth session of its Governing Council held in August 2008.

The judiciary plays a crucial role in safeguarding the Rule of Law and promoting global and national sustainability through the application, interpretation and enforcement of environmental law. As this and other UNEP publications on Environmental Law and Conventions eloquently demonstrate, courts have shown remarkable sensitivity to promoting the Rule of Law in the field of environment and sustainability and have contributed significantly through their judgments, to shaping international and national jurisprudence in the rapidly growing field of environmental law. This publication which focuses on environmental laws and procedures of Sri Lanka and the approach of its judiciary towards the implementation, enforcement and interpretation of national environmental law will complement the international and comparative law approaches dealt with in other UNEP publications.

On behalf of UNEP, I would like to express our appreciation to the Judges of the Supreme Court and Court of Appeal of Sri Lanka who, through the publication of this Judges Handbook have given admirable leadership to encouraging and facilitating the engagement of all members of Sri Lanka's judiciary in the implementation, enforcement, interpretation and further development of environmental law.

Bakary Kante
Director
Division of Environmental Law and Conventions
United Nations Environment Programme

Environmental Law: A Judicial Perspective

Sarath N. Silva
Chief Justice of the Supreme Court of Sri Lanka (1999-2009)

I am happy to write a few words on a subject of enduring interest: the environment, and the legal regime to protect and preserve it.

According to Article 27(14) of the Constitution, 'The State shall protect, preserve and improve the environment for the benefit of the community.' A corresponding Fundamental Duty is reposed on every person in Sri Lanka 'to protect nature and conserve its riches' (Article 28 (f)).

Despite these wonderful words that were written into our Constitution in 1978, we know that the degradation and pollution of the natural environment has continued unabated. In the period that followed the enactment of the 1978 Constitution, our forests have been devastated, river basins and mineral resources have been plundered, coral reefs have been ravaged and water and air have been polluted to dangerous levels. There has been a corresponding increase in water and air borne diseases. If you add to that the mosquito menace, that thrives on stagnant water, which in turn is the result of polythene and other waste matter that clog the drainage systems, there is a recipe for a lowering of the quality of life. It is an unalterable law of nature that the quality of life enhances with the quality of our natural environment. Likewise, the quality of life goes down with the quality of our natural environment.

It is in this context that I prevail on the judges to remind them of their fundamental duty to preserve and enhance the natural environment, making maximum use of the operative legal regime. The opportunity may not come in the form of ready-made cases since there are only a few public interest litigants. Judges must be vigilant and create new opportunities through the cases that come before the judiciary. It is a duty of judges to nudge the relevant authorities into action when there is a glaring example of pollution within their jurisdiction.

The orders that the Supreme Court made, prohibiting mechanised sand and clay mining that had devastated our river beds with an imminent threat of salinisation, was made in a case filed by a mechanised sand miner who alleged that he was discriminated against by the refusal of a license, whereas others had been granted such licenses. The Court, after hearing all the parties, decided to suspend all licenses for mechanised sand and clay mining (the *Sand mining* case).

In the case of Environmental Foundation Limited v Urban Development Authority (the *Galle Face Green* case) the Supreme Court gave an order to prevent the commercial exploitation of Galle Face Green. A public interest petitioner there sought to compel the Urban Development Authority (UDA) to issue a copy of the lease agreement it had signed with a private developer. This judgement articulated once again the doctrine of the public trust.

The order against the privatisation of water resources was made when a bill intended for this purpose was challenged in the Supreme Court. It was held that since water resources are a part of the natural heritage of the people, the law which envisaged privatisation required a special majority in Parliament and approval by the People at a Referendum. It also required the approval of all the Provincial Councils (Supreme Court Determination on the Water Resources Bill, 2003).

These are three examples where the Supreme Court has interpreted the law in order to protect and preserve Sri Lanka's natural environment and heritage.

The National Environment Act defines the term environment to mean 'the physical factors of the surroundings of human beings including land, soil, water, atmosphere, climate, sound, odours, tastes and the biological factors of animals and plants of every description'. 'Environment' is defined broadly and enables judges to adopt a wide interpretation in applying it to a wide array of situations.

Environmental law developed only during the last two decades. In the early part of the 20th century there was little concern with protecting the environment. Instead, natural resources were exploited in order to enhance the economic capacity of the people. The thinking has changed and we now know that if natural resources are not managed properly and if pollution is not controlled, the economic gains would be of little use. Today we have all embraced the concept of 'Sustainable Development' which forms the basis of development activities across the globe. According to this concept the impact of development on the environment should be minimised so that we can preserve the environment for future generations. There has to be a balance between development and the preservation of the environment.

This thinking has been endorsed by the global community at the Earth Summit held in 1992 in Rio de Janeiro and by several international agreements including the Kyoto Protocol intended to limit the emission of greenhouse gases.

Sri Lanka enacted the National Environmental Act No. 47 in 1980. The object of this enactment as stated in its long title is to make provision for 'the protection and

management and enhancement of the environment; for the prevention, abatement and control of pollution'.

The main thrust of the Act to protect the environment by prohibiting or controlling the discharge, deposit or emission of waste into the environment which will cause pollution. Regulations issued under the Act have sought to support its main objective.

The term 'waste' has been given a wide meaning in the Act to include any liquid, solid or gaseous matter emitted or discharged so as to cause an alteration of the environment. Section 98 of the Criminal Procedure Act also enables Magistrates to make a conditional order against a person whose activities cause a nuisance to the public.

There are a number of other provisions that could be used by judges to protect the environment and control pollution. It is the duty of the judiciary to make use of these provisions creatively in order to ensure that the environment is sustained for future generations.

My congratulations to the Environmental Foundation Limited and the United Nations Environmental Programme for making this publication possible. It will be of immense value in judicial training programmes and enable judges to obtain a closer understanding of the law and challenges in this area. I am sure lawyers and law students will also benefit from the contents of this publication.

Protecting and preserving the environment is a responsibility that we all share. This publication brings together a number of essays that enable us all to discharge this responsibility more effectively.

Table of Contents

Abbreviations

CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CCA	Coast Conservation Act
CEA	Central Environmental Authority
CFC	Chlorofluorocarbon
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CZMP	Coastal Zone Management Plan
EIA	Environmental Impact Assessment
EPL	Environmental Protection License
FFPO	Fauna and Flora Protection Ordinance
GIS	Geographical Information System
GPS	Global Positioning System
GSMB	Geological Survey and Mines Bureau
ICCPR	International Convention on Civil and Political Rights
ICJ	International Court of Justice
IEE	Initial Environmental Examination
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
MEA	Multilateral Environmental Agreement
MPPA	Marine Pollution Prevention Act
NEA	National Environmental Act
NEAP	National Environmental Action Plan
NGO	Non Governmental Organisation
POP	Persistent Organic Pollutant
SLLR&DC	Sri Lanka Land Reclamation and Development Corporation

SNR	Strict Natural Reserve
TOR	Terms of Reference
UDA	Urban Development Authority
UNDHR	United Nations Declaration on Human Rights
UN	United Nations
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UV	Ultraviolet
WEEE	Waste Electrical and Electronic Equipment
WHO	World Health Organisation
WRBA	Water Resource Board Act

Introduction

The Law and Our Shared Responsibility

Mario Gomez
Editor
Director, Environmental Foundation Limited

The environmental movement was one of the major social movements of the 20th century. Through a range of activities that included public demonstrations, legal reform and international cooperation, it raised the profile of conservation and sustainable development in a significant and profound way.

The movement is one of the big successes of recent times. While some of the old challenges remain and many new ones have emerged, the environmental movement succeeded in mobilising governments, private actors, the international community and even young children, to take concrete and definite steps towards conserving the environment and preserving it for future generations.

Today the environmental movement is engaging with people from all walks of life across the globe forcing them to re-examine modern lifestyles, take on added responsibilities, and ensure that the opportunities we create today are available with the same ease tomorrow and the day after.

Activism at the global level has catalysed action at the local level. In Sri Lanka, the law, public policy, social activism and legal education have all responded magnificently. While Sri Lanka has had laws on conservation that date to colonial times, new environmental challenges have required that new laws and polices be designed.

The National Environmental Act of 1980 was a turning point and marked the beginning of a new phase in environmental legislation in this country. The Act has been amended many times and has been the source of many important regulations. One of the features of the environmental law regime in Sri Lanka is the coexistence of older legislation with newer laws, both capable of enforcement and implementation, simultaneously and separately. The country now has in place a sound legal regime. Its implementation though remains a constant challenge and is one in which judge, lawyer, public official and activist, must all engage in and give priority to.

Environmental activism has grown in recent years. A number of organisations have emerged that have dedicated themselves to preserving nature's riches and protecting them for future generations. These organisations have used advocacy, the law, and public education as part of their strategies.

Legal education has also changed course and begun to offer dedicated courses, in Sinhala, Tamil and English, on environmental law. Many law teachers have travelled abroad and qualified themselves in the subject and environmental law is now a vibrant and growing legal discipline.

One of the most significant accomplishments of the environmental movement has been the growing public awareness. School child to grandmother, street vendor to industrialist, north to south, all have developed, at the very least, a basic understanding of some of the environmental challenges we face. Clearly we cannot make sustainable change unless there is a broad based public consensus on these issues and the public is motivated to act on their own accord. While the country has yet a long way to go, the first steps in this regard have been taken.

The Challenges of Modern Environmental Protection

Chapter 1 of this publication lays the groundwork for what follows. In this chapter Manishka De Mel and Nilshantha Sirimanne explore some of the environmental challenges we face at the current moment. The chapter discusses environmental change and interdependence and why there is an urgent need to act to protect the natural environment. Basic environmental concepts including environmental degradation, pollution, remediation, and restoration are considered and the impact on the health and wellbeing of the population discussed.

This chapter deals with the emergence of environmental law in Sri Lanka and discusses some important laws, policies and institutions. The doctrine of the public trust is also dealt with.

The authors examine the 'state of the environment' in Sri Lanka and the challenges posed by modern lifestyles including noise, air, soil and water pollution. Mineral extraction and land degradation and the challenges of sustainable energy use are discussed. The management of solid, toxic and e-waste is also looked at. Some of the current challenges, especially those posed by climate change and the depletion of the ozone layer, are considered by the two authors.

The chapter concludes with an analysis of some basic environmental principles which include the principle of sustainable development, the precautionary principle, the polluter-pays principle, the principle of preventive action, and the principle of accountability.

The Law and the Institutions

The enactment of the National Environmental Act marked the beginning of a new phase in environmental protection. Civil society was given an opportunity to participate in the processes leading up to the passage of the law and even though the legislation fell short of the ideal, it was yet an important legal event.

In Chapter 2 of this book Anandalal Nanayakkara analyses the several provisions of the National Environmental Act and the role of the Central Environmental Authority. He looks at the issue of licensing, the regulation of waste and the environmental impact assessment process. Public participation and public hearings are also discussed.

Air, water, soil, noise and marine pollution are examined in detail and the author analyses the legal regime in this regard. The Coast Conservation Act and the regulation of mines and minerals are considered. The legal regime in relation to the control of pesticides is also discussed. The author concludes by arguing that effective environmental protection requires us to draw on multiple sources of law. Older legislation coexists with newer laws. Both regimes have a role to play and courts should be willing to re-interpret some of the older legislation to meet changing social contexts.

Environmental Litigation in the Sri Lankan Courts

Environmentalists have sought to use the courts as instruments of change and this has resulted in a number of important judicial decisions on environmental law. The number of environmental matters being litigated before the courts of Sri Lanka has shown a sharp increase in recent years. The number of public interest cases on environmental law has also increased as both the Supreme Court and Court of Appeal have relaxed their rules on standing.

Judges have been required to interpret the constitution and relevant legislation and have thus generated a new and important body of jurisprudence on the subject. This body of jurisprudence is likely to grow as activists and others bring new issues to the notice of the courts. Some cases have also recognised international concepts on sustainable development, inter-generational equity and the doctrine of the public trust. This increased volume of litigation is one sure sign of the enhanced role that the law is beginning to play with regard to environmental protection in this country.

In Chapter 3, Ruana Rajepakse considers how environmental cases have been litigated before the courts of Sri Lanka. Environmental matters have been litigated as a fundamental rights violation despite the absence of an explicit right to a clean and healthy environment in the constitution. She discusses the case law of the Supreme Court in this regard and analyses some of the judicial approaches to constitutional interpretation. How the Supreme Court has exercised its 'just and equitable jurisdiction' under Article 126(4) is considered by the author.

The chapter also looks at some of the challenges to parliamentary bills where environmental issues have been under consideration and discusses how the Supreme Court has approached these issues. The author discusses whether the right to life could be used in environmental actions, in the backdrop of an implied right to life interpreted by the Supreme Court in other cases. In some other jurisdictions the right to life has been interpreted expansively to include within its ambit the right to a clean and healthy environment.

How the Court of Appeal has exercised its writ jurisdiction in environmental matters is also discussed. Cases of public nuisance under the Criminal Procedure Code are discussed and civil actions for private nuisance under the Civil Procedure Code and the Judicature Act briefly considered. The chapter concludes with a discussion of statutory offences under some of the environmental laws.

Scientific and Expert Evidence in Litigation

In Chapter 4 Jagath Gunawardana discusses the relationship between scientific evidence and environmental litigation. 'Proof' of facts in environmental litigation may often entail scientific reports or expert testimony. Judges are then called upon to evaluate the credibility of this evidence in deciding the case before them.

Inspection reports and analytical reports and the standards that should apply to these reports are discussed by the author. The author examines some of the challenges posed

by these reports where they contain scientific data and some of the specific problems associated with interpreting scientific reports.

The processes involved in identifying plants, animals and other material is also discussed in Chapter 4. Problems of storage and transportation and the standards for ensuring the purity of the sample are also discussed.

The use of computer based evidence including satellite imagery, digital photographs, GPS and GIS are also considered and some of the challenges associated with these types of evidence discussed.

The author analyses the Initial Environmental Examination (IEE) and the Environmental Impact Assessment process (EIA) and looks at some of the shortcomings and the challenges.

Chapter 4 discusses the use of expert evidence and examines in detail the processes involved in assessing the credibility of expert testimony. The Sri Lankan case law on the subject is discussed by the author. The chapter concludes by exploring some of the challenges in computing costs in environmental cases. Questions of restoration and rehabilitation of an affected environment and the arrangements for redress and compensation for affected communities and people are discussed.

International Cooperation

International cooperation is vital if pollution and environmental degradation are to be addressed effectively. Led by the United Nations, the global community has forged a consensus on some of the applicable standards and come together to address some of the shared environmental problems.

Today there are in place over 500 agreements on the environment. Many of the agreements set standards of conduct and try to catalyse governments and private actors to structure their behaviour in accordance with the norms contained in these agreements.

In Chapter 5, Rukshana Nanayakkara, assisted by Wardani Karunaratne, surveys some of the major Multilateral Environmental Agreements and summarises some of their provisions. The chapter also looks at international environmental law and its relationship with the Sri Lankan legal system. Monism and dualism are discussed briefly and the author discusses some examples where Sri Lankan courts have used international norms as interpretive aids.

Transboundary issues and the principles applicable are discussed. The author also discusses how some of the key concepts found in international environmental law, including the concepts of sustainable development, the precautionary principle, the polluter-pays principle, the principle on inter-generational equity and the public trust doctrine have been recognised through domestic legislation and judicial decisions. The chapter concludes by looking at the MEAs that Sri Lanka has signed.

The Role of the Judge

The last essay is an extract from a United Nations publication. In this extract, Judge C.G. Weeramantry draws from his several experiences as a judge of the Supreme Court of Ceylon, a professor of law, and a judge of the International Court of Justice, in examining the judicial role in environmental matters. He examines the many roles that judges play and looks particularly at some specific challenges faced by judges in deciding environmental cases.

Judges and Our Shared Responsibility

'Environmentalism' is based on the notion that today's generation is a custodian of nature's riches and resources for tomorrow's generation. Similarly tomorrow's generation will be custodian for the generations that follow. It is a responsibility we all share and it is a responsibility we must all execute.

This book looks at the relationship between the law and its institutions, and the challenge of environmental protection. It brings together in a single volume, six important essays on the legal approaches to sustainability of the current environment.

Judges have a unique role in today's society. It is to the courts that we must go if we wish to preserve our democratic institutions. It is to the courts we also go when we want to protect, promote and realise human rights. It is also to the courts we go when we wish to sustain and preserve our natural resources. Judges, as custodians of the rule of law and interpreters of the constitution, legislation and public policy, have the capacity to make an important impact on democracy, human rights and environmental protection.

Judges also operate at different levels of society and interact with varied cross-sections of society. Apex judges tend to engage in constitutional interpretation and the interpretation of macro issues, while lower court judges have an opportunity for closer contact with ordinary litigants.

The judgements of a court may offer relief to an aggrieved party or in public interest cases, to a group, a community, or the country at large. Yet judgements have an impact that go beyond offering relief in a particular matter. They can become ways to raise public awareness and can emerge as important educational tools. They have the potential to mobilise legal and public opinion. They can also establish crucial benchmarks for future public action.

In some environmental cases judges may require development planners and public officials to justify why a particular course of action has been adopted and ensure that best available option has been chosen.

The publication is aimed principally at judges. It looks at the role that the law plays and could potentially play with regard to environmental protection. It seeks to engage judges in a conversation and debate about current environmental challenges and the most effective methods of legal protection. It discusses some challenges that judges are likely to encounter in deciding environmental matters.

While this book is aimed mainly at judges it is likely to have an impact beyond the judiciary. Legal educators, students, policy makers, lawyers and environmentalists, among others, are likely to find its contents thought provoking.

The idea of publishing a handbook for the judiciary was a consequence of a workshop that the Environmental Foundation Limited had for the judiciary in early 2008. At the workshop there was a request from the judiciary for regular workshops to enhance the understanding of judges in this crucial area. There was also a request for relevant and current resource materials. This publication then is a result of these discussions and the first in a possible series of publications on the environment.

The law is a vital resource in our efforts at replenishing and rejuvenating the environment. The constitution, legislation, and subsidiary legislation, all play an important role as part of a larger legal regime. Judges, through their jurisprudence and as interpreters of this legal regime, help in translating the 'letter of the law' into practical action. This book seeks to engage the judiciary in this important process.

August 2009

Chapter 1

Environmental Challenges and Basic Legal Principles

1.1 Environment

1.1.1 Introduction to Environmental Challenges

As we entered the 21st century, not only did we bring with us the environmental issues of the past, but also succeeded in creating new ones, many which were unthinkable several years ago. Humans are responsible for plundering the Earth's resources in an unsustainable manner. The past few decades have seen the clearing of forests, draining of wetlands, loss of biodiversity, exploitation of natural resources, depletion of ice sheets, the extinction of plants and animals, among many other issues. This is done with little realisation that a war is being fought with our planet, in which the humans are on the losing side. Humans are forced to breathe polluted air, eat toxic food, drink contaminated water, whilst battling with rising seas, extreme climate events, and emerging diseases. We also leave behind to the future generations a more wounded planet than we inherited.

The impact on the environment is not simply limited to the loss of a beautiful landscape. Destroying and damaging the environment means that the basic requirements to sustain life are compromised. The impacts are disproportionately distributed, with the poor almost always being marginalised as they lack the resources to be resilient to environmental impacts.

Today there is immense focus on addressing the challenges of climate change. While it is vital to mitigate and adapt to this issue, we should not lose sight of more local impacts

which are already affecting society. Often it is the local scale environmental issues such as pollution that impact on human life, especially children. The collective impact of local issues is seldom seen, and thereby many may not realise the scale of the impacts.

It is all not bad news, and it is not too late to address the issues that are making our wellbeing worse. This is why, that more than ever, it is important to take action on resolving our environmental issues. As much as humans are capable of destruction, they are also capable of making great changes. We must not forget that a country such as Japan, which was extremely polluted a few decades ago, has become an example of change, with minimal pollution. Air and water quality in some industrialised nations are getting better, while we have succeeded in halting further depletion of the ozone layer. All this was possible due to the action of activists, scientific research and regulatory legislation.

Our ancestors took great care when setting up Sri Lanka's hydraulic civilisation over 2,000 years ago. Not only did they harvest rainwater to sustain agricultural fields, but also protected vital watershed forests which were kept untouched to ensure that water flowed through the country benefiting many people before it finally reached the sea. The importance of watershed forests was recognised as far back as 1938, where state land above 5,000 feet was legally protected. Despite this protection, forests in watershed areas and other areas are facing the axe. Wetlands, another essential component of the natural environment, are under continuous pressure, with many being filled up for short-term economic gain, or treated as waste dumps. The loss of our natural environment means that our water supply, climate regulation, flood regulation, soil conservation and air purification are compromised, among many other impacts.

While the mountains in the highland areas are being cut down, mountains are being created in our urban areas, through the accumulation of garbage. Our urban areas are becoming increasingly polluted – we have lost the purity of water, the freshness of the air and the richness of the soil. Encroachments, improper constructions without adequate consideration of drainage, sewage and location have worsened the quality of life in urban areas. Stagnant waterways and piles of garbage continue to be health hazards, while taking a toll on human lives and affecting the most vulnerable: children and the elderly.

The economic consequences of environmental damage may not be directly measurable. However, unsustainable use, disasters, pollution, loss of ecosystem services and the health implications of environmental damage are immense.

There is a multitude of issues affecting natural and urban environments. The environment is polluted, degraded and depleted due to a lack of vision, non-enforcement of laws, lack of sensitisation and the unsustainable use of natural resources. The belief that the environment can be restored at a later time, once development has been achieved, runs contrary to the concept of sustainable development. In many cases restoration costs are much higher than conserving the environment in the first place and sadly many natural ecosystems are irreplaceable.

Scientific evidence is demonstrating that our future generations will face far worse environmental issues than what we face, unless we take action now. There is a need to restore the rights of people which have been infringed due to environmental degradation and pollution. Sri Lanka's comprehensive legal framework for the conservation and protection of its environment is an essential tool to overcome these threats.

1.1.2 Definition of the Environment

The environment consists of all of the external non-living (abiotic) and living (biotic) factors, conditions, and influences that affect the life, development, and survival of an organism or a community.[2] The environment is anything outside an organism in which the organism lives. It could also refer to a geographical region, a certain climatic condition, pollutants or the noise which surrounds the organism.[3] This can be narrowed down to describe specific areas: the aquatic environment for example, consists of rivers, lakes and oceans, and the terrestrial environment is made up of the land surface.

The National Environmental Act[1] (Section 33) defines the environment as 'the physical factors of the surroundings of human beings, including the land, soil, water, atmosphere, climate, sound, odours, tastes and the biological factors of animals and plants of every description'.

The term 'built environment' has been applied to areas, such as cities, created by human activity.[4] All components of the environment are intimately linked and in combination constitute the earth and atmospheric system. They vary in scale from microscopic to global and may be subdivided according to their attributes.[5]

1 Act No. 47 of 1980 (as amended).
2 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Oxford University Press, New York.
3 Collin, P.H. 1999. *Dictionary of Ecology and Environment*. 3rd edition. Universal bookstall, India.
4 Kemp, D.D. 1998. *The Environment Dictionary.* Routledge, London.
5 *Ibid*.

1.1.3 Interdependence, Environmental Change and Resilience

The environment is a complex system of living and non-living components which interact with each other and respond to change in order to survive. Each element of this web of life is essential to the functioning of other parts and so destroying, degrading or taking away one part of the environment can also destroy other parts. Humans depend on the same biophysical factors that support all other life-forms. It is the elements that have sparked life into this planet: air, water, soil, energy, and biodiversity, which continue to fuel life.

For example pollinators such as bees play a very important part in food production. It is estimated that bees contribute to the production of a third of the food that is eaten globally, from apples to onions. Only a few crops such as wheat and rice do not need this service which is mostly provided 'free of charge', by bees.[6]

The environment is dynamic and constantly changing. Environmental change occurs as a result of natural processes as well as through human interventions and actions.[7] Environmental change which occurs naturally has been the case since life began on Earth. Natural disasters and events such as tsunamis, volcanoes, climate change and evolution, have shaped the Earth to be what it is now. However, human progress, modern technology and the explosive increase in the world's population have resulted in humankind influencing environmental change more than in the past. While disasters such as tsunamis, volcanoes and earthquakes occur due to natural processes, disasters such as landslides, flooding and climatic change occur both as a result of natural and human causes. Some disasters like landslides have been triggered or exacerbated due to human actions and poor planning.

Environmental change as a result of natural and human-made causes can occur over a short period (as in the case of volcanoes), or over a longer period (as in the case of climate change). Long-term processes can be as damaging, or in some cases even more damaging than those that occur over a short period of time. In the case of human induced environmental change, which often occurs in the long-term, there is a time lapse between cause and effect which hides the contribution of humankind to this process of adverse change. For example, it was only decades after CFCs (chlorofluorocarbons) were produced and used, that its impact on the ozone layer was discovered.

---

6 Bruges, J. 2007. *The Big Earth Book: Ideas and solutions for a planet in crisis*. Alastair Sawday Publishing, London.

7 EFL. 2006. *Your Environmental Rights and Responsibilities: a handbook for Sri Lanka*. Environmental Foundation Limited, Colombo.

Resilience allows the Earth to withstand change and in many cases restoration occurs naturally over a period of time. In cases where the damage is too much to naturally restore, the environment evolves and changes into a different environment. For example if a land in an arid or semi-arid area is degraded by human activities such as over-grazing and over-extraction of water, there is a strong possibility that the area could become a desert.

Evolution has meant that different plant and animal species survive and have adapted over a period of time to live in various climatic conditions, including extreme environments such as ice and deserts. However, rapid and unnatural change often means that many environments, and the animal and plant species that live within them, are unable to cope with the change and are lost as a result.

1.1.4 The Importance of Conserving the Environment

Our environment is fundamental to our survival. It provides us with various goods and services that support, provide and regulate our wellbeing. We rely on the environment for our lives and will continue to do so in the future. The natural environment provides these services to us through a complex series of relationships and processes. Each component of the environment ensures that the whole functions well, and although it may not be obvious to us, taking away even a small element may impact on the overall processes and services. It is therefore in everyone's interest to maintain a healthy environment and contribute to a larger collective wellbeing.

As humans live in built-up cities and towns, the interconnectivity and functioning of the environment is not obvious. When humans create an artificial environment it is felt that the rest of the environment is something that is separate from us. Irrespective of where a person lives, whether in a forest, or in a city, we all have the same basic needs: air, water and food. The difference is that some of these needs are now packaged differently, and are sourced from far away which makes it difficult for us to understand its environmental source. For example when we drink water off a bottle of mineral water, it is easy to forget the role played by the water cycle or watershed forests in providing us the clean drinking water. We forget that if we excessively mine sand from a river, we might be forced to drink saline water. If we clear watershed forests, leading to soil erosion, we forget that the reservoir downstream will lose some of its capacity to provide hydro-electric power. We are often unconscious to the importance and interconnectivity of our environment. Therefore many carry out activities that pollute or degrade without realising its repercussions.

What is important is that we cannot survive healthily with any air, water or food. What we really need is clean air, clean water and food without contaminants.

'Just as our banking sector is struggling with its debts – and paradoxically also facing calls for a return to so-called "old-fashion", traditional banking – so Nature's life-support systems are failing to cope with the debts we have built up there too. So, if we don't face up to this, then Nature, the biggest bank of all, could go bust.'

~ HRH The Prince of Wales, 2009 ~

Our environment provides us far more than our basic requirements. It provides various 'goods' such as food, fuel, building material and 'services' such as erosion control, sediment retention, climate regulation, pollination, waste treatment, water supply, and recreation. In order to provide us with these environmental goods and services, the environment interacts with various living and non-living components, through a complex series of relationships and processes. These ecosystem goods and services are usually referred to as 'ecosystem services'.

Given the enormous contribution of the environment to our daily lives and the economy, environmental assets have been valued. The total value of the environment consists of values associated with use and non-use of these assets. Use values include direct use of the environment, which are usually consumables such as food, fuel, recreational value etc. Indirect uses are a result of the function of the environment (functional benefits), these include values associated with flood control, nutrient cycles etc.[8, 9]

For example, a wetland's ecosystem services would include water regulation, water supply, habitats, waste treatment, food production, raw materials, and recreation. As a result, ecosystems have been valued differently. For example a tropical forest is valued at US$ 2,007 per hectare per year, wetlands are valued at US$14,785, and swamps and floodplains at US$ 19,580.[10] The value, function and services provided by each ecosystem vary depending on the quality of the ecosystem.[11]

[8] Pearce, D.W. and Turner, R.K. 1990. *Economics of natural resources and the environment.* Harvester Wheatsheaf, London.

[9] Pearce, D.W. and Moran, D. 1994. *The Economic Value of Biodiversity.* Earthscan. London.

[10] Costanza, R., D'Arge, R., Groot, R.D., et al. 1997. The value of the world's ecosystem services and natural capital. *Nature*. 387 (6630): 253-260.

[11] Adger, W.N. 2000. Environmental and ecological economics. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

1.1.5 Environmental Degradation and Pollution

Environmental degradation refers to the depletion of potentially renewable resources such as air, water, soil, forest or wildlife by using it at a faster rate than it can be naturally renewed.[12]

Environmental destruction has serious and far-reaching consequences, and these impacts on both human and the environment may not be immediately obvious. Even a small or localised act of environmental degradation, impacts the natural and built environment, thereby affecting people. Such degradation affects the goods and services we rely on, and this cost is borne by other people, by the government and wider society, and by future generations.

'Only after the last tree has been cut down

Only after the last river has been poisoned

Only after the last fish has been caught

Only then will you find that money cannot be eaten'

~ Native American Proverb ~

Many different forces contribute to environmental degradation. These include direct destruction by people and businesses while wider institutional, policy and legal factors also contribute to degradation. In addition, weak enforcement of environmental laws, coupled with the failure of relevant agencies to perform their duty, exacerbates degradation. Widespread corruption and political patronage allows and encourages misuse of the environment, and the breaking of environmental laws. Changing consumption patterns and demands, increasing market integration and globalisation, land pressure and population growth all have an impact on the environment. Global and national pressures often encourage 'development' to take place in ways that are unsustainable both in environmental and economic terms.[13]

The Hakgala Strict Natural Reserve (SNR)

The plight of the Hakgala SNR demonstrates how political patronage has resulted in the devastation of one of Sri Lanka's most vital watershed forests. The area in and around Hakgala is the source of the Uma Oya, one of the largest tributaries which feed the Mahaweli river. The forest also harbours a vast array of plant and animal species of which many are endemic. Despite being accorded the highest legal protection a forest can be given – encroachments have destroyed approximately a third of this forest. This has compromised water for downstream uses, loss of biodiversity and contributed to the loss of hydroelectric power generation due to the siltation of the Rantambe reservoir.[14]

12 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

13 EFL. 2006. *Your Environmental Rights and Responsibilities: a handbook for Sri Lanka*. Op. cit.

14 EFL. 2008. *Hakgala under Threat: A review of conservation status and management needs.* Environmental Foundation Limited, Sri Lanka.

1.1.6 Impacts on Health and Wellbeing

The health of our planet cannot be separated from our own health. Environmental degradation and pollution can affect human wellbeing and have serious health implications. Therefore one of the major motivations for the conservation of the environment, and control of pollution is the concern for human health.

> **'When the earth is sick and polluted, human health is impossible....**
>
> **To heal ourselves we must heal our planet, and to heal our planet we must heal ourselves.'**
>
> **~ Bobby McLeod, Koori activist ~**

Unsafe water bodies, air pollution, contaminated food, poor sanitation, inadequate waste disposal, improper vector control, and exposure to chemicals are some of the most significant environmental risks to human health. In the future these threats will be compounded by climate change, through extreme events such as heatwaves, floods, droughts and storms. Climate will influence the availability of safe freshwater, adequate food, stability of ecosystems, the transmission and distribution of diseases which are fundamental environmental determinants of health. Environmental impacts on health affect various sectors directly and indirectly, with enormous social and economic repercussions from increasing healthcare costs to lowering of literacy among school children. Often the most vulnerable are the poor, children and the elderly.

Emerging health impacts of pollution

Pollution affects our health in ways unthinkable. The impact of pollution and environmental degradation on our health is complex and these interactions are only being discovered now. It was only in the past few decades that it was discovered how pollutants – especially chemicals from pesticides affect our hormones and fertility. These are referred to as 'endocrine disrupters' which are synthetic chemicals that when absorbed into the body either mimic or block hormones and disrupt the body's normal functions. The endocrine system is a complex network of glands (pituitary, thyroid, pancreas, ovaries, testes etc) and hormones that regulates many of the body's functions, including growth, development and maturation, as well as the way various organs operate.[15, 16]

According to the World Health Organisation (WHO), environmental hazards are responsible for about a quarter of disease worldwide. It is estimated that as many as 13 million deaths can be prevented every year by making our environments healthier. In

[15] Bruges, J. 2007. *The Big Earth Book: Ideas and solutions for a planet in crisis.* Op. cit.

[16] Colborn, T., Dumanoski, D. and Myers, J.P. 1997. *Our Stolen Future: are we threatening our fertility, intelligence and survivial?: a scientific detective story.* Plume, New York.

children under the age of five, one third of all disease is caused by environmental factors such as unsafe water and air pollution.[17]

Human health and wellbeing are closely interlinked with ecosystem services. While demands for ecosystem services such as food and clean water are growing, human actions are at the same time diminishing the capability of many ecosystems to meet these demands. Productive ecosystems provide people and communities with resources and options they can use as insurance in the face of natural disasters and conflicts. They also reduce risks and vulnerability, and poorly managed systems can exacerbate them by increasing risks of flood, drought, crop failure, or disease.[18]

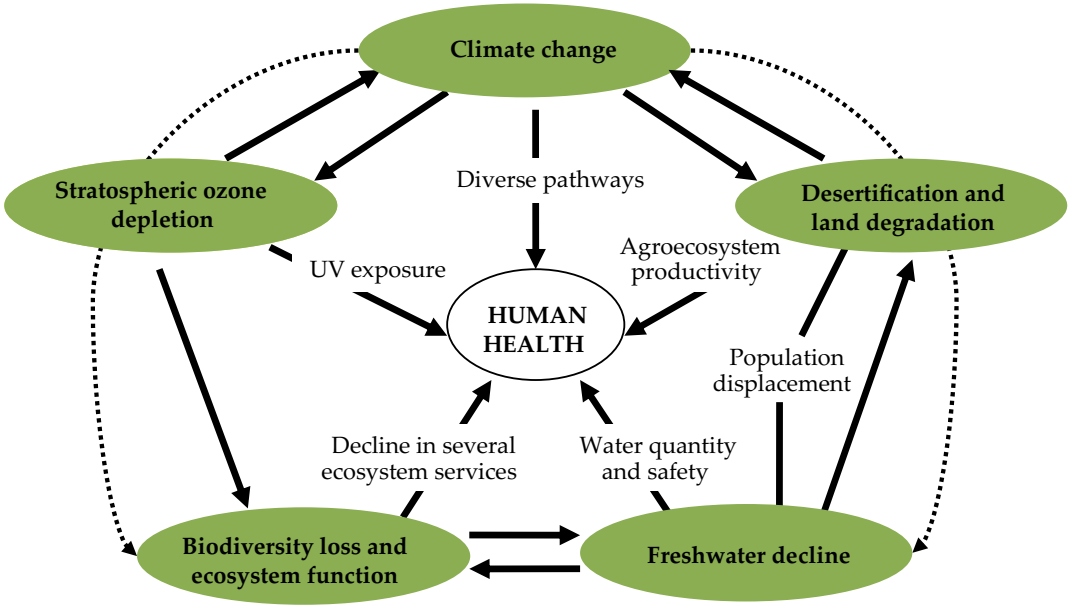

Figure 1: Health implications of environmental degradation[19]

Pollutants and contaminants are terms used interchangeably to refer to a substance which can cause damage to the environment and have adverse impacts on human health. A contaminant is defined as any substance that pollutes or contaminates another. Any physical, chemical, biological or radiological substance that causes an impurity in the environment or which may be harmful to human health is considered a contaminant.[20] All matter in one form or another can become a contaminant when found out of its usual environment or at concentrations that are above normal.

[17] WHO. 2008. *10 facts on preventing disease through healthy environments*. Available online from: http://www.who.int/features/factfiles/environmental_health/en/index.html [Accessed: 24/02/2009].

[18] Millennium Ecosystem Assessment. 2005. *Ecosystems and Human Wellbeing: Synthesis*. Available online from: http://www.millenniumassessment.org/documents/document.356.aspx.pdf [Accessed: 07/03/2009].

[19] Adapted from: WHO. 2009. *Global environmental change*. Available online from: http://www.who.int/globalchange/en/index.html [Accessed: 05/04/2009].

[20] Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

Most environmental effects are difficult to detect because many years lapse before any symptoms appear. These are called chronic effects, and examples include cancer. Some environmental effects have a quicker, short-term effects and are called acute effects.[21] Examples include the Asian brown cloud, which is an atmospheric brown cloud. In Asia these clouds have been formed as a result of burning fossil fuels and biomass. It threatens the health and food security of people in Asia. It impacts on air quality and agriculture and the toxic aerosols, carcinogens and particulate matter from these clouds have been linked with a variety of health effects such as respiratory disease and cardio-vascular problems.[22] The environment generally has a stronger influence on vulnerability to some diseases than internal genetic factors.[23]

In Sri Lanka, there are no statistics that directly indicate the impact of environmental factors on health. However, according to the Annual Health Statistics for 2006, diseases of the respiratory system are the second biggest cause of hospitalisation, and the fifth leading cause of hospital deaths.[24]

Chronic renal failure, known as 'kidney disease' is increasing among farmers living in North Central, North-Western, and Uva Provinces of Sri Lanka. Environmental factors are being examined as potential causes for the condition, possible causes include heavy metals (aluminium and cadmium), pesticides, fertilisers, fruits contaminated by toxins.[25]

Poor environmental conditions also contribute to numerous health impacts. Leptospirosis, popularly known as 'rat fever' has taken the lives of nearly 200 people, with 6,000 cases being reported in Sri Lanka in 2008. Climatic and environmental conditions together with various other factors such as population density favour the high transmission of the disease.[26]

---

21 Haynes, R. 2000. *Preventing disease.* Op. cit.

22 UNEP. 2008. *Summary: Atmospheric Brown Clouds. Regional Assessment Report with Focus on Asia.* Available online from: http://www.unep.org/pdf/ABCSummaryFinal.pdf [Accessed: 05/04/2009].

23 Haynes, R. 2000. *Preventing disease.* Op. cit.

24 Medical Statistics Unit. 2006. *Annual Health Statistics – 2006.* Available online from: http://www.health.gov.lk/AnnualHealthBulletin.htm [Accessed: 12 July 2009].

25 Victorian, B. 2008. Among Farmers in Sri Lanka, Kidney Disease on the Rise: Environmental Causes Being Considered. *Nephrology Times.* 1(9):7-8.

26 WHO. 2008. *Emerging and Re–emerging Communicable Diseases in Sri Lanka.* Health lines: newsletter of the WHO country office for Sri Lanka, 3 (2). Available online from: http://www.whosrilanka.org/LinkFiles/WHO_Sri_Lanka_Home_Page_WHO_SL_HL_3_1_Dec08.pdf [Accessed: 10 July 2009].

Pollutants and their health impacts

Physical, chemical and biological contaminants can affect human health through the contamination of water, air or soil.

Physical contaminants are usually small particles which are natural or created by humans. They pose a hazard to human health and the environment by usually polluting air or water. Human-made particulates include those created by industrial processes, through combustion of power plants and the internal combustion of vehicle engines. In air, these particles are referred to as aerosols and pose a threat to human health because they can get deposited in our respiratory system. Small particles cause more health problems than larger particles as they travel further in our systems.

Chemical contaminants become pollutants when they accumulate enough to adversely affect the environment, or to pose a health risk. There are more than 3000 natural and human-made chemicals that are toxic enough and are produced in sufficient quantities to be a potential environmental hazard. Chemical contaminants fall into three main categories.[27]

(i) Organic compounds include fuels, pesticides, food additives, and dyes. They can have an impact on the reproductive and nervous systems, and on the liver.

(ii) Inorganic compounds include inorganic 'salts' (nitrates and sulphates) and heavy metals (mercury and arsenic). Heavy metals such as arsenic can cause skin damage and increase the risk of cancer, while nitrites and nitrates (mainly from fertilisers) can cause diseases such as the 'blue baby syndrome' which can be life threatening if untreated.

(iii) Radioactive contaminants (e.g. uranium).

These compounds pose an increased risk to human health not only because they are toxic (poisonous), but also because some remain in the environment for long periods of time (persistent), are not easily destroyed, and build up or accumulate in body tissue (bioaccumulative). Persistent organic pollutants (POPs) are chemicals that remain intact for long periods. These pollutants and heavy metals accumulate in the fatty tissue of living organisms, and are toxic.[28] These pollutants increase in concentration in organisms towards the top of the foodchain (such as humans), as they consume organisms further down the food chain (e.g. through the consumption of fish and shellfish by humans).[29, 30]

Biological contamination is the presence of infectious agents such as viruses, bacteria and fungi in an environment.[31] Microbial contaminants are a major cause of waterborne diseases. Waterborne diseases are those that are transmitted when contaminated water is

---

27 Brusseau, M.M., McColl, C.M., Famisan, G. and Artiola, J.F. 2006. Chemical contaminants. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science.* 2nd edition. Academic Press, San Diego.

28 *Ibid.*

29 Gerba, C.P. 2006. Environmental Toxicology. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science.* 2nd edition. Academic Press. San Diego.

30 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

31 *Ibid.*

consumed. These disease causing organisms originate in human and animal faeces and include cholera and typhoid. Water-related diseases are those which are transmitted by insects that are associated with water. They include diseases such as yellow fever, dengue and malaria. Water-washed diseases involve organisms that also originate in faeces but are transmitted through contact. It is especially an issue due to poor sanitation and lack of adequate water (e.g. diarrhoeal diseases). Water-based diseases are caused by organisms that originate or live in aquatic animals and come in to direct contact with humans (e.g. various bacteria, viruses and worms).[32]

1.1.7 Remediation and Restoration

When water and soil are polluted, and ecosystems are degraded, some mechanisms are available to bring back some or all of its functions and attributes. This however is a very costly and time consuming task, and can be done through remediation or restoration depending on the type of environmental degradation. Many people believe that the environment can be exploited for immediate gain, and can be 'fixed' in the future to prevent the consequences of this exploitation and pollution. This flawed view has been proven wrong many times over, with restoration and remediation either being impossible or costing far more. In the case of Sri Lanka, the Beira Lake is a good example. It cost US$ 19 million to clean this polluted lake, while it is estimated that US$ 150,000 would have been sufficient to prevent pollution.[33]

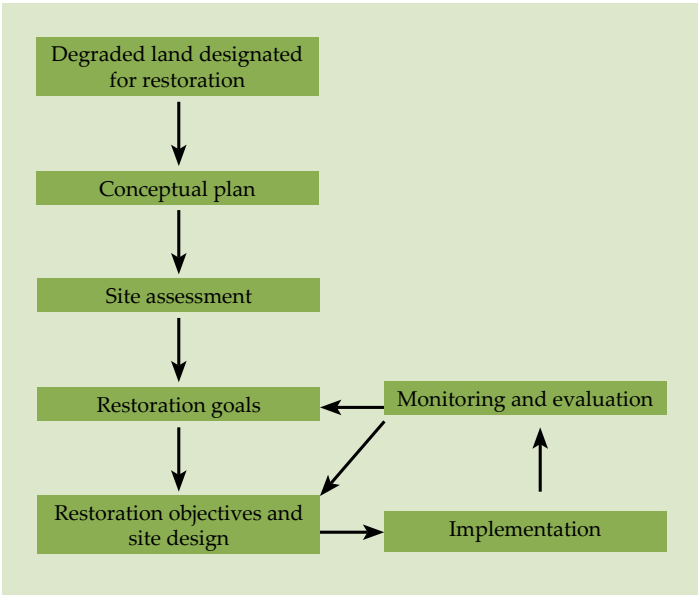

Figure 2: Flow chart of the restoration process[34]

Remediation is action that is taken to correct or treat a pollution-related problem, which usually involves a cleanup or the use of other methods to remove or contain a toxic spill or hazardous materials from a

[32] Gerba, C.P. and Pepper, I.L. 2006. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science.* 2nd edition, Academic Press, San Diego.

[33] MDG SriLanka. 2009. *Ensure environmental sustainability.* Available online from: http://www.mdg.lk/images/flash/learningzone.swf [Accessed: 15/05/2009].

[34] Artiola, J.F., Brusseau, M.L. and Pepper, I.L. 2004. *Environmental Monitoring and Characterization.* Academic Press, San Diego.

hazardous waste site. Restoration is the act of restoring, renovating or re-establishing something close to its original condition, such as the structure and function of a damaged habitat or ecosystem.[35]

Remediation is usually carried out for contaminated soil or groundwater. In the USA, legislation has been enacted to address the remediation of contaminated land and hazardous waste sites. Such remediation activities have several steps which include site inspections, risk assessments, treatability and feasibility before a final decision is made on remedy selection, remedial design and action. Remediation can be done in three ways, (1) containment, where the contaminant is restricted to a specified domain to prevent further spreading; (2) removal, where the contaminant is transferred from an open to a controlled environment; and (3) treatment, where the contaminant is transformed into a non-hazardous substance.[36]

Ecosystem restoration is the process of manipulating a disturbed ecosystem to achieve compositional, structural, and functional patterns similar to the 'pre-disturbed' condition. If possible, this would include soil, vegetation, and wildlife. However, depending on the severity of the disturbance, it may not be possible to achieve pre-disturbance conditions completely. In this case, land reclamation may be the best alternative. This involves the process of improving disturbed land to achieve a land capability equivalent to the pre-disturbed condition.[37, 38]

Environmental issues that become candidates for restoration include deforestation, overgrazing, wetland clearing and draining, oil production, mining, and toxic spills.

Setting achievable goals for a restoration project is important, and it is important to recognise that ecosystems are dynamic, so that, potentially, restoration projects have a range of short and long term outcomes. Therefore, the focus of the project should be on the desired characteristics of the ecosystem in the future, rather than on the characteristics that were previously there. The methods chosen for the restoration of a particular site will be determined by the nature of the site, the level of the existing degradation, and the desired outcome over time.[39]

---

35 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

36 Brusseau M.L. 2006. Soil and Groundwater Remediation. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science,* 2nd Edition. Academic Press.

37 Brusseau M. L. 2006. *Soil and Groundwater Remediation.* Op. cit.

38 FAO. 1976. *A framework for land evaluation.* Available online from: http://www.fao.org/docrep/x5310e/x5310e03.htm#2.7%20land%20suitability%20and%20land%20capability [Accessed: 15/05/2009].

39 Glenn, E.P., Waugh, W.J., and Pepper, I.L. 2006. Ecosystem Restoration and Land Reclamation. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science.* 2nd Edition, Academic Press.

The Sinharaja forest was logged for commercial purposes in the 1970s and is an example of ecosystem restoration. Work was carried out subsequently to restore some of the degraded areas of this tropical rainforest.

1.2 Environmental Law and Policies

1.2.1 Definition of Environmental Law

Environmental law is a body of law, which is made up of a series of complex and interlocking statutes, common law, treaties, conventions, regulations and policies which, very broadly, operate to regulate the interaction of humanity and the rest of the biophysical or natural environment, for the purpose of reducing or minimising the impacts of human activity, both on the natural environment and on humanity itself. Environmental law draws from and is influenced by principles of environmentalism, including ecology, prevention, conservation, responsibility, sustainability and co-operation.

1.2.2 The Scope and Importance of Environmental Law

It is necessary for laws that seek to protect the environment and conserve natural resources to anticipate and cater for the challenges of the future. In doing so, the primary aim and motive of such laws must be to strike a prudent balance between development and environmental protection, taking into account the current state of the environment.

> **'In making any law, our chiefs must always consider three things: the effect of their decision on peace; the effect on the natural world; and the effect on seven generations in the future. We believe that all lawmakers should be required to think this way; that all constitutions should contain these rules'**
>
> **~ Carol Jacobs, Native American activist ~**

Several fundamental developments have contributed towards the evolution of environmental law. An important principle that emerged out of the *Trail Smelter Arbitration* in 1941 was that environmental law applies not only to activities within a particular state but also to those areas beyond its territorial jurisdictions.[40] Accordingly, although every state has sovereignty over its own natural resources, every state also has a responsibility not to cause trans-boundary environmental damage.[41]

[40] *United States v Canada* – 16th April 1938, 11th March 1941 - 3 RIAA 1907.

[41] Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration (1992).

Environmental law has evolved from a national regime to a transnational regime and now to a global regime covering the entire planet. This geographical extension of the law, which developed during the 20th century, now provides a comprehensive framework for addressing many of the current environmental problems, such as transboundary pollution.

Therefore environmental law should not be confined to mere territorial considerations.

The rationale for this is that ecological interdependence does not respect national boundaries and that issues previously considered to be matters of domestic concern have international implications.[42] For example, the damage caused to the ozone layer in the atmosphere or from excessive greenhouse gas emissions, by the actions of a particular state, affects the rest of the world and not merely that state.

Environmental law is important as a body of law because, in the wider sense, it seeks to regulate the conduct of the international community consisting of states with regard to environmental concerns, by imposing obligations and responsibilities on them, whilst in the narrower sense, it seeks to encourage states to develop domestic laws and policies, which are territorial in nature, and implement such laws and policies within their respective territories in respect of its natural resources and environment.

Agenda 21, which is a comprehensive global action plan that was introduced at the United Nations Conference on Environment and Development (Earth Summit) in 1992, summarised the basis for national legal and regulatory arrangements as follows:

> *'It is essential to develop and implement integrated, enforceable and effective laws and regulations that are based upon sound social, ecological, economic and scientific principles. It is equally critical to develop workable programmes to review and enforce compliance with the laws, regulations and standards that are adopted.'*[43]

1.2.3 The Emergence of Environmental Law in Sri Lanka

Sri Lanka has a rich tradition of environmental conservation, which had its origins in Buddhist teachings and in customs and practices followed through time.[44] Modern environmental law in Sri Lanka has evolved from and has been moulded by the principles of Roman-Dutch Law, English Law, legislation, international treaties and judicial decisions.

---

42 Sands, P. 2003. *Principles of International Environmental Law*. 2nd edition. Cambridge University Press, Cambridge, p.3.

43 Agenda 21, Chapter 8, paragraph 14.

44 *The Mahavansa*, Chapter XIV, Sermon by Arahat Mahinda (son of Emperor Asoka of India) to King Devanampiya Tissa, 247 to 207 B.C.

The modern history of environmental law and policy in Sri Lanka can be traced back to the mid 19th century. In 1848, the Timber Ordinance was introduced to preserve forests, for timber production.[45] In 1873, the protection of natural forests above 5,000 feet as reserves was advocated. The Forest Ordinance of 1885 afforded some protection of forests, primarily for sustainable wood production but also afforded limited protection of wildlife in forest reserves.[46] This was developed further in 1907 with the Forest Ordinance No. 16, with some protection for forests and products in reserved forests and village forests and for the controlled exploitation of timber. In 1938 the clearing of forests above 5,000 feet was prohibited.

In 1929 the first authoritative forest policy statement on species protection was issued and in 1937 the Fauna and Flora Protection Ordinance (FFPO) was enacted.[47] However, the Ordinance only applied to state land and did not apply to privately owned land. In 1964, through an amendment to the FFPO, nature reserves and jungle corridors were formally recognised as protected areas and national reserves.[48]

In 1982, the Mahaweli Environmental Project established a network of protected areas in the upper catchment areas of the Mahaweli River. In 1988 the National Heritage Wilderness Area Act No. 3 established a national heritage protection scheme for those forests possessing a unique ecosystem, genetic resources, or outstanding natural features.[49]

Amendments to the Fauna and Flora Protection Ordinance in 1993 added refuges, marine reserves and buffer zones as additional formal categories to the definition of a national reserve.[50]

1.2.4 Sources of Environmental Law

The two principal sources of environmental law are international law and domestic law.

International Law

International law is the body of laws that govern and regulate relations between sovereign states. Accordingly, a state may not invoke a provision in its national law to excuse its violation of international law. Article 27(15) of the Constitution of

45 The Timber Ordinance No. 24 of 1848.
46 The Forest Ordinance No. 16 of 1907 (as amended).
47 The Fauna and Flora Protection Ordinance No. 2 of 1937 (as amended).
48 Amendment Act No. 44 of 1964.
49 The National Heritage Wilderness Areas Act No. 3 of 1988.
50 The Fauna and Flora Protection Ordinance No. 2 of 1937 and Amendment Act No. 49 of 1993.

Sri Lanka[51] imposes a duty on the State to foster respect for international law and treaty obligations in its dealings among nations.

Even where international law is not binding as a part of domestic law, it may still be considered persuasive in interpreting constitutional or statutory provisions. In the *Eppawela phosphate mining* case[52], the Supreme Court of Sri Lanka observed that even if international treaties that recognise principles such as 'sustainable development' (in this case the Rio Declaration on Environment and Development of 1992[53]) have not been incorporated into domestic law through Acts of Parliament, as a member of the United Nations, such principles cannot be ignored by Sri Lanka and can be made binding and become a part of the domestic law by adoption by the superior courts of record and by the Supreme Court in particular, in its decisions.[54]

In *Andra Pradesh Pollution Control Board v Prof. M.V. Nayadu,* the Court referred to the Declaration of the United Nations Water Conference, the International Covenants on Civil and Political Rights and Economic, Social and Cultural Rights, and the Rio Declaration on Environment and Development as persuasive authority in interpreting the right to life in the Indian Constitution as including a right to clean drinking water.[55] The Court also made reference to jurisprudence of the European Court of Justice, the European Court of Human Rights and the Inter-American Commission of Human Rights, as well as decisions of the national courts of the Philippines, Colombia and South Africa.

A court may also take judicial notice of studies done by recognised international organisations as evidence of environmental damage. In *Pedro Flores y Otros v Corporation del Cobre (CODELCO),* a Chilean Court of Appeal referred to a United Nations Environment Programme (UNEP) study in finding that the coastline in question was one of the most seriously polluted coastlines around the Pacific Ocean.[56]

Domestic Law

At the national level, the sources of environmental law will include:

(i) Constitutional law

(ii) Legislation relating to environmental matters

(iii) Administrative regulations and subsidiary legislation

---

51 Constitution of the Democratic Socialist Republic of Sri Lanka 1978.

52 [2000] 3 Sri L.R. 243.

53 Principles 1, 4.

54 Bulankulama v Secretary, Minister of Industrial Development [2000] 3 Sri L.R. 243 at 274

55 [1999] 2 SCC 718.

56 Corte de Appelaciones (June 23, 1988) Rol 12.753.FS641, affirmed by the Supreme Court of Chile.

(iv) Judicial decisions

(v) Industry standards and codes of conduct

(vi) Customs and practices

(i) Constitutional law

The Constitution imposes environmental duties on the State[57] as well as on every person[58] to protect and conserve the environment, as a part of the Directive Principles of State Policy and Fundamental Duties.[59]

Although the Constitution does not contain a right to a clean and healthy environment, the Supreme Court has, on numerous occasions, utilised the right to equality and equal protection of the law to deal with issues relating to the environment.[60]

(ii) Legislation

The National Environmental Act is the most important piece of legislation in this area.[61] Apart from this Act, other laws deal with specific aspects of the environment. The violation of any of the provisions of the National Environmental Act constitutes a penal offence, which is punishable with imprisonment.[62]

The Criminal Procedure Code empowers a Magistrate to make conditional orders with regard to any environmental matter that is capable of constituting an obstruction or nuisance with a view to preventing any further harm or injury being caused to the environment. This provision has been used by the lower courts together with Section 261 of the Penal Code[63] to deal with issues of environmental pollution and damage which are capable of being construed as public nuisances.[64]

Provincial Councils have the power to pass statutes that would be applicable within the province in relation to environmental matters.

(iii) Administrative regulations and subsidiary legislation

Legislation pertaining to environmental matters may delegate regulatory powers, including rule-making, standards-setting and enforcement powers to administrative

57 Article 27(14).
58 Article 28(f).
59 Chapter VI.
60 This is considered more fully in Chapter 3.
61 The National Environment Act No. 47 of 1980 (as amended). The NEA is discussed in depth in Chapter 2.
62 Section 31.
63 No. 2 of 1883 (as amended).
64 Public nuisance is discussed in detail in Chapter 2.

agencies with a view to achieving the legislative mandate. The Central Environmental Authority (CEA) exercises significant powers under the National Environmental Act which include the power to grant or refuse permits and licenses to persons carrying out prescribed activities that may have an impact on the environment.

(iv) Judicial decisions

Judicial decisions have contributed significantly to the development of environmental law. There has been growing awareness among courts, and judges have recently shown an increased willingness to intervene in environmental matters. A significant increase in public interest litigation, in relation to environmental matters, has also been evident in the recent past.[65]

(v) Industry standards and codes of conduct

Industries, institutions, and non-governmental organisations may have self-imposed regulations, standards or codes of conduct relating to environmental issues, although they may be of a non-binding nature. Such standards and codes of conduct may nevertheless hold such institutions accountable to the public as well as to their investors (current and prospective). Breaches of these standards may destroy investor confidence in the institution and erode the public's confidence in the products or services offered by such institutions.

Institutions may, as part of their corporate governance requirements, hold themselves accountable to carry on businesses, having regard to matters such as environmental pollution, sustainable development and the preservation of natural resources. Some institutions contribute to the protection and preservation of the environment through their 'corporate social responsibility' programmes. Many company annual reports now document how corporate activities impact on the environment.

(vi) Customs and practices

To a lesser degree, customs and practices of communities contribute to the preservation of the environment. The indigenous people of Sri Lanka, better known as the *Veddas*, follow a life style where only what is required from their surrounding environment is utilised and the forests and wild animals are preserved for their future sustenance.

At the 1992 Earth Summit in Rio de Janeiro, 178 governments voted to adopt *Agenda 21*, a world environmental agenda for the 21st century, which included far-reaching

[65] Judicial decisions are analysed more fully in Chapters 2 and 3.

resolutions designed to recognise and strengthen the role of indigenous people and their communities. In general, indigenous communities have developed ways of life remarkably attuned to their local environment. Many indigenous peoples' environments are less modified and degraded than surrounding areas. Since they are often orientated primarily towards self-sufficiency, and only secondarily to the generation of surplus for trade, their traditional economies and technologies are often environmentally appropriate. Their long association with their territories has resulted in indigenous peoples developing strong ties to their lands, expressed both in customary law and in complex religious and symbolic schemes, and an extremely detailed knowledge of their resources.[66]

1.2.5 Important Laws and Institutions in Sri Lanka

Table 1: Important laws and authorities in charge of supervision, regulation and/or enforcement

Laws	Authority in charge of supervision, regulation and/or enforcement
National Environmental Act No. 47 of 1980 (as amended by Acts No. 56 of 1988 and 53 of 2000) and the Regulations under the Act. Establishes the Central Environmental Authority (CEA) and defines its powers, functions and duties. Provides overall environmental protection legislation, including licensing procedures, environmental standards and project approval procedures.	Central Environmental Authority
Fauna and Flora Protection Ordinance No. 2 of 1937 (as amended by Act Nos. 49 of 1993, 12 of 2005) and the Regulations under the Ordinance. Provides for the conservation of plants and animals, which have been declared as protected species. Empowers the Minister to declare any area of State Land as a National Reserve or Sanctuary.	Department of Wildlife Conservation Director General of Wildlife Conservation
Forest Ordinance No. 16 of 1907 (as amended) and the Rules and Regulations under the Ordinance. Consolidates the laws relating to forests and to the felling and transportation of timber. Empowers the Minister to declare any area of State land as a Reserved Forest, Conservation Forest or a Village Forest.	Forest Department Conservator General of Forests

[66] Chapter 26 of Agenda 21.

Mahaweli Authority of Sri Lanka Act No. 23 of 1979 (as amended) and the Regulations under the Act. Established the Mahaweli Authority of Sri Lanka and provides for the conservation and maintenance of the physical environment of Mahaweli Areas, including watershed management, soil erosion and the protection of reservation areas.	Mahaweli Authority of Sri Lanka
State Lands Ordinance No. 8 of 1947 (as amended) – Parts VI, VIII, IX. Provides for how State Lands and their resources, including lakes, rivers and streams, should be allocated, used and managed. Also provides for the declaration of State reservations.	Ministry of Agricultural Development District Secretaries
Mines and Minerals Act No. 33 of 1992. Regulates mining, exploitation, processing, trading and export of minerals.	Geological Surveys and Mines Bureau
Irrigation Ordinance No. 32 of 1946 (as amended) – Part VI. Deals with environmental aspects of water, irrigation and land use in irrigated agricultural activities.	Irrigation Department
Water Resources Board Act No. 29 of 1964 (as amended). Establishes the Water Resources Board and sets out its duties, which include promotion of afforestation, preventing the pollution of rivers, streams and other water courses, and formulation of national policies relating to the control and use of water resources of the country.	Water Resources Board
Coast Conservation Act No. 57 of 1981 (as amended). Identifies Coastal Zones and regulates activities within such zones.	Coast Conservation Department Ministry of Fisheries and Aquatic Resources
Marine Pollution Prevention Act No. 35 of 2008. Provides for the prevention, reduction, and control and management of marine pollution in the Territorial Waters of Sri Lanka, any other maritime zone, the foreshore and the coastal zone of Sri Lanka. Also provides for the establishment of the Marine Environment Protection Authority.	Marine Environment Protection Authority
Fisheries and Aquatic Resources Act No. 2 of 1996 (as amended). Makes provision to protect and conserve fisheries and aquatic biodiversity in marine and freshwater areas, for the declaration of fisheries reserves and imposes licensing and registration requirements with regard to fishing. Defines the terms 'Sri Lankan Waters'.	Ministry of Fisheries and Aquatic Resources, Director of Fisheries and Aquatic Resources

National Heritage Wilderness Areas Act No. 3 of 1988. Provides for the declaration, protection and preservation of any area of State land with unique ecosystems, genetic resources or outstanding natural features as National Heritage Wilderness Areas.	Forest Department, Ministry of Agricultural Development
Soil Conservation Act No. 25 of 1951 (as amended). Provides for the conservation of soil resources, mitigation of soil erosion and the protection of lands against flood and drought.	Ministry of Agricultural Development
Plant Protection Act No. 35 of 1999. Provides for the prevention of wild plants, weeds and plant diseases and controls the introduction of new plant species.	Department of Agriculture
Felling of Trees (Control) Act No. 9 of 1951 (as amended). Provides for the prohibition, regulation and control of the felling of specified tree species, including cultivated tree species such as Jak.	Forest Department Ministry of Agricultural Development and Agrarian Services
Flood Protection Ordinance No. 4 of 1924 (as amended). Provides for the protection of areas from flood damage and empowers the Director of Irrigation to declare any area as a flood area.	Ministry of Irrigation and Water Management Director General of Irrigation
Water Hyacinth Ordinance No. 4 of 1909. Provides for preventing the importation, introduction into and dissemination in Sri Lanka of the plant known as Water Hyacinth.	Department of Agriculture Sri Lanka Customs
Control of Pesticides Act No. 33 of 1980 (as amended). Provides for the licensing and regulation of the import, packing, labelling, storage, formulation, transportation, sale and use of pesticides.	Registrar of Pesticides
Atomic Energy Authority Act No. 19 of 1969. Provides for the establishment of the Atomic Energy Authority, which is empowered to control and regulate the importation, exportation, production, acquisition, transportation, treatment, storage and disposal of radioactive materials.	Atomic Energy Authority
Health Services Act No. 12 of 1952 (as amended). Provides for the regulation of the environmental aspects of human health.	Department of Health Services
Municipal Councils Ordinance No. 29 of 1947 (as amended). Provides for the establishment of Municipal Councils and outlines their powers, duties and responsibilities in relation to the built environment and matters such as waste disposal and sanitation.	Municipal Councils

Urban Councils Ordinance No. 61 of 1939 (as amended). Provides for the establishment of Urban Councils and outlines their powers, duties and responsibilities in relation to the built environment and matters such as waste disposal and sanitation.	Urban Councils
Pradeshiya Sabha Act No. 15 of 1987 (as amended). Provides for the establishment of Pradeshiya Sabhas and outlines their powers, duties and responsibilities in relation to the built environment and matters such as waste disposal and sanitation.	Pradeshiya Sabhas
Urban Development Authority Law No. 41 of 1978 (as amended). Empowers the Urban Development Authority (UDA) to regulate and manage the urban environment.	Urban Development Authority
Sri Lanka Land Reclamation and Development Corporation Act No. 15 of 1968 (as amended). Empowers the Sri Lanka Land Reclamation and Development Corporation (SLLR&DC) to reclaim low-lying lands and wetlands.	Sri Lanka Land Reclamation and Development Corporation
Agrarian Development Act No. 46 of 2000 – Part II. Provides for the utilisation of agricultural lands in accordance with agricultural policies, having regard to natural resources.	Commissioner General of Agrarian Development
National Aquaculture Development Authority of Sri Lanka Act No. 53 of 1998 (as amended). Establishes the National Aquaculture Development Authority of Sri Lanka and provides for the development of aquatic resources.	National Aquaculture Development Authority
Sri Lanka Sustainable Energy Authority Act No. 35 of 2007. Establishes the Sri Lanka Sustainable Energy Authority and provides for the development of renewable energy sources and the implementation of energy efficiency measures and conservation programmes.	Sri Lanka Sustainable Energy Authority
Code of Criminal Procedure Act No. 15 of 1979 (as amended) – Section 98 and Section 261 of the Penal Code (as amended). Provides for the removal or abatement of public nuisances.	Police
Nuisances Ordinance No. 15 of 1862 (as amended). Provides for the preservation of public health and the suppression of various types of nuisances.	Urban Council Municipal Council and Pradeshiya Sabhas Police

Apart from the foregoing institutions and authorities, there are several other state authorities, such as the Ministry of Environment and Natural Resources, which play an important role in the protection and conservation of the environment.

1.2.6 The Statutory Environmental Processes

The National Environmental Act (NEA) No. 47 of 1980, as amended by Acts No. 56 of 1988 and 53 of 2000, is the basic national charter for the protection, conservation and management of the environment. This Act requires Environmental Impact Assessment (EIA) approval to be obtained in respect of 'prescribed projects'[67], which are listed in the Regulations framed under the Act and published in Government Gazette Notifications.[68] EIA approval for any such project must be obtained from the designated 'project approving agency'[69] as prescribed by the Minister (of Environment) under section 23Y.

Many of the laws which are referred to and listed above require approvals, licenses or permits to be obtained from the relevant authorities prior to carrying out any activities prescribed by or under such laws. The NEA and the operations of the CEA are discussed more fully in Chapter 2.

1.2.7 The Public Trust Doctrine

The origins of the public trust doctrine can be traced to Justinian's Institutes. There it was stated that there are three things common to mankind: air, running water, and the sea (including the shores of the sea).

There are two conceptions of the public trust doctrine. According to the narrower concept the Government is deemed to be the trustee of the country's natural resources (and its surrounding environment) and such resources must be held or used by the Government for the benefit of its people.

In the wider environmental sense, the concept of public trust expresses the idea that the present generation holds the natural resources in trust for future generations.

The courts in the United States have used the doctrine widely. Some state constitutions specifically incorporate the public trust doctrine. For example, the Hawaiian Constitution declares that, 'All public natural resources are held in trust by the State for the benefit of the People.'

Professor Joseph Sax's article titled *Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention* which was published in 1970 caused a renewed interest and sparked

67 Section 23Z.
68 Gazette Extraordinary Nos. 772/22 of 26/06/1993 and 1104/22 of 05.11.1999.
69 Gazette Extraordinary Nos. 859/14 of 23/05/1995 and 978/13 of 04.06.1997.

debate on the relevance of the public trust doctrine in America.[70] According to Sax and the many adherents to his argument, an expansive public trust doctrine is said to restore the wisdom of antiquity while serving as a powerful tool for the protection and preservation of natural resources and the environment.

In *Illinois Central Railroad Company v Illinois* which is the most celebrated public trust case in American law, the Illinois Legislature had made an extensive grant of submerged lands in 1869 to the Illinois Central Railroad Company.[71] The grant included all the land underlying Lake Michigan for one mile out from the shoreline and extending one mile in length along the central business district of Chicago. This was more than 1,000 acres of incalculable value, comprising the whole commercial waterfront of the city.

In 1873, the legislature repealed the grant and brought an action to have the original grant declared invalid. The U.S. Supreme Court held that a state should not divest itself of authority to govern the whole of an area in which it has responsibility to exercise its police powers and that to grant almost the entire waterfront of a major city to a private company is, in effect, to abdicate legislative authority over navigation.

Accordingly, when a state holds a resource which is available for the free use of the general public, a court may view with considerable scepticism any governmental conduct which is calculated either to relocate that resource to more restricted uses or to subject public uses to the self-interest of private parties.

The Supreme Court of California, in the case of *National Audubon Society v Superior Court of Alpine Country*, also known as the *Mono Lake* case, summed up the substance of the doctrine as follows:

> *'Thus the public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the State to protect the people's common heritage of streams, lakes, marshlands and tidelands, surrendering the right only in those rare cases when the abandonment of the right is consistent with the purposes of the trust.'*[72]

The applicability of the Public Trust Doctrine to natural resources was expressly recognised by the Indian Supreme Court in the case of *M.C. Mehta v Kamal Nath.*[73]

---

70 68 Mich L.R., 473 (1970).
71 146 U.S. 387 (1892).
72 33 Cal. 419.
73 [1997] 1 SCC 388.

In Sri Lanka, the public trust doctrine can be traced back to 247 – 207 BC, when Arahat Mahinda (son of Emperor Asoka of India) preached to King Devanampiya Tissa, who was on a hunting trip, a sermon on Buddhism. This sermon resulted in the King opening sanctuaries for the protection of wild animals. The sermon pointed out that even birds and beasts have a right to live.[74]

> *'O great King, the birds of the air and the beasts have as equal a right to live and move about in any part of the land as thou. The land belongs to the people and all living beings; thou art only the guardian of it.'*

In its opinion on the 19th Amendment to the Constitution a seven judge bench of the Supreme Court held that the Executive, the Legislature and the Judiciary being the custodians of government, exercise powers in trust for the people.[75]

In the *Waters Edge* case, the Supreme Court held that the public trust doctrine is based on the idea that the powers held by the organs of government are in fact, powers that originated from the people, and are entrusted to the legislature, the executive and the judiciary only as a means of exercising governance and with the sole objective that such powers will be exercised in good faith for the benefit of the people of Sri Lanka.[76]

Article 3 of the Constitution, which recognises that sovereignty is vested in the people, provides as follows:

> *'In the Republic of Sri Lanka sovereignty is in the People and is inalienable. Sovereignty includes the powers of government, fundamental rights and franchise.'*

This strand of thinking is supported by a number of previous judicial decisions where the Supreme Court has held that public power is held in trust by public officials and must be used in accordance with that trust.[77]

In the *Eppawela phosphate mining* case[78], the Supreme Court, did not rely on the public trust doctrine, but rather on the provisions of the Constitution[79] and held that although the Executive does have a significant role in resource management as conferred by law, the management of natural resources has not been placed exclusively in the hands of

---

74 *The Mahavansa*, Chapter XIV.

75 In Re the 19th Amendment to the Constitution [2002] 3 Sri L.R. 85.

76 S.C. F.R. No. 352/2007, decided on 08.10.2008.

77 *Jayawardena v Dharani Wijayatilake* [2001] 1 Sri L.R. 132, *De Silva v Atukorale* [1993] 1 Sri L.R. 283.

78 *Bulankulama v Secretary, Minster of Industrial Development* [2000] 3 Sri L.R. 243 at 257.

79 Articles 27(14) and 28(f).

the Executive. The exercise of Executive power is subject to judicial review.[80] The Court was of the view that the organs of state and the public were jointly responsible for the guardianship of natural resources. The Court did, however, accept in principle that:

The organs of State are guardians to whom the people have committed the care and preservation of the resources of the people.[81]

1.2.8 Environmental Rights, Duties and Responsibilities

Is There a Right to a Healthy Environment?

The Constitution of Sri Lanka, does not expressly recognise the right to a healthy environment as a constitutionally protected fundamental right, nor does it expressly recognise the right to life as a fundamental right. However, it does, under the Chapter titled 'Directive Principles of State Policy and Fundamental Duties'[82], specifically recognise that the State has a duty, albeit unenforceable, to protect, preserve and improve the environment for the benefit of the community, and the Supreme Court has held that some Fundamental Rights in the Constitution implicitly recognise the right to life.[83] Furthermore, the Constitution imposes a fundamental duty on every person in Sri Lanka to protect nature and conserve its riches[84], which is also an unenforceable duty.[85]

Parliament has enacted many laws to ensure that the environment is protected, thereby attempting to create a healthy environment. For instance, the NEA (as amended) contains specific provisions to formulate policies to encourage the prudent use and conservation, and management of the country's natural resources, land resources, water, aquatic resources, wildlife, forests and soil.[86]

Although the Constitution does not contain any specific Fundamental Right pertaining to the enjoyment of a healthy environment, the Supreme Court has entertained, afforded relief and settled many Fundamental Rights Applications relating to environmental issues, on the basis of the equal protection provisions contained in Article 12(1) of the Constitution.[87]

80 Page 257.
81 Page 253.
82 Chapter VI.
83 Article 27(14); *Sriyani Silva v Iddamalgoda, O.I.C Police Station Paiyagala* [2003] 2 Sri L.R. 63.
84 Article 28(f).
85 Article 29.
86 Part IV.
87 Equality or equal protection of the law.

Right to Information

Access to environmental information is essential to public participation in decision making and monitoring state and private agencies. The right to information is not a right that is expressly guaranteed to every citizen of Sri Lanka under the chapter pertaining to fundamental rights in the Constitution. However, in a recent decision of the Supreme Court[88], it was held that the right to freedom of speech and expression[89] may include the right to information that would enable a person to effectively exercise rights in respect of a matter that should be in the public domain. In that case, the Petitioner, which is a non-profit making organisation, filed a fundamental rights application in the public interest seeking disclosure of the vesting order issued under the UDA law vesting Galle Face Green in the UDA, and the agreement entered into by the UDA with a private company to lease it out.

Access to Justice

The right to an effective remedy, meaning access to justice and redress, can be found both in human rights law as well as in environmental law. The United Nations Covenant on Civil and Political Rights calls for states to provide a remedy whenever rights protected under national or international law have been violated. The relaxation of the standing rules to bring proceedings, including the expansion of the scope of public interest litigation, is one way in which the Courts have contributed to enable even those who are economically, socially or otherwise handicapped to safeguard their rights. Providing legal aid to persons who are financially handicapped and unable to meet the costs of litigation is another important aspect of access to justice. The Legal Aid Commission of Sri Lanka was established to give free legal aid to underprivileged sections of the community, which includes providing free legal advice, funding legal proceedings and providing the services of an Attorneys-at-Law to represent such persons. If access to justice is unduly slow and expensive, the rule of law is diminished.[90]

The right to a remedy is not necessarily limited to nationals of a state. For instance, The Fundamental Rights guaranteed by Articles 10, 11, 12(1), 13 of the Constitution, can be availed of by any person in Sri Lanka, whereas, the Fundamental Rights guaranteed under Article 12(2), and 14(1) (a) to (i) are available only to citizens of Sri Lanka. Some agreements contain obligations to grant any aggrieved person a right of access to any administrative or judicial procedures equal to that of nationals or residents.

---

88 S.C. F.R.No. 47/2004, decided on 23.11.2005 – *Environmental Foundation Limited v Urban Development Authority* (the *Galle Face Green* case).

89 Fundamental Right guaranteed under Article 14(1)(a) of the Constitution.

90 Wade, H.W.R. and Forsyth, C.F. 2000. *Administrative Law. 8th edition. Oxford University Press, Oxford, p.23.*

1.2.9 Sri Lanka's Environmental Policies

Sri Lanka has a wide range of environmental policies covering several sectors. In 1988 a National Conservation Strategy was developed. This strategy identified key environmental issues and the ways forward to address environmental degradation in Sri Lanka.

The National Conservation Strategy was then developed to a workable action plan, with the CEA preparing a comprehensive inter-sectoral National Environmental Action Plan (NEAP). The Ministry of Environment updates the NEAP every three years with the participation of key stakeholders.

The initial action plan of 1991, which covered the period 1992-1996, was an important tool to set priorities for environmental planning and management. It identified specific actions, and institutions that were responsible for their implementation and took into consideration the new industrialisation strategy that was formulated in 1989. It was updated in 1993 (to cover the period 1995-1998). [91]

The third NEAP covering the period 1998-2001 dealt with strategies for sustainable development. It also defined the policies, institutional changes and action needed to meet the environmental challenges and provided an analysis of the specific perspectives of nine sectors: land, water, biological resources, coastal and marine resources, industry, minerals, energy, built environment and environmental health.[92]

The fourth revision of the NEAP was termed 'Caring for the Environment: National Agenda for Sustainable Development 2002-2006'.

[91] MENR. 2002. *Sri Lanka's Middle Path to Sustainable Development in the 21st Century: National Report of Sri Lanka to the World Summit on Sustainable Development, 26 August to 4 September 2002, Johannesburg, South Africa.* Ministry of Environment and Natural Resources, Colombo.

[92] *Ibid.*

Table 2: Policies, strategies and action plans related to the environment

Subject area	Policy, Strategy or Action Plan	Relevant institution(s)
Air	National Air Quality Management Policy (2000)* Clean Air 2015 Action Plan for Air Quality Management (2007)	Air Resource Management Centre Ministry of Environment and Natural Resources
Biodiversity	Biodiversity Conservation in Sri Lanka: A Framework of Action (1998)* Forestry Sector Master Plan – to translate policy strategies into action (1995-2020) Invasive Plants Action Plan (draft) National Biosafety Policy (2005) National Forestry Policy (1995)* National Policy on Elephant Conservation and Management (2006)* National Wetland Policy and Strategy (2006)* National Wildlife Policy (2000)*	Department of Wildlife Conservation Forest Department Central Environmental Authority Ministry of Environment and Natural Resources
Cleaner production	National Policy and Strategy for Cleaner Production (2005)*	Ministry of Environment and Natural Resources
Climate change	Climate Change Policy (initial stages) National Climate Change Action Plan (draft) National Policy on Clean Development Mechanism National Strategy for Clean Development Mechanism	Ministry of Environment and Natural Resources
Disaster	National Disaster Management Policy (2008)* National Disaster Management Action Plan (1999)	Disaster Management Centre Ministry of Disaster Management and Human Rights
Energy	National Energy Policy and Strategies of Sri Lanka (2008)*	Ministry of Power and Energy
Environment and sustainable development	Caring for the Environment 2003-2007 – Path to Sustainable Development (National Environmental Action Plan) National Environmental Policy (2003)* Sri Lanka Strategy for Sustainable Development (2008)	Ministry of Environment and Natural Resources
Land	National Land Use Policy	Ministry of Lands

Marine and coastal	Coastal Zone Management Plan (2004)* National Fisheries and Aquatic Resources Policy (2006) Ten-year development policy framework of the fisheries and aquatic resources sector 2007-2016 (2007)	Coast Conservation Department Ministry of Fisheries and Aquatic Resources
Minerals	National Mineral Policy (1999) National Policy on Sand as a Resource for the Construction Industry (2006)*	Geological Survey and Mines Bureau Ministry of Environment and Natural Resources
Ozone	Sri Lanka National Compliance Action Plan on Phasing-out Ozone Depleting Substances (2003)	Ministry of Environment and Natural Resources
Pollution and waste	National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (2006) National Industrial Pollution Management Policy National Industrial Pollution Management Strategy National Policy on Solid Waste Management (2002)* National Strategy for Solid Waste Management (2002)*	Ministry of Environment and Natural Resources Ministry of Environment and Natural Resources Ministry of Science and Technology Ministry of Industries
Resettlement	National Involuntary Resettlement Policy (2001)*	Central Environmental Authority Ministry of Environment and Natural Resources Ministry of Lands
Watershed	National Watershed Management Policy (2004)*	Ministry of Environment and Natural Resources

*Cabinet approved

1.3 Environmental Challenges

1.3.1 The State of the Environment in Sri Lanka

Sri Lanka is rich in natural resources, and has a wide array of ecosystems harbouring a diversity of plants and animals – many which are unique to this island nation. Inadequate enforcement of laws, corruption and population growth have created a number of environmental challenges for the country.

Major issues include the loss of biodiversity and deforestation; pollution of air, water and soil; coastal and marine pollution and degradation; poor solid waste management; and the unsustainable extraction of natural resources. Though many people and businesses are aware of the environmental issues and the impacts they cause to the environment, it is a minority that adhere to environmentally friendly practices, environmental laws and standards. Translating environmental knowledge to environmentally friendly behaviour continues to be a challenge.

Air Pollution

Running out of breath due to air pollution is a reality in some cities across the world. In Sri Lanka too, air pollution is a major environmental challenge. Given that respiratory diseases are among the top causes of hospitalisation and hospital deaths in the country, minimising air pollution should be a top priority.

> **'In Mexico City, Tehran, Kolkata, Bangkok, Shanghai, and hundreds of other cities, the air is no longer safe to breathe. In some cities, the air is so polluted that breathing is equivalent to smoking two packs of cigarettes per day.'**
>
> **~ Lester R. Brown, Author ~**

Air pollution from vehicle emissions is a particular problem in urban areas such as Colombo and Kandy. The high volume and poor maintenance of vehicles, coupled with improper traffic management has led to air pollution in urban areas. However, Sri Lanka's geographical location and meteorological conditions are believed to have prevented air pollution from building up to critical levels. Air pollution can also affect vegetation and agriculture where it reduces yields and makes them less resistant to disease.[93]

Air pollution is the presence of any air pollutant that reduces air quality enough to threaten the health and welfare of people, plants, and animals, to adversely affect

[93] Gerba, C.P. 2006. *Environmental toxicology.* Op. cit.

Acid rain

It is a form of air pollution which is created when transformations occur in the atmosphere involving pollutants such as sulphur dioxide and nitrogen oxides. The main sources of these are vehicle emissions and coal power plants. Various chemical reactions occur in the atmosphere and these pollutants once again reach the ground in the form of rain or by deposition. Acid rain is acidic, with a pH less than 5.6. It can result in the acidification of soil, damaged vegetation and cause fish deaths in water bodies.[94]

materials and structures, and/or to interfere with the enjoyment of life and property.[95] The main causes of air pollution are human activities, which include vehicle emissions, industries and power plants.[96] The main air pollutants are carbon monoxide, hydrocarbons, particulate matter, sulphur dioxide, nitrogen oxides and lead. These pollutants can both directly and indirectly cause health impacts, including breathing problems such as asthma and contribute to heart disease. Air pollution can also affect vegetation and agriculture where it reduces yields and makes them less resistant to disease.[97]

In the early 2000s, the transport sector was the biggest contributor to air pollution in Sri Lanka. This is likely to change and the forecast is that emissions from thermal power (coal and oil) will be higher than the transport sector in the near future. In addition to this, the domestic sector (through cooking and lighting), the industrial sector, the agricultural sector and the burning of solid waste also contribute to air pollution. Air pollution in Colombo can also affect other parts of the country due to the dispersal of pollutants through wind currents.[98]

Water Pollution and Water Resource Management

Sri Lanka developed as a hydraulic civilisation with water resources being managed for over 2,000 years. Despite these words of wisdom by one of Sri Lanka's greatest kings, we continue to waste water, in addition to polluting the very element that keeps us alive. We pollute our waters forgetting that we are poisoning ourselves in the process. The water

> **'Not even a drop of water from the sky must flow into the ocean without being made useful to man.'**
>
> **~King Parakramabahu I ~**

94 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

95 *Ibid.*

96 Matthias, A.D., Comrie, A.C., and Musil, S.A. 2006. Atmospheric Pollution. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science*. 2nd edition. Academic Press, San Diego.

97 Gerba, C.P. 2006. *Environmental toxicology*. Op. cit.

98 MENR. 2002. *Sri Lanka's Middle Path to Sustainable Development in the 21st Century: National Report of Sri Lanka to the World Summit on Sustainable Development, 26 August to 4 September 2002*. Op. cit.

cycle is a closed system. This means that all of the water that exists in the Earth today existed when the planet was first formed. This means that river water polluted by toxic waste may be in a baby's formula in 10 years.[99]

Water is essential for drinking, domestic purposes such as bathing and cooking, for irrigating agricultural land and for industries. Hydropower is used for the generation of electricity, while water resources also support the inland food fishery. From a business perspective water is essential in many industries, especially for food and drink, recreation, tourism, and ornamental fish production. Sri Lanka's freshwater resources are threatened due to pollution and over-extraction, which affects both the quality and quantity of water.[100]

The importance of water as a resource has been recognised since independence, with the highest level of state investment being allocated for the development of water resources for irrigation, hydropower generation and domestic and industrial water supply.[101] Therefore it is of utmost importance to conserve water and have an efficient water management system.

The central highlands are the birthplace of many of the streams and rivers that flow across the country. There are a total of 103 distinct natural river basins. It is estimated that 35 per cent of the water received from rainfall contributes to surface water sources such as rivers and streams, while 20 per cent seeps into soil and is often stored as groundwater. The total amount of water used by the different sectors is not known.[102]

Several human related activities affect the availability of freshwater. The damming and diversion of rivers, establishment of large irrigation and hydropower reservoirs, adverse agricultural practices, pollution, poor water management and over-extraction of groundwater are factors that affect the country's water resources. Siltation is a major problem in reservoirs such as Polgolla and Rantambe, and also in lakes such as the Kandy Lake and Lake Gregory in Nuwara Eliya.[103]

---

99 Fosberg, B. and Faizullah, S. 2004. Don't drink the water. In: Roddick, A. and Biggs, B.S. *Troubled Water*. Anita Roddick Publications, Sussex.

100 MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

101 Madduma Bandara, C.M. 2000. Water Resources of Sri Lanka. In: NSF. 2000. *Natural Resources of Sri Lanka 2000.* National Science Foundation, Colombo.

102 Madduma Bandara, C.M. 2000. Land Resources. In: NSF. 2000. *Natural Resources of Sri Lanka 2000.* National Science Foundation, Colombo.

103 *Ibid.*

Water pollution is the pollution of freshwater, which decreases its purity and often makes it unsuitable for use as a water resource, if not dangerous to human health.[104] Water pollution occurs in both ground and surface water, contaminating many domestic water sources such as wells (groundwater) and rivers (surface water). Water stored in the ground is not only important for drinking and domestic use, but is used for industrial and agricultural purposes as well. In addition, groundwater provides a continuous source of water to springs and rivers, and is important in supporting wetlands.

The main contaminants of groundwater include toxic chemicals such as heavy metals, pesticides, fertilisers, faecal bacteria and viruses.[105] Industrial pollution is a major source of water pollution with industries such as textile dying and bleaching, paper, paints, metal preparation and finishing, cement, asbestos, leather tanning, food processing and distilleries contributing the most to water pollution.

The main pollutants from agriculture are pesticides and fertilisers. Pollutants from urban areas include domestic effluents, urban drainage, untreated industrial waste and inadequately maintained sewage systems. Chromium is a heavy metal from tanneries, and its level in the Kelani river has increased 40 times. It has been suggested that water pollutants may account for the heavy metal accumulation in fish and shellfish in the Negombo lagoon.[106]

Salinity intrusion is another major issue. Salinity intrusion of groundwater occurs when groundwater is used up faster than it is recharged. Salinity intrusion in major rivers such as Kelani and Maha Oya occur due to excessive sand mining.[107] In such cases, salinity barriers are constructed (Maha Oya) to prevent contamination at drinking water intakes, and this comes with a heavy price tag.

Water pollution has various impacts on human health and the environment. Water pollution results in wider environmental problems, especially through eutrophication, a process whereby the water body becomes enriched with nutrients from fertilisers and detergents in municipal waste. This results in the rapid growth of aquatic plants such as algae and bacteria, which in turn reduce both the availability of light and oxygen in water, making it uninhabitable for some species.[108, 109]

---

104 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

105 Hisock, K. 2000. Groundwater pollution and protection. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

106 MENR. 2002. *Sri Lanka's Middle Path to Sustainable Development in the 21st Century: National Report of Sri Lanka to the World Summit on Sustainable Development, 26 August to 4 September 2002*. Op cit.

107 *Ibid.*

108 Walker, D.B., Baumgartner, D.J., Gerba, C.P. and Fitzsimmons, K. 2006. Surface Water Pollution. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science.* 2nd edition. Academic Press, San Diego.

109 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

Soil Pollution

Soil is a 'storehouse of nutrition'. Though it is widely known that plants extract their nutrients from the soil; few realise that humans too get their nutrients from the soil, by consuming these plants. These minerals are essential components of human bones, teeth, blood and nerve cells. The loss of nutrients from the soil means that fruits and vegetables become less nutritious.[110] The impact of the loss of soil fertility therefore does not only affect the agricultural economy, but also the wider society as it affects the health and wellbeing of people.

The soil gets contaminated from landfill sites, sewage sludge, agricultural fertilisers and industries. Since the earliest times, people have resorted to dumping waste into the soil, as a quick and convenient method of getting rid of it. The concentration of heavy metals, and chemical compounds, especially those that persist and do not easily break down, can pose a threat to humans. This can occur if plants take it into their system and humans consume it. Soil can also directly contaminate the air and have an impact on humans, or enter humans if the soil pollutants contaminate surface and ground water.[111] Contaminants in the soil can find their way to other areas of the environment: therefore it is vital to protect the whole environment, including the soil.

Although many countries have recognised the need to protect air and water quality, it is only recently that soils have been afforded similar levels of protection, despite the fact that preventing soil contamination is a key factor in the provision of clean food and water.

Noise Pollution

Noise is a form of pollution that is increasingly degrading our quality of life. The term noise has evolved from the Latin word *nausea*, meaning seasickness. Even in ancient times, noise impacted people – so much so that in Rome legislation was enacted to control movement of wagons with iron wheels to prevent sleep disturbance and annoyance.[112] The challenges of noise in the past, is incomparable with those plaguing modern society.

Noise is prevalent throughout the country and worse in urban areas. Whether it be a loudspeaker along the street corner, or a local factory, noise affects everyone, including school children, employees, the elderly and the sick.

---

110 Bruges, J. 2007. *The Big Earth Book: Ideas and solutions for a planet in crisis*. Op. cit.

111 Ashman, M.R. and Puri, G. 2002. *Essential Soil Science.* Blackwell Science, Oxford.

112 WHO. 2001. *Fact sheet N°258: Occupational and community noise.* Available online from: http://www.who.int/mediacentre/factsheets/fs258/en/print.html [Accessed: 22/07/2009].

The sources of noise can be classified as industrial and community noise. In the case of industrial noise, noise occurs as a by-product of other activities, while community noise sources such as loudspeakers and other amplifiers are intentionally used to make noise. Other sources of noise include vehicles, both from modified exhaust pipes and horning, construction activities, factory machinery, metal quarries and crushers, and generators.

There is mounting evidence of the negative physical and mental effects of noise on humans.[113] The effects of noise can include annoyance, hearing impairment, and adverse physiological effects. Noise affects us in different ways and to varying degrees, depending on our age, habits, health, and mood. Noises can have varying psychological impacts, depending on the level, duration, location, and time of occurrence, and our mental state. More serious effects include interference with verbal communication, reduced work efficiency, and the production of tiredness. Repeated sleep disruptions can lead to poor concentration, mood changes, and stress during the day. The documented physiological effects of noise on humans include changes in heartbeat and blood pressure, and increased respiration.[114]

Noise affects us all, especially our health and wellbeing, subsequently affecting the economy due to the loss of productivity and increased health care costs. Even though some 'adapt' to noise, it affects us whether we are aware of it or not. This is particularly worrying, in that we don't even notice the toll it can take on our body.

Mineral Extraction

Sri Lanka in relation to its size has a rich array of mineral resources. These resources can be harvested to enhance livelihoods and the economy. The vital factor to ensure when extracting such resources is sustainability. The resources available for human exploitation, may it be fossil fuel, gems or sand, have been produced by the forces of nature over millennia. When reaping benefits it is of utmost importance that it is extracted in a manner that will allow future generations also to reap its benefits.

Extraction of natural resources almost always has negative environmental impacts – therefore measures are necessary to ensure these are minimised, and in some cases it might be necessary to limit or even stop extraction or

> **'Earth provides enough to satisfy every man's need, but not every man's greed.'**
>
> **~ Mahatma Gandhi ~**

[113] Artiola, J.F. and McCoII, C.M. 2006. Sensory pollutants, electromagnetic fields, and radiofrequency radiation. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science*. 2nd edition, Academic Press, San Diego.

[114] *Ibid*.

mining activities. Environmental impacts depend on the location of the resource and also the method in which it is extracted.

A mineral resource is any of the naturally occurring substances such as mineral oil, metals, natural gas, salt, sand and stone which are extracted from the Earth's crust and converted into products useful for humans. Mineral resources are normally classified as metallic (iron or aluminium), or non-metallic (fossil fuels, sand and salt).[115] Sri Lanka is rich in non-metallic minerals such as gems, graphite, phosphate and clay. There are many other mineral resources in the country including energy minerals such as uranium and thorium, iron ore, and limestone.[116]

In Sri Lanka, gem and sand mining have raised environmental concerns due to excessive and destructive mining practices. Gem mines and deposits are found in river beds and flood plains. Gem mining is mainly carried out in the Sabaragamuwa Province, with Ratnapura being the hub. Gem mining has major environmental impacts, especially as it occurs in environmentally important and sensitive areas. The most common method of mining is small scale pit mining, with river bed mining also being common. Impacts include land degradation, soil erosion and sedimentation, water pollution and loss of biodiversity. Land degradation has resulted in the landscape changing in some areas, with craters often filled with water. Collapsed and subsided terrain is also a feature of these landscapes. In most cases mine filling is never done properly. It has been estimated that illegal gem mining is as widespread as legally allowed mining pits.[117]

Mining of river sand is widespread in many of the major rivers, including the Kelani Ganga and Maha Oya. Sand that comes down in rivers is necessary to maintain coastal beaches. Beaches are eroded due to both natural and human related reasons, and it is sand from rivers that is vital to replenish sand that is lost from beaches.

Uncontrolled mining of river sand leads to the collapsing of riverbanks, and can affect infrastructure such as bridges and roads. River sand mining also leads to the intrusion of salt water. In the Kelani river, sand

> The beach from the Maha Oya estuary to Lansigama is one of the most eroded coastal areas in Sri Lanka (a stretch of about 13 kilometres), with these high rates being attributed to large scale sand mining in the Maha Oya.[118]

[115] Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

[116] Mubarak, A.M. 2000. Water Pollution. In: NSF. 2000. *Natural Resources of Sri Lanka 2000*. National Science Foundation, Colombo.

[117] Dissanayake, C.B. 2000. Mineral Resources. In: NSF. 2000. *Natural Resources of Sri Lanka 2000.* National Science Foundation, Colombo.

[118] CZMP. 2006. *Coastal Zone Management Plan.* Part I Sec (I) Gazette Extraordinary of the Democratic Socialist Republic of Sri Lanka 2006.

mining has resulted in salt water intrusion. Mining has lowered the river bed, which is now below sea level, which in turn has resulted in the intrusion of salt water up to almost 14 kilometres to the Ambatale reservoir which provides a large supply of Colombo's drinking water.[119] In order to ensure that mining activities are sustainable and to minimise environmental impact, mechanised mining of river sand is prohibited, with traditional methods being allowed.

Quarrying for various rock types is another major type of mining, and can cause loss of biodiversity due to the clearing of top soil and vegetation. It can cause pollution of water and air, damage to property due to vibration, and impacts due to noise and dust. Mining produces vast quantities of almost sterile and structureless geologic materials, such as crushed rock and can contain significant amounts of toxic metals.[120]

Land Degradation

Human activities when carried out haphazardly can devastate and degrade land. The environment needs to be used productively, in a manner that its value is not depleted over time. Land degradation can occur due to a myriad of human activities such as mining, deforestation and irrigation leading to various forms of land degradation such as soil erosion, coastal erosion, landslides and salinisation.

Land degradation is the temporary or permanent decline in the productive capacity of land. Some types of land degradation are considered irreversible (large ditches and pits, extreme salinisation), while most soil degradation is reversible by adding nutrients, re-establishing vegetation and other management practices.[121]

The degradation of land in arid and dry sub-humid areas can lead to desertification, resulting primarily from man-made activities and influenced by climatic variations. According to the Third National Status Report on Land Degradation, Sri Lanka is not a desertification prone country and falls within the context of land degradation and drought mitigation of the UN Convention to Combat Desertification (UNCCD).[122]

---

119 Mubarak, A.M. 2000. Water Pollution. In: NSF. 2000. *Natural Resources of Sri Lanka 2000.* National Science Foundation, Colombo.

120 Artiola, J.F., Walworth, J.L., Musil, S.A. and Crimmins, M.A. 2006. Soil and Land Pollution. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science. 2nd* edition. Academic Press, San Diego.

121 Stocking, M. 2000. Soil erosion and land degradation. In: O'Riordan, T. 2000. *Environmental science for environmental management.* 2nd edition. Prentice Hall, London.

122 MOFE. 2006. *Third National Status Report on Land Degradation Implementation of the UN Convention to Combat Desertification in Sri Lanka*. Available online from: http://www.unccd.int/cop/reports/asia/national/2006/sri_lanka-eng.pdf [Accessed: 25 July 2009].

Land degradation is considered to be one of the most severe global issues. Between 1945 and 2000, 1.2 billion hectares, roughly the size of China and India combined, has eroded to a point where original functions are damaged. Rehabilitating these lands will be costly and time consuming and some areas cannot be reclaimed.[123]

Soil erosion is one of the main processes of degradation. Soil erosion results in the depletion of nutrients, a reduction in production value, and reduces the length of time the soil may be used as a productive resource. Sediments can cause damage to canals, water storage, irrigation schemes and ports and reduce the capacity of reservoirs to generate hydropower.[124]

Salinisation also results in degradation. Salinisation is a soil-forming process that involves the accumulation of an unusually high concentration of dissolved salts, often as a result of large scale irrigation schemes in semi-arid areas, where much of the soil water is evaporated leaving behind the salt residue. Salts can accumulate over time to threshold concentrations at which they become toxic and inhibit commercial agriculture.[125]

In Sri Lanka much of the land degradation occurs due to human activity. Salinisation is a problem in irrigated lands in the North-Western and South-Eastern parts of the dry zone.[126] In the Inginimitiya irrigation system, 364 hectares out of 2,700 hectares in the North-Western part of the dry zone were seriously affected by salinisation, with an estimated loss of Sri Lanka Rupees 21 million in 1999.[127]

Large scale land degradation began in the country with the introduction of commercial plantations in the hill country. This has resulted in a heavy loss of soil, and soil fertility in the highlands, siltation of water bodies, reservoirs and coastal waters. This has also led to declining productivity in agricultural lands and an increase in the impacts of natural hazards such as floods and landslides. It is estimated that 44 per cent of total farmlands in Sri Lanka suffer from some form of land degradation.[128] About 30 per cent of the land

123 Stocking, M. 2000. Soil erosion and land degradation. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

124 *Ibid*.

125 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

126 MEPA. 1991. Sri Lanka National Report. In: MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

127 Gunawardene, N. 1999. Land Degradation and Desertification – Socioeconomic and Environmental Implications in Sri Lanka. MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

128 Hewage, T. 1999. National Strategies and priorities for implementing the Convention on Combating Desertification within the National Policy Framework. In: MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

in the dry zone is degraded and unsuitable for agriculture, and 30 per cent of tea lands in the wet zone are considered to be marginal or uneconomic for continued cultivation.[129]

Energy

Energy is essential for practically everything we do – it gives us the ability to work, move, to cool and heat. Sources of energy include non-renewable resources which are limited in supply and are exhaustible, including fossil fuels such as oil, coal, gas etc. Renewable resources are inexhaustible and include energy from solar, wind, biofuels, geothermal and biomass.

Sri Lanka's per capita energy use has been increasing every year. In 2003, the total energy demand was supplied by a combination of biomass (48 per cent), petroleum (43 per cent) and hydro (9 per cent). In the same year 24 per cent and 25 per cent of the total energy demand came from the industrial and transport sectors. The rest of the demand was from household, commercial and other sectors.

The increasing demand for electricity has been met largely with oil-fired generators and the overall contribution of hydropower has declined.[130] In 2005 electricity generation from thermal power was 60.6 per cent, while the balance 34.4 per cent was generated through hydro.[131] The construction of Sri Lanka's first coal power plant is underway, with plans for more in the future. Apart from new sources of energy, increasing efficiency, reducing wastage and eliminating illegal tapping can also contribute to energy conservation. It is estimated that almost 20 per cent of the energy generated is lost during transmission.[132]

While thermal power generation has a significant impact on air pollution, various forms of environmental degradation also affect the energy sector. A good example is soil erosion and the sedimentation of reservoirs. Soil erosion in the Upper Mahaweli catchment has resulted in the Polgolla reservoir located downstream, which traps 70 per cent of the sediment, being silted up to 44 per cent of its capacity within 12 years

---

129 MOFE. 2000a. Draft National Report on Desertification and Land Degradation. In: MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

130 ECF. 2003. *Sri Lanka Energy Balance 2003: An Analysis of Energy Sector Performance.* Available online from: http://www.energy.gov.lk/manager/pdf/Energy%20Balance%202003.pdf [Accessed: 24/03/2009].

131 CEB. 2005. *Statistical Digest 2005*. Available online from: http://www.ceb.lk/generation/2005%20Statistical%20Digest.pdf [Accessed: 06/04/2009].

132 EFL. 2005. *POWER TO THE PEOPLE? The real issues for electricity reform, EFL Policy Paper,* Environmental Foundation Limited, Colombo.

133 NARESA, 1991. Natural Resources of Sri Lanka: Conditions and trends. In: MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

of its commissioning.[133] Setting up hydropower plants, and reservoirs resulted in forest clearance and loss of biodiversity, especially during the 1980s.[134] Constructing dams leads to the resettlement of communities, the impairment of natural waterways, the loss of forests and wildlife habitat, and the loss of aquatic biodiversity, among other things.[135]

Oil and coal power plants emit greenhouse gases such as carbon dioxide which contribute to climate change, while combustion can cause air pollution and adverse environmental and health effects.

The Sustainable Energy Authority was recently set up to ensure enhanced energy security, the increased use of indigenous energy sources and greater energy efficiency. The Authority aims to have 10 per cent of all energy forms generated from non-conventional renewable energy resources by 2017.[136] Studies have indicated that Sri Lanka has potential for obtaining a significant portion of electricity from wind and solar power.[137]

Waste: Solid Waste, Toxic and Hazardous Waste, E-Waste

Piles of garbage lining the streets, overflowing dumps and mountains of solid waste are indicators of one of the most visible and serious environmental issues facing society today. Apart from the eyesore it creates, more serious implications are the health hazards created by improper disposal of waste. All forms of human activity result in the generation of waste which can harm the environment, while careful management and minimisation of waste can limit the damage to the environment, while conserving scarce resources.

Solid waste consists of solid materials which are discarded from industrial, commercial, mining or agricultural operations. It includes materials discarded from community activities, also known as garbage, refuse or rubbish.[138]

Different types of waste are identified according to their source, for example household waste, industrial waste and sewage sludge. Many countries including Sri

134 MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

135 WCD. 2000. *Dams & Development: A new framework for decision-making – an overview*. Available online from: http://www.dams.org//docs/overview/wcd_overview.pdf [Accessed: 06/04/2009]

136 SLSEA, 2009. *Energy Policy*. Available online from: http://www.energy.gov.lk/energypolicy/energypolicy.php [Accessed: 25/03/2009].

137 USAID. 2003. *Solar and Wind Energy Resource Assessments for Stimulating Investment*. Available online from: http://www.usaid.gov/our_work/economic_growth_and_trade/energy/publications/projects/sasia_resassess.pdf [Accessed: 06/04/2008].

138 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

Lanka encourage a hierarchy of waste management, which generally favours waste minimisation, reuse and recycling over landfill and incineration. This strategy is commonly known as the 3R principle: reduce, reuse and recycle. It is inevitable that even with a strict adherence to the 3R principle, landfills will be required for certain types of wastes. Despite a commitment to the 3R principle landfills remains the main disposal method in many countries including Sri Lanka.

Recovery of waste materials can be done in two ways: reuse and recycling. Reuse entails packaging being used more than once in the same system (e.g. returnable glass bottles). Recycling is the reuse of materials to make similar or new products (e.g. plastic bottles).

The two main methods of recovering energy from waste are landfill gas and combustion.[139] In Sri Lanka the composition of waste is such that incineration of waste is not cost effective, due to the high organic and moisture content.[140] Composting is the decomposition of biodegradable waste which results in a fertiliser rich in nutrients.[141, 142]

At present, the main problem pertaining to solid waste in Sri Lanka is the haphazard disposal of waste and poor solid waste management. In addition, the amount of waste being generated is increasing, along with the quantity of non-degradable waste because of poor packaging. There is a lack of adequately constructed landfills and poor collection and sorting of waste. Illegal open dumps are common, with wetlands often being the victim. Impacts of poor solid waste management include the breeding of disease vectors such as flies, landfill liquid (leachate), groundwater pollution and landfill gas (including methane, a greenhouse gas).

Hazardous waste is waste material that is reactive, toxic, corrosive, or otherwise poses a hazard to human health and the environment.[143] Hazardous wastes need special collection and disposal. Toxic (poisonous) and hazardous wastes are generated mainly in the industrial and medical sectors, and are being generated in increasing quantities. Hazardous wastes include heavy metals, oil, agrochemicals, paints, varnish and asbestos waste.[144]

---

139 Powell, J.C. and Craighill, A. 2000. Waste Management. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

140 De Alwis, A. 2006. Environmental Impact of incineration as a means of solid waste disposal. In: CES and EFL. 2006. *Seminar on Solid waste management in Sri Lanka: opportunities and constraints*. Department of Civil Engineering, Peradeniya.

141 Powell, J.C. and Craighill, A. 2000. Waste Management. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

142 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

143 *Ibid*.

144 Mubarak, A. M. 2000. Water Pollution. In: NSF. 2000. *Natural Resources of Sri Lanka 2000*. National Science Foundation, Colombo.

Electronic waste has increased with the increased use of electronic equipment. It is commonly referred to as E-waste or Waste Electrical and Electronic Equipment (WEEE). It usually includes surplus, obsolete, broken, or discarded electrical or electronic devices, which include computers, microwaves and other electronic appliances. The processing of electronic waste in developing countries causes serious health and pollution problems due to a lack of containment. Electronic waste often contains heavy metals which pose a great risk to human health. In addition, 'end of life vehicles' are also becoming a major issue in Sri Lanka.[145]

Disasters

Disasters are taking the toll on human lives around the globe, with severe implications for society, the economy and the environment. Disasters and environmental degradation create serious problems around the world and are inherently linked.

A disaster is a hazard event (natural or induced) that seriously disrupts the normal functions of society and causes widespread human, material or environmental losses and which exceeds the ability of the affected society to cope using its own resources.[146]

Some natural disasters such as tsunamis, earthquakes and volcanoes occur due to natural causes such as the movement of the Earth's plates. Disasters such as flooding, drought and landslides can be a result of natural causes and can also be worsened or triggered by human activities. For example, flooding can occur due to natural climatic conditions, or be made worse by human-induced climate change. Irrespective of whether a disaster occurs due to natural or human causes, all disasters may have negative impacts on the environment, and in turn can impact negatively on society as a whole.

Hazards are categorised into natural and technological hazards. A natural hazard is a process or event in the physical environment that is not caused by humans, it is not entirely predictable, but can injure or kill people and damage property. Examples include natural processes such as volcanoes and earthquakes, river flooding, droughts, and landslides. The challenges of dealing with natural hazards have increased as result of population increases, human impacts on environmental systems and technology.[147]

---

145 EFL. 2007. *Climbing out of the garbage dump: managing Colombo's solid waste problem*. Environmental Foundation Limited, Colombo.

146 Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

147 *Ibid.*

Technological hazards are hazards created by people, as opposed to a natural hazard. Examples include the release of air pollutants such as CFCs, serious industrial accidents such as oil spills, explosions at toxic chemical plants, and the creation of waste materials that are toxic and persistent and which natural environmental systems are incapable of breaking down.[148]

Integrating environmental concerns at the disaster risk reduction stage is vital, and proper planning and environmental conservation can minimise or mitigate the impacts of disasters. For example preventing deforestation in the highlands, especially those on steep and sensitive slopes, can reduce the occurrence or severity of landslides. Once a disaster occurs it is essential to integrate environmental concerns during reconstruction and during the relief stages. Site selection for reconstruction can have major environmental implications. Ignoring environmental concerns can lead to the depletion of natural resources, and impact on various components of the environment. This can also exacerbate the impacts of future disasters.

Biodiversity and Protected Areas

Biodiversity or biological diversity describes the variety of life. It means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between species and of ecosystems.

Sri Lanka has a rich biodiversity and is home to a wide array of fauna, flora and ecosystems. The biodiversity of the country is recognised as being globally important. Sri Lanka along with the Western Ghats of India, has been identified as one of the 34 biodiversity hotspots in the world. A

Table 3: Sri Lanka's biodiversity[149]

Group of species	Number of species	Endemic species
Vertebrate fauna (with backbone)		
Mammals	91	16
Birds	482	33
Reptiles	171	101
Amphibians	106	90
Freshwater fish	82	44
Invertebrate fauna (without backbone)		
Bees	148	21
Butterflies	243	20
Flora		
Flowering plants	3,771	926
Ferns	348	48

[148] Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Op. cit.

[149] IUCN and MENR. 2007. *The 2007 Red List of Threatened Fauna and Flora of Sri Lanka*. IUCN and Ministry of Environment and Natural Resources, Colombo.

Sri Lanka's Protected Area System[150]

Forest Department:

Proposed Forest Reserves, Forest Reserves, Conservation Forests, and National Heritage Wilderness Areas.

Total area: 2.2%

Department of Wildlife Conservation:

Strict Natural Reserves, National Parks, Nature Reserves, Jungle Corridors and Sanctuaries.

Total area: 12.4%

hotspot is an area with a high level of endemism but facing extreme threats, because it has already lost at least 70 per cent of its original natural vegetation.

Sri Lanka's biodiversity provides a multitude of benefits to people. Montane forests and forests in the wet zone not only contain a high level of biodiversity, but are also important watershed areas for the many rivers that spring from these areas. Forests in general are important for the regulation of climate, provision of non-timber forest products such as rattan, wild foods, fruits, medicinal plants, timber and as a carbon sink.

In addition to forests, wetlands are vital ecosystems. Wetlands are land that is covered with water for at least part of each year, and are thus transitional between terrestrial and aquatic ecosystems. Wetlands in Sri Lanka are categorised into three broad categories: (i) inland natural freshwater wetlands (e.g. rivers, streams, marshes, swamp forests and villus); (ii) marine and salt water wetlands (e.g. lagoons, estuaries, mangroves, sea grass beds, and coral reefs) and (iii) human-made wetlands (e.g. tanks, reservoirs, rice fields and salterns). Wetlands are vital for the mitigation of floods, prevention of coastal erosion, retention of sediments, purification of water and the removal or toxic compounds, and as breeding habitats for edible fish and a carbon sink.[151]

Protected areas have been established to protect biodiversity and their ecosystem services. Sri Lanka's protected area system harbours various species and a wide variety of ecosystems. These include forests, wetlands, grasslands, sand dunes and also coastal and marine ecosystems.

The protected area network covers over 14 per cent of the country's land area, which include areas under the Department of Wildlife Conservation and the Forest Department. Despite this, Sri Lanka's biodiversity remain threatened. While some areas are not included in the protected area system, even those within the system still face threats. The biggest threats to the protected area system and biodiversity in general come from

[150] IUCN. 1997. *Designing an optimum protected area's system for Sri Lanka's natural forests.* IUCN, Colombo.

[151] IUCN and CEA. 2006. *National Wetland Directory of Sri Lanka*. Central Environmental Authority, Colombo.

encroachment, illegal extraction of natural resources, clearing for agriculture, forest fires, development projects and poaching.

Sri Lanka's natural (closed canopy) forest cover stood at 80 per cent in 1881, and declined drastically due to agriculture and plantations during the colonial times. In 1956, 44 per cent of the country was covered in forest. Even after independence the country's forest cover continued to decline. In 1983 the forest cover was 26.6 per cent, while it further declined to 23.88 per cent by 1992.

If one compares the rate of forest loss between 1881 to 1956, and 1956 to 1992 the rate of deforestation calculated per year is higher post independence than during the colonial period. According to the Sri Lanka Forestry Sector Master Plan, the extent under closed canopy forest cover is expected to decline to about 17 per cent by 2020 if preventative action is not taken.[152] Many of the forests in the country are small and fragmented, and with some being too small to sustain viable populations of various animals in the long term. The biodiversity rich wet zone forests are less represented in Sri Lanka's protected area network.[153]

According to the latest IUCN Red List for Sri Lanka districts in the lowland wet zone (i.e. Galle, Matara, Ratnapura, Kalutara and Kegalle) and the central highlands (Kandy, Matale, Nuwara Eliya and Badulla) tend to harbour a higher number of threatened species. These districts include extremely vulnerable tropical forest ecosystems such as lowland rainforests and montane forests, which occupy less than four per cent of the land area of Sri Lanka.[154]

Marine and Coastal Environment

Sri Lanka's rich biodiversity extends well beyond its 1,585 kilometres of coastline, to the sea.

The marine environment is essential and provides many services that are vital for life. Usually our marine environment suffers from the 'out of sight, out of mind' syndrome. The earth's lungs are not just forests on land. Marine plants, algae, plankton also capture vast amounts of oxygen and release oxygen. Oceans are where life began on Earth and they are essential for its continued existence.

People have depended upon the seas for many thousands of years for food and transport. However, the benefits of the marine environment extend far beyond this.

[152] MALF. 1995. *Sri Lanka Forestry Sector Master Plan*. Ministry of Agriculture, Lands and Forestry, Sri Lanka.
[153] IUCN. 1997. *Designing an optimum protected area's system for Sri Lanka's natural forests*. IUCN, Colombo.
[154] IUCN and MENR. 2007. *The 2007 Red List of Threatened Fauna and Flora of Sri Lanka*. IUCN, Colombo.

More recently it has been found that the oceans play an important role in controlling our climate. The oceans are a source of renewable energy, in the form of wave and tidal power and are also an important carbon sink. It is also the habitat of an impressive variety of marine species which are essential for the fisheries industry and to maintain the ocean's ecosystem services. The many coral reefs harbour a wide range of marine species.[156, 157]

The Coast Conservation Act[155] of Sri Lanka defines the coastal zone as 'the area lying within a limit of three hundred metres landwards of the Mean High Water Line and a limit of two kilometres seawards of the Mean Low Water Line and in the case of rivers, streams, lagoons or any other body of water connected to the sea either permanently or periodically, the landward boundary shall extend to a limit of two kilometres measured perpendicular to the straight base line drawn between the natural entrance points thereof and shall include the waters of such rivers, streams, lagoons or any other body of water so connected to the sea'.

Sri Lanka's rich biodiversity extends to the coastal and marine environment as well. Sri Lanka's marine and coastal ecosystems include mangrove habitats, salt marshes, sand dunes and beaches, mud flats, seagrass beds, lagoons, estuaries, coral reefs and coastal seas. Each of these ecosystems provides a wide range of services, while they are also vital for livelihood activities such as fishing.[158]

Lagoons and estuaries are important coastal ecosystems, which are complex systems which include mangroves and marshes. They are also home to various edible invertebrates including shrimps and crabs. Major threats to lagoons and estuaries include pollution from sewage and industries, siltation, over harvesting of edible species and sand mining.[159, 160] It is estimated that about 1,800 species of fish inhabit the coastal and marine environment. Notable biodiversity also include five species of marine turtles, 183 species of coral and over 20 species of dolphin.[161]

---

155 Section 42 of Coast Conservation Act No. 57 of 1981.

156 Meredith, M.P., Wade, I.P., McDonagh, E.L. and Heywood, K.J. 2000. Managing the Oceans. In: O'Riordan, T. 2000. *Environmental science for environmental management*. 2nd edition. Prentice Hall, London.

157 UNEP. 2007. *Global Environmental Outlook – GEO 4: Environment for development*. Available online from: http://www.unep.org/geo/geo4/report/GEO-4_Report_Full_en.pdf [Accessed: 07/04/2009].

158 MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Ministry of Environmental and Natural Resources, Colombo.

159 MOFE. 1999. *Biodiversity Conservation in Sri Lanka: A Framework for Action.* Ministry of Forestry and Environment, Sri Lanka.

160 MOFE. 1999. *A National Action Plan for Protection of Marine and Coastal Environment from Land Based Activities.* Ministry of Forestry and Environment (unpublished).

161 MENR. 2002. *State of the Environment in Sri Lanka: A National Report Prepared for the South Asian Association for Regional Cooperation*. Op. cit.

The oceans have been used as a rubbish dump for decades. The effects of this are now coming to light, as things we dump do not disappear - just because they are out of sight! For example, persistent organic pollutants (POPs) and heavy metals are taken up by marine plants. These are consumed by small fish, and in turn eaten by bigger fish, until it reaches our plates in a more concentrated form. Unsustainable fishery practices have affected marine biodiversity with the near shore areas being over-fished. Illegal catching of marine mammals, oil from boats and ships, spread of invasive alien species through the release of ballast water from ships, dynamite fishing, fishing methods that increase by-catch of unintended species and destruction of reefs due to fishing techniques are some of the major issues affecting the marine environment.[162, 163]

The coastal environment is facing erosion due to coral mining, improper construction, and sand mining along the seashore and in rivers. Sand mining in rivers reduces the flow of sand to coastal areas, preventing the replenishment of sand which is eroded by the sea. In addition to this, illegal constructions along the coast, pollution from inland areas have also led to the degradation of the coastal environment.[164, 165]

1.3.2 Transboundary Environmental Issues

Transboundary pollution occurs when a pollutant is carried by natural processes across national or state boundaries.[166] An environmental issue which may seem localised can easily become a transboundary issue. Air pollution and acid rain (discussed previously) can spread beyond borders while marine pollution can flow through the seas affecting many other areas. Some of the major transboundary issues such as ozone depletion and climate change will be discussed in this section. In some countries where there are terrestrial borders, many more transboundary issues come into play. Sri Lanka being an island does not face the issues that countries with terrestrial borders face.

Ozone Depletion

The 'hole in the ozone layer' was a new environmental phenomenon that caught public attention in the 1980s. It is known not only for the seriousness of its health and other impacts, but also as a success story in combating emerging environmental issues.

---

162 MOFE. 1999. *Biodiversity Conservation in Sri Lanka*. Op. cit.

163 MOFE. 1999. *A National Action Plan for Protection of Marine and Coastal Environment from Land Based Activities.* Op. cit.

164 MOFE. 1999. *Biodiversity Conservation in Sri Lanka: A Framework for Action.* Op. cit.

165 MOFE. 1999. *A National Action Plan for Protection of Marine and Coastal Environment from Land Based Activities.* Op. cit.

166 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

The ozone layer occurs in the upper part of the Earth's atmosphere (stratosphere) that contains a relatively high concentration of ozone. It is the thinning of this layer that is referred to as the 'hole'. The ozone layer has many important benefits as the layer shields the Earth from ultraviolet (UV) radiation. The depletion of the ozone layer, is caused by certain compounds, termed ozone depleting substances (e.g. CFCs), which destroy ozone molecules, resulting in the thinning of this layer.

> In 1985 scientists discovered a seasonal thinning, the size of the USA, in the ozone layer over the Antarctic. Field monitoring showed that there was a 40% thinning in the ozone layer, with evidence suggesting that the hole was growing bigger through time. The main cause of the thinning was believed to be a three-fold increase in atmospheric CFCs within ten years.[167]

The depletion of the ozone layer was of much concern as the damage to the ozone layer meant that more UV radiation reached the Earth's surface affecting human health. Exposure to UV radiation can result in skin cancers, cataracts (which can lead to blindness), damage DNA, and weaken the natural immune system.[168] Agricultural crops would be scorched and yields would fall, damage to ocean ecosystems can result in reduced fishing yields, while having adverse effects on animals.[169, 170]

The Vienna Convention for the Protection of the Ozone Layer was endorsed by the global community in 1985. The Montreal Protocol on Substances that Deplete the Ozone Layer was further adopted in 1989 and strengthened the work towards a faster phase-out of CFCs in industrialised countries.[171] Developing countries have been given a grace period before they start their phase out activities.[172]

Sri Lanka is a signatory to the Montreal Protocol and has set up the National Ozone Unit to fulfil the commitments under the protocol by phasing out ozone depleting substances in the country. Under the Protocol, the consumption of CFCs should be controlled, and be phased out by January 2010, while control of other compounds have been given more time. Various projects are being carried out to eliminate, substitute and recycle ozone

---

167 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

168 Gerba, C.P. 2006. Environmental toxicology. In: Pepper, I.L., Gerba, C.P. and Brusseau, M.L. *Environmental and Pollution Science*. 2nd edition. Academic Press, San Diego.

169 UNEP. 2007. *Presentation of the synthesis report of the 2006 assessments of the Scientific Assessment Panel, the Environmental Effects Assessment Panel and the Technology and Economic Assessment Panel.* Available online from: http://ozone.unep.org/Meeting_Documents/oewg/27oewg/OEWG-27-3E.pdf [Accessed: 1/04/2009].

170 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

171 *Ibid.*

172 UNEP. 2007. *Presentation of the synthesis report of the 2006 assessments of the Scientific Assessment Panel, the Environmental Effects Assessment Panel and the Technology and Economic Assessment Panel.* Op. cit.

depleting substances. The main industries using these substances include the refrigerant and air conditioning sector and the garment manufacturing industry (as a solvent and for dry cleaning). Fire extinguishing equipment also contains ozone depleting substances. However, Sri Lanka does not export or produce equipment containing ozone depleting substances.[173]

It is estimated that without the Protocol, by 2050, ozone depletion would have risen to at least 50 per cent in some areas, and as high as 70 per cent in some others, with the amount of ozone depleting chemicals in the atmosphere being five times greater. The implications of this would have been horrendous, with estimates of 19 million more cases of non-melanoma cancer, 1.5 million more cases of melanoma cancer, and 130 million more cases of eye cataracts, than with the current version of the Montreal Protocol. Success to date has been outstanding. Globally, the Montreal Protocol has by 2006 resulted in the phasing out of over 96 per cent of all ozone depleting substances. As most of these substances are also potent greenhouse gases, the Protocol has also delivered substantial climate benefits.[174]

Outside of the Polar Regions the ozone layer has shown some initial signs of recovery and the decline of stratospheric ozone seen in the 1990s has not continued. Assuming continued compliance with the Protocol, global ozone levels in some areas are estimated to recover to the pre-1980 values around 2050.

However, ozone loss in the Polar Regions will remain large and highly variable in the coming decades, and the Antarctic ozone hole will persist longer than previously estimated. Failure to continue to comply with the Montreal Protocol could delay or even prevent the recovery of the ozone layer. Adhering to the 'precautionary approach' in this case has proved to be correct, as waiting for complete scientific proof could have delayed action to the point where the damage would have become irreversible.

Climate Change

Climate change is often referred to as the 'greatest challenge of our time', and thought to be a bigger threat to the world than terrorism. Rising seas, erratic weather patterns, melting ice, expanding deserts, vanishing species are all associated with climate change and predictions indicate a doomsday scenario if action is not taken now. It has been said that saving civilisation will take a massive mobilisation, and at wartime speed.

---

173 MENR. 2009. *National Ozone Unit*. Available online from: http://www.noulanka.lk/ [Accessed: 15 July 2009].

174 UNEP. 2007. *Presentation of the synthesis report of the 2006 assessments of the Scientific Assessment Panel, the Environmental Effects Assessment Panel and the Technology and Economic Assessment Panel.* Op. cit.

The Earth's climate has changed and continues to change through natural processes. The recent concerns however, have arisen because human activities have led to climate change that is occurring at a rate faster than natural processes.

> **'Everything that has ever happened in all of human history, has happened on that pixel [Earth]. All the triumphs and all the tragedies, all the wars all the famines, all the major advances... it's our only home. And that is what is at stake, our ability to live on planet Earth, to have a future as a civilisation. I believe this is a moral issue, it is your time to cease this issue, it is our time to rise again to secure our future.'**
>
> **~Al Gore,**
>
> **Co-winner of the Nobel Peace Prize 2007 ~**

Global warming refers to the increase in the temperature of the troposphere (lowest portion of the atmosphere), which has occurred in the past as a result of natural processes but is now believed to be accelerating as a result of increased emissions of greenhouse gases associated with burning of fossil fuels. The natural greenhouse effect is essential for life on Earth, and keeps the planet some 30°C warmer than it would otherwise be. Greenhouse gases include water vapour, carbon dioxide, methane and CFCs. Scientists expect global warming to change world climate in a number of ways.[175]

Fossil fuels (oil, coal, natural gas) have emerged as the major contributor to climate change. The primary source of the increased atmospheric concentration of carbon dioxide since the pre-industrial period results is fossil fuel use. Changes in land use have also contributed to climate change.[176]

Carbon dioxide is produced when fossil fuels are used to generate energy. It is also generated when forests are cut down and burned. Methane and nitrous oxide are emitted from agricultural activities, changes in land use, and other sources, while artificial chemicals such as CFCs are released by industrial processes.

According to Sri Lanka's National Communication to the Intergovernmental Panel on Climate Change (IPCC) in 2000, land use change and forestry, energy and transformation industries and other industries are the biggest contributors to greenhouse gas emissions in the country.

---

175 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

176 IPCC, 2007: Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Predicted impacts of climate change in Sri Lanka[177]

Sea level rise - Inundation, coastal erosion, salt water intrusion.

Rising temperatures - Bleaching of coral reefs and subsequent damage, increased evaporation from reservoirs impacting on hydroelectricity generation, reduction in crop yields, outbreaks of crop diseases, pests, health impacts from heat.

Increased droughts - Reduction in water availability, reduction in power generation from hydroelectricity, impacts on irrigation for agriculture, spread of disease due to lack of water.

Increased rainfall - Floods, soil erosion, impacts on agriculture, spread of disease.

Statistical analyses of the temperature data have shown that temperatures in Sri Lanka have been increasing by approximately 0.16°C per decade. Rainfall trends were found to be complex, with some areas showing less rainfall while other areas showed an increase.[178]

According to the most recent assessment by the IPCC in 2007, climate change is affecting global temperature, sea level and precipitation. It has been predicted that this warming, along with the rise in sea levels, would continue for centuries due to the timescales associated with climate processes, even if greenhouse gas concentrations were to be stabilised.

Temperature increase and rises in sea levels will vary and will be linked to the amounts of fossil fuels consumed. The forecast is that world temperatures could rise between 1.1°C and 6.4°C this century, with sea levels predicted to rise by 18 to 59cm. In addition, there will be more frequent warm spells and heavy rainfall, increase in droughts, tropical cyclones and extreme high tides. These climatic changes will have an impact on the environment and will affect various sectors including agriculture, biodiversity, human health, water, poverty and the economy.[179]

According to the IPCC assessment, new evidence shows that climate change has affected many sectors in Asia, as seen by rising temperatures and extreme weather events. Future climate change is likely to affect agriculture, marine and coastal ecosystems, human health, risk of hunger and water availability.[180]

[177] MOFE. 2000. Initial National Communication under the United Nations Framework Convention on Climate Change Sri Lanka. Ministry of Forest and Environment, Colombo.

[178] *Ibid.*

[179] IPCC. 2007. Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Op. cit.

[180] Cruz, R.V. et al. 2007. *Asia. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J. and Hanson, C.E. Eds., Cambridge University Press, Cambridge, UK, 469-506.

There are several ways of responding to climate change. One mechanism is to mitigate the impacts of climate change which would involve reducing the sources of greenhouse gases, or enhancing the uptake of these gases (e.g. through reforestation). The rate of carbon dioxide build-up in the atmosphere can be reduced by taking advantage of the fact that carbon can accumulate in vegetation and soils in terrestrial ecosystems. Energy efficiency, cleaner production and the utilisation of renewable energy offer mitigation options for reducing the sources of greenhouse gases.

While mitigation is of utmost importance, even with substantial mitigation activities, some degree of climate change will occur and therefore adaptation to climate change will become necessary in certain regions. Adaptation actions include water resources planning, coastal defence, and disaster risk reduction strategies. The capacity to adapt will be influenced by natural and human-made capital assets, human capital and institutions, governance, national income and technology.

1.4 General Environmental Principles

1.4.1 Sustainable Development

The most widely used definition of sustainable development is the one coined by the World Commission on Environment and Development. It defines sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.[181] Sustainable development has emerged as a new paradigm of development, integrating economic growth, social development and environmental protection as interdependent and mutually supportive elements of long-term development. It emphasises a participatory, multi-stakeholder approach to policy making and implementation, mobilising public and private resources for development and making use of the knowledge, skills and energy of all social groups concerned with the future of the planet and its people.[182]

Sustainability is very much about what kind of a legacy we want to leave for our children and grandchildren.

[181] Bruntland, G. (ed.). 1987. *Our common future: The World Commission on Environment and Development*, Oxford University Press, Oxford.

[182] UN. 2002. UN. 2002. Global Challenge Global Opportunity: Trends in Sustainable Development. Available online from: http://www.un.org/esa/sustdev/publications/critical_trends_report_2002.pdf [Accessed: 20 July 2009].

The idea of sustainability emerged in the 1970s, with the UN Stockholm Conference on the Human Environment being the first major international meeting that considered how human activities were harming the environment and were putting humankind at risk.

In 1987, the UN sponsored Brundtland Commission released 'Our Common Future', a report that captured widespread concerns about the environment and poverty. It pointed out that while economic development cannot stop, it must change course to fit within the planet's ecological limits. [183]

The principle of sustainable development contains two concepts:

(i) The concept of 'needs', in particular the essential needs for the world's poor to which overriding priority should be given; and

(ii) The idea of limitations imposed by technology and social organisation on the environment's ability to meet present and future needs. [184]

The 1992 UN Conference on Environment and Development, in Rio de Janeiro, Brazil brought together the heads and senior officials of 179 governments. In Rio it was agreed that the protection of the environment and social and economic development are fundamental to sustainable development. The Rio Conference was a significant milestone that set a new agenda for sustainable development.

In 2002, a follow up conference was held in Johannesburg, South Africa to reaffirm commitment to the Rio Principles, the full implementation of Agenda 21 (which was the environmental agenda for the 21st century) and the Programme for the Further Implementation of Agenda 21. The summit resulted in the development of a Johannesburg Plan of Implementation which focuses on various topics including poverty eradication, changing unsustainable patterns of consumption and production, protecting and managing the natural resource base of economic and social development and the link between human health and sustainable development.

Environment and development must be viewed as being on the same side of the coin, rather than being on the two sides of the coin. New technologies and innovations have already shown that development can occur with minimum impact on the environment. Renewable energy, cleaner production and green building are just a few concepts which illustrate this.

[183] Bruntland, G. (ed.). 1987. *Our common future: The World Commission on Environment and Development*. Op. cit.

[184] *Ibid*.

Renewable energy is energy that is obtained from sources that are for all practical purposes inexhaustible. This includes moving water (hydroelectric power, tidal power and wave power), thermal gradients in ocean water, biomass, geothermal energy, solar energy and wind energy.[185] Renewable energy sources will play a key role in reducing greenhouse emissions, and in the stabilisation of the global climate. New technological innovations like hybrid and electric vehicles will also make a contribution.

Green building or sustainable building is an outcome of a design which focuses on increasing the efficiency of resource use: energy, water, and materials. Green buildings are designed to reduce the overall impact on environment and human health by efficiently using energy, water, and other resources, protecting occupant health and improving employee productivity, and by reducing waste, pollution and environmental degradation.[186]

Cleaner production promotes the application of pollution free production in industrial companies. It is a continuous application of an integrated preventative environmental strategy introduced in the areas of production process, products and services in order to generate an eco-friendly output and reduce risk to humans and the environment. It focuses on reducing the natural resources consumed per unit of product or service, and minimises the impact of pollutants. This results in enhanced revenues and profitability as well as lower costs of production. It is a win-win-win approach where the industry, environment and society benefit equally.[187]

There are four key elements of 'sustainable development', as reflected in international agreements:

(i) Preserving natural resources for the benefit of future generations also known as the principle of 'intergenerational equity'.

(ii) Exploiting natural resources in a manner which is sustainable, prudent, rational, wise and appropriate, also known as the principle of 'sustainable use'.

(iii) The equitable use of natural resources, which implies that use by one state, must take into account the needs of other states (the principle of 'equitable use').

(iv) Ensuring that environmental considerations are integrated into economic and development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives also known as the principle of 'integration'.

---

185 Park, C. 2008. *Oxford Dictionary of Environment and Conservation.* Op. cit.

186 EPA. 2009. *Green Building*. Available online from: http://www.epa.gov/greenbuilding/pubs/about.htm#1 [Accessed: 06.06.2009].

187 NCPC. 2009. *National Cleaner Production Centre.* Available online from: http://www.ncpcsrilanka.org/ [Accessed: 06/05/2009].

The International Court of Justice invoked the concept of sustainable development in the *Gabcikovo-Nagymaros Project* case where Hungary and Slovakia both agreed that the principle of sustainable development, as formulated in the Brundtland Report, was applicable to the dispute between them.[188] The term 'development' was interpreted in this case to mean 'development not merely for the sake of development and the economic gain it produces, but for its value in increasing the sum total of human happiness and welfare'.[189]

The principle of sustainable development has been recognised in Sri Lankan law and policy for many years.[190] In the *Eppawela phosphate mining* case, the Supreme Court of Sri Lanka made detailed reference to and relied on the principle of sustainable development in reaching its conclusions.[191] In that case the Court observed:

> *'… the human development paradigm needs to be placed within the context of our infinite environment, so as to ensure the future sustainability of the mineral resources and the water and soil conservation ecosystems of the Eppawela region, and of the North Central Province and Sri Lanka in general. Due account must also be taken of our renewable cultural heritage. Decisions with regard to the nature and scale of activity require the most anxious consideration from the point of view of safeguarding the health and safety of the people …., ensuring the viability of their occupations and protecting the rights of future generations of Sri Lankans.'*[192]

In *Gunaratne v The Homagama Pradeshiya Sabha*, the Supreme Court held that publicity, transparency and fairness are essential if the goal of sustainable development is to be achieved. [193]

1.4.2 Emerging Principles and Concepts of Sustainable Development

The main principles of sustainable development were discussed as far back as 1972, and were reaffirmed in the subsequent world summits on sustainable development. In total there are 27 such principles. They recognise that 'human beings are at the centre of concerns for sustainable development' and 'are entitled to a healthy and productive life in harmony with nature'.

188 (1997) ICJ Reports 78.

189 Per Judge Weeramantry.

190 MENR. 2002. *Sri Lanka's Middle Path to Sustainable Development in the 21st Century: National Report of Sri Lanka to the World Summit on Sustainable Development, 26 August to 4 September 2002, Johannesburg, South Africa*. Op cit.

191 *Bulankulama v Secretary, Ministry of Industrial Development* (the *Eppawela phosphate mining* case) [2000] 3 Sri L.R. 242.

192 Page 279.

193 [1998] 2 Sri L.R. 11.

Principles 11 and 13 of the Brundtland Report highlight the need for environmental legislation, with Principle 13 focusing on the laws on liability and compensation for the victims of pollution and other environmental damage.

Some key principles of sustainable development[194]

Sustainable Development, Integration and Interdependence

PRINCIPLE 4: In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

PRINCIPLE 25: Peace, development and environmental protection are interdependent and indivisible.

Environmental Impact Assessment

PRINCIPLE 17: Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

Polluter pays

PRINCIPLE 16: National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

Precaution

PRINCIPLE 15: In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Public rights: participation, access to justice

PRINCIPLE 10: Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Inter-generational equity

PRINCIPLE 3: The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

[194] UNCED. 1992. *Rio Declaration on Environment and Development. United Nations Conference on Environment and Development.* Available online from: http://www.un-documents.net/rio-dec.htm [Accessed: 06/05/2009].

1.4.3 Precautionary Principle

The 'precautionary principle' is reflected in the Rio Declaration on Environment and Development of 1992 in the following manner:

> *'Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'* [195]

This principle basically imposes a duty to foresee and assess environmental risks, to warn potential victims of such risks and to act in ways that prevent or mitigate such risks.

The Indian Supreme Court[196] explained that the meaning of the precautionary principle (in the context of municipal law) in the following way:

(i) The state government and statutory authorities must anticipate, prevent and attack the causes of environmental degradation.

(ii) Where there are threats of serious and irreversible damage, the lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(iii) The onus of proof is on the actor or the developer to show that his action is environmentally benign.

Although the precautionary principle or the approach advocated by this principle has now received widespread support by the international community in relation to a broad area of subjects, there is still no clear or uniform understanding of the meaning of the precautionary principle among states. At a general level it has come to mean that states agree to act carefully and with foresight when taking decisions which concern activities that may have an adverse impact on the environment.[197]

The International Tribunal for the Law of the Sea considered the precautionary principle without expressly relying on it and incorporated this principle in its order in the *Southern Bluefin Tuna* case.[198]

---

195 Principle 15.

196 *Vellore Citizens Welfare Forum v Union of India* (Supreme Court) – [1996] 5 SCC 647.

197 Sands, P. 2003. *Principles of International Environmental Law*. 2nd edition. Cambridge University Press, Cambridge, p.272.

198 *Australia and New Zealand v Japan*, 04.08.2002 – 39 ILM 1359 (2000).

The need for the precautionary principle[199, 200]

DDT, which was a patented pesticide in the 1930s, won the Nobel Prize for its success in destroying insect species. How could limits be set on DDT in the early 1940s when the repercussions of the wide use of pesticides were known only decades later? That too was discovered when common birds began to disappear and further investigations revealed the process of bioaccumulation (accumulation of pollutants in tissue).

CFCs used in aerosols and refrigeration were also considered to be a wonderful creation in chemistry until it was discovered much later that they would persist in the atmosphere, and damage the ozone layer.

Some diseases go undetected while some diseases have a long lag period between exposure to the environmental agent (e.g. pollutant) which initiates the disease, and the appearance of the symptoms. To make matters more complicated, most diseases are caused not by a single environmental factor but a combination of many things. There are too many environmental changes occurring and new materials coming into use for each to be investigated, and, in the case of possible long-term effects, it would be unethical to wait until the damage becomes obvious before taking actions.

Therefore there is a need to anticipate the long-term consequences of human technological innovation.

1.4.4 Polluter-Pays Principle

Historically, pollution control costs have been borne by the public, rather than those who pollute. This can be demonstrated by way of a simple illustration.

An industry discharges pollutants into a river. There are at least three possible ways in which the public may bear the economic costs of such pollution:

(i) The river can remain polluted and unsuitable for certain downstream activities, causing those downstream, who utilise the river, to suffer economic loss.

(ii) Those who utilise the water in the river downstream can build a suitable water treatment/purification plant at their own cost.

(iii) The polluter may receive subsidies from the government for controlling the pollution he or she causes.

[199] Haynes, R. 2000. Preventing disease. In: O'Riordan, T. 2000. *Environmental science for environmental management.* 2nd edition. Prentice Hall, London.

[200] Suzuki, D. T., McConnell, A. and Mason, A. 2008. *The Sacred Balance: Rediscovering Our Place in Nature.* 3rd edition. Allen & Unwin, Crows Nest, N.S.W.

In each of the foregoing situations, the affected members of the public bear the costs of the pollution and the necessary measures to eliminate or mitigate its effects. The polluter-pays principle on the other hand establishes that the costs of pollution should be borne by the person responsible for causing the pollution and therefore, the polluter-pays principle seeks to avoid this result as well as the injustice caused by it, by obliging the polluter to bear the costs of pollution control to 'internalise' such costs. The polluter-pays principle is therefore a method of internalising externalities.

The international instrument that first expressly referred to the polluter-pays principle was the 1972 Organisation for Economic Co-operation and Developmen, Council Recommendations on Guiding Principles Concerning the International Economic Aspects of Environmental Policies.

In *M.C. Mehta v Kamal Nath* the Indian Supreme Court enforced the polluter-pays principle and accordingly, ordered the owner of a motel to pay compensation by way of costs for the restoration of the environment.[201]

1.4.5 Principle of Preventive Action

The principle of preventive action imposes an obligation on states to prevent damage to the environment, and to reduce, limit or control activities which may cause risk or damage to the environment.

A state may implement this obligation through regulatory, administrative and other such measures. The preventive principle is best supported by domestic environmental protection legislation, which should establish authorities, procedures, and processes for implementing this principle. Such legislation should ideally integrate international environmental standards, provide access to environmental information to the public, and ensure environmental impact assessments where necessary.

Prevention is also linked to the notion of deterrence and the idea that disincentives such as penalties and civil liability will cause persons to take greater care in their behaviour and avoid polluting activities.

In addition, the notion of pollution prevention includes the concept that pollution may be prevented or reduced at its source, by changing raw materials, production techniques or technologies. For example, a person engaging in a Clean Development Mechanism

[201] [1997] 1 SCC 388.

project in Sri Lanka may apply for and secure carbon credits or Certified Emission Reductions under the Clean Development Mechanism introduced by the United Nations Framework Convention on Climate Change as contained and defined in the Kyoto Protocol.[202]

1.4.6 Principle of Accountability

The Directive Principles of State Policy and the Fundamental Duties contained in Chapter VI of the Constitution suggest that, not only the State but also every person in Sri Lanka, including all bodies, institutions and organisations that have been invested with legal personality, are responsible for the protection and conservation of the environment.[203] However, since these duties are not enforceable in a court of law, it is the state, in terms of international law as well as in national law, and as the guardian or trustee of the country's natural resources, that is primarily responsible for environmental protection and conservation, through its various agencies and actors.

Greater accountability in respect of environmental issues is imposed on the executive and its officers. The Supreme Court has observed that the state must expect high standards of efficiency and service from public officers in their dealings with the public and the judiciary must endeavour to ensure that this expectation is realised.[204] The Supreme Court has also stated that the organs of government are expected to act in accordance with the best interests of the people and an individual can seek to hold public institutions accountable for the violation of the collective rights of the citizenry of Sri Lanka.[205]

It has also been held by the Supreme Court that:

> *'….(T)he accountability principle, establishes that public servants should be held directly accountable to the public for their actions and inactions. While the polluter-pays principle internalises the costs of pollution to corporate or individual polluters, the principle of public accountability extends its liability towards corrupt or incompetent regulators for the most egregious instances of mis-regulation.'*[206]

[202] Article 12 of the Kyoto Protocol.

[203] Article 27(14) and 28(f).

[204] *Bandara v Premachandra, Secretary, Ministry of Lands, Irrigation and Mahaweli Development* [1994] 1 SRI L.R. 301 at 318.

[205] *Sugathapala Mendis v Chandrika Bandaranaike Kumaratunga* (the *Waters Edge* case) S.C.F.R. 352/2007, decided on 08.10.2008 page 17.

[206] *Watte Gedara Wijebanda v Conservator General of Forests*, S.C.F.R. No. 118/2004, decided on 05.04.2007 page 21.

1.4.7 Judicial Intervention and Active Management of Environmental Cases and Issues

The active participation of the judiciary in environmental litigation has also helped to arrest environmental pollution and the destruction of natural resources. For instance, the active involvement of the Supreme Court in cases relating to illegal sand mining[207], air pollution[208] and noise pollution[209], demonstrate how the judiciary can prevent, reduce, manage and control environmental pollution, degradation and the extinction and destruction of natural resources.

[207] *Hettiarachchige Don Chrishan Priyadarshana Wijewardena v Geological Survey and Mines Bureau* S.C.F.R. No. 81/2004.

[208] *Geethani Wijesinghe v Hon. Patali Champika Ranawake, Minister of Environment and Natural Resources.* S.C.F.R. No. 87/2007.

[209] *Al Haj M.T.M. Ashik v R.P.S. Bandula, O.I.C Weligama* (the *Noise Pollution* case), S.C.F.R. No. 38/2005, decided on 09.11.2007.

Notes

Chapter 2

Environmental Laws, Institutions and Mechanisms: An Overview

2.1 Introduction

'Environmental law' refers to a body of laws that seeks to regulate the impact of anthropogenic actions (actions resulting from human activity) on the environment. In order to do so effectively, environmental law may draw upon a wide variety of sources. This includes provincial and local authority laws, human rights, labour law, and trade law.

In an environmental prosecution, a complainant may also complain about non-compliance with a variety of such other laws. For example, in the course of nuisance proceedings, a complainant may refer to the failure to obtain a 'trade license' in terms of the local authority laws. Where it is demonstrated that the local authority refused to issue a license unless the necessary pollution laws and nuisance laws have been complied with, the failure to obtain a 'trade license' may have a direct impact on the nuisance proceedings. On the other hand, the complainant may also seek to demonstrate that the failure to obtain a trade license is an indication of the respondent's disregard for the regulatory provisions of the law in general.

Similarly, in proceedings pertaining to a nuisance caused by a quarry, the complainant may make reference to the provisions of the Explosives Act[1] and violation of the terms of any license or permit issued in terms of the Act.

[1] Act No. 12 of 1956 (as amended).

In this Chapter we provide an overview of the laws and institutions that directly impact on environmental protection in Sri Lanka.

The definition of the 'environment' is dependant on context. The National Environmental Act No. 47 of 1980 (NEA) defines 'environment' as 'the physical factors of the surroundings of human beings including the land, soil, water, atmosphere, climate, sound, odours, tastes and the biological factors of animals and plants of every description.'[2] The NEA approach encompasses both human beings and their surroundings (anthropocentric) as well as animals and plants (biocentric).

2.2 'Nuisance' and the Environment

Nuisance is concerned with maintaining the health and safety of individuals as well as the public in general. 'Nuisance, nocumentum, or annoyance, signifies anything that worketh, hurt, inconvenience, or damage.'[3] Generally, two types of nuisance are recognised in law, namely public and private nuisance. The laws relating to public nuisance, which were initially part of the common law, are now contained in written law. A public nuisance is a nuisance that affects the public at large who may come within the sphere of its influence while the impact of a private nuisance is more limited. In addition to these there are statutory nuisances which are deemed by written law to be nuisances.

A public nuisance is an offence under the criminal law. Section 261 of the Penal Code[4] provides that a person who does any act, or is guilty of an illegal omission, which causes any common injury, danger, or annoyance to the public or to the people in general who dwell or occupy property in the vicinity, or which must necessarily cause injury, obstruction, danger, or annoyance to persons who may have occasion to use any public right, is guilty of a 'public nuisance'. The punishment for committing a public nuisance is contained in Chapter XIV of the Penal Code with Section 283 specifying the punishment in cases not otherwise punishable by the Code.

The main ingredients of the offence in terms of the Penal Code are:

- a common injury, danger or annoyance either to the public or to people who dwell or occupy property in the vicinity.
- an injury, obstruction, danger or annoyance to persons who may have occasion to use a public right.

2 Section 33 of the National Environmental Act No. 47 of 1980.

3 Pearce, E.H. and Meston, D. 1926. *Law relating to Nuisances.* Sweet and Maxwell, London.

4 Penal Code No. 2 of 1883 (as amended).

The principle relief for members of the public affected by a public nuisance, either actual or imminent, is the abatement of the nuisance. The procedure for an expedited abatement of a public nuisance is contained in Chapter IX of the Code of Criminal Procedure Act[5]. These provisions are both substantive and procedural in nature. In enacting the procedure for abatement, the legislature has restricted the application of these provisions to certain designated public nuisances.

Section 98(1) of the Code of Criminal Procedure recognises the following public nuisances:

- unlawful obstruction or nuisance that should be removed from any way, harbour, lake, river, or channel which is or may be lawfully used by the public or from any public place;
- any trade or occupation or the keeping of any goods or merchandise that should be suppressed or removed or prohibited due to it being injurious to the health or physical comfort of the community;
- the construction of any building or the disposal of any substance that should be prevented or stopped due to it being likely to occasion conflagration or explosion;
- any building or tree which is in such a condition that it should be removed, repaired or supported due to it being likely to fall and thereby cause injury to persons living or carrying on business in the neighbourhood or passing by;
- any tank, well, or excavation adjacent to any such way or public place that should be fenced in such a manner as to prevent danger arising to the public.

The provisions in the Penal Code and in the Code of Criminal Procedure Act pertaining to 'public nuisance' are not dependent on each other and are capable of independent construction. However, in *Saram v Seneviratne,* Justice De Sampayo examined the scope of the Criminal Procedure Code pertaining to public nuisance and held that 'the Penal Code provides for the punishment of certain nuisances as offences, and the provisions of the Criminal Procedure Code appear to be only supplementary'.[6]

Rosencranz, Divan and Noble (1991) state that in the Indian context, it would be a far more appropriate course to utilise the remedies provided by the relevant sections of the

5 Code of Criminal Procedure Act No. 15 of 1979 (as amended).

6 21 NLR 190.

Criminal Procedure Code which provide an independent, speedy and summary remedy against public nuisance. However, the deterrent effect of the penal provisions should not be disregarded.[7]

Section 261 of the Penal Code provides that a public nuisance is not excused on the ground that it causes some convenience or advantage. This could become relevant where for example an industry based public nuisance takes up the defence that its activities are of some advantage to the public at large.

In addition to the Criminal Procedure Code and the Penal Code, the Nuisances Ordinance also provides for the definition and punishment of statutory nuisances. [8]

Private nuisances are actionable before the District Court and may give rise to injunctions both temporary and permanent as well as damages. The relevant provisions for this purpose are contained in the Civil Procedure Code[9] and the Judicature Act.[10]

There are several other laws which provide for the abatement of nuisances in a limited context. For example, the Apartment Ownership Law requires the owner and occupier of a condominium property not to use the unit or permit it to be used in any manner or for any purpose that will cause a nuisance.[11] The owner or occupier is also obliged not to make undue noise or create any other form of nuisance in or about a unit or the common elements. Section 6 of the Factories Ordinance places an obligation to ensure that every factory is kept clean and free of nuisances.[12] The Lotteries Ordinance[13] declares all unlicensed lotteries, common nuisances and against the law.

There are statutory obligations on local authorities[14] and the police[15] to take appropriate measures to abate nuisances. These measures could include, but are not limited to litigation.

---

7 Rosencranz, A., Divan, S., Noble, M.L., 1991. *Environmental law and policy in India: cases, materials and statutes*. Tripathia, Bombay.

8 Ordinance No. 15 of 1862.

9 Civil Procedure Code No. 2 of 1889 (as amended).

10 Act No. 2 of 1978 (as amended).

11 Section 19(f) of Law No. 11 of 1973 (as amended).

12 Section 6 of Ordinance No.45 of 1942 (as amended).

13 Ordinance No. 8 of 1844 (as amended).

14 Section 44(d) of the Municipal Council's Ordinance No. 29 of 1947 (as amended), Section 100 of the Pradeshiya Sabha Act No. 15 of 1987 (as amended).

15 See: Section 56(a) of the Police Ordinance No. 16 of 1865 (as amended).

2.3 The Control of Pollution

Pollution control laws recognise the inherent benefits associated with the protection of the environment. Pollution control usually takes place on the basis of measurable standards. The primary pollution control law in Sri Lanka is the NEA.

2.3.1 The National Environmental Act (NEA)

The NEA was enacted as an umbrella law to address a variety of environmental matters. The Act is administered by the Central Environmental Authority (CEA). The Act was passed in 1980 and amended in 1988, 2000 and 2005.[16]

The NEA adopts three primary approaches to conservation and sustainability. They are:

(a) Environmental protection

(b) Environmental quality; and

(c) Environmental Assessment and the approval of projects

The Environmental Protection License (EPL)

Part IVA of the Act deals with 'environmental protection' by providing for the regulation of the discharge, deposit or emission of waste from certain prescribed activities. The goal of this part of the Act is to ensure that the discharge, deposit or emission of waste by industrial, commercial or other undertakings, is done according to prescribed standards and procedures.

The Act provides that the Minister may determine the 'prescribed activities' which require an environmental protection license before they can commence or continue operations.[17] The most recent list of 'prescribed activities' for this purpose was released in January 2008.[18] The regulations pertaining to the procedure for the issuing of an environmental protection license were prescribed in February 2008.[19]

[16] National Environmental Act No. 47 of 1980 amended by Acts No. 56 of 1988; No. 53 of 2000. Fines introduced by the NEA have been amended by Increase of Fines Act No. 12 of 2005.

[17] Section 23A of the NEA and National Environmental (Protection and Quality) Regulations No. 1 of 2008 published in Gazette No. 1534/18 of 01.02.2008.

[18] Regulations published in Gazette No. 1533/16 of 25.01.2008.

[19] National Environmental (Protection and Quality) Regulations No. 1 of 2008 published in Gazette No. 1534/18 of 01.02.2008.

A 'prescribed activity' therefore can only be carried out under the authority of a license issued by the CEA or the local authority as the case may be, and in accordance with the standards and other criteria prescribed under the Act.[20] Although standards and criteria are prescribed in terms of the Act, the CEA has the discretion to impose more stringent standards and criteria in respect of a prescribed activity if it believes that such stringent measures are required to protect the receiving environment.[21] National standards are usually established taking into account several factors including technical and socioeconomic factors. Therefore, adherence to national standards may not always be effective in certain instances. For example, air emission standards prescribed generally may be insufficient in the vicinity of a school or a hospital. This provision enables more stringent measures to be applied in such special circumstances.

Where an activity for which an application has been submitted is not covered in terms of the existing standards and criteria, the CEA can examine the application on its merits and determine the standards and criteria that would apply in those particular circumstances.[22]

Prescribed Standards

For the purpose of implementing these provisions, the following standards have been prescribed in terms of the Act.[23]

a) Tolerance limits for the discharge of industrial waste into inland surface waters.

b) Tolerance limits for industrial waste discharged on land for irrigation purpose and hydraulic loading applicable for different soils.

c) Tolerance limits for industrial and domestic waste discharged into marine coastal areas.

d) Tolerance limits for waste from rubber factories being discharged into inland surface waters.

e) Tolerance limits for waste from the textile industry being discharged into inland surface waters.

f) Tolerance limits for waste being discharged from tanning industries.

g) Tolerance limits for discharge of effluents into public sewers with central treatment plants.

The primary focus of these Standards is to ensure the quality of surface waters.

[20] See: Section 23A (2) of the NEA.
[21] Regulation 3 of the National Environmental (Protection and Quality) Regulations No. 1 of 2008.
[22] Regulation 4 of the National Environmental (Protection and Quality) Regulations No. 1 of 2008.
[23] National Environmental (Protection and Quality) Regulations No. 1 of 2008.

Scheduled Waste

Part II of the National Environmental (Protection and Quality) Regulations No. 1 of 2008 applies to 'scheduled waste' as defined in terms of the regulations. It subjects the generation, collection, transport, storing, recovering, recycling or disposing of scheduled waste to a license issued by the CEA and standards and other criteria as may be specified by the CEA.

Environmental Quality

Part IVB of the Act provides for the regulation of 'environmental quality'. Unlike Part IVA which applies only to 'prescribed activities', Part IVB prohibits any person from carrying out the polluting activities listed in this part of the statute. The prohibited activities include polluting inland waters, the atmosphere, soil or the surface of any land, making or emitting excessive noise and the disposal of litter.

2.3.2 Laws Related to the Protection of Air, Water and Soil

Pollution control is usually addressed in terms of two primary approaches. The traditional approach is what is called end-of-pipe where the final waste generated through the industrial process is treated. End-of-pipe may entail the treatment of waste in a liquid, solids or gaseous form. For some industries the main pollution control option may be end-of-pipe treatment.

However, modern approaches promote 'cleaner production' where the pollution control occurs at an earlier stage. Under the 'cleaner production' processes an attempt is made to minimise the waste that is generated in the first instance leaving less waste to be treated as end-of-pipe. Cleaner production seeks to achieve this by modifying the manufacturing process (cleaner technology) and by improving the quality of the raw materials.

The NEA recognises both 'end-of-pipe' and 'cleaner production' approaches. Whilst the provisions in the law mandating end-of-pipe treatment are described below in detail, the Act empowers the Minister to prohibit the use of any materials for any process, trade or industry and to prohibit the use of any equipment or industrial plant, which will endanger the quality of the environment and to require the installation, repair, maintenance or operation of any equipment or industrial plant within a specified area thus enabling the implementation of 'cleaner production' approaches.[24] Since cleaner production may result in a saving for the industrialist, some industries may prefer to adopt this approach voluntarily.

[24] Section 23W.

Air

As we noted above, the environmental protection provisions of the NEA provide for regulating the discharge, deposit or emission of waste from 'prescribed activities'.

Standards for air emissions from stationary sources have yet to be formulated, although the NEA was enacted in 1980. Currently in terms of the NEA, air emissions from stationary sources are controlled by the stipulations contained in the EPL.

According to the NEA, subject to the provisions pertaining to the issuance of an EPL, the discharge or emission of waste into the atmosphere that contravenes prescribed standards is an offence.[25] The provisions of the law also contain a general prohibition on the pollution of the atmosphere.[26]

The Motor Traffic (Emission Control) Regulations of 1994[27] formulated under the NEA establishes the methodology for vehicle emission testing whilst the National Environmental (Air Emissions, Fuel and Vehicle Importation Standards) Regulations No. 1 of 2003[28] as amended by Regulations of 2008[29] establishes standards for emissions from vehicles in use. These emission standards for in-use vehicles are now being implemented with the establishment of the vehicle emission testing centres in different parts of the country.

Ambient air quality standards specify the quality of the surrounding air as opposed to emission standards which specify the standard at the point of emission. Thus ambient air quality reflects the cumulative impact of the individual emission sources both stationary and mobile. The National Environmental (Ambient Air Quality) Regulations of 1994[30] as amended in 2008[31] specify permissible ambient air quality standards and specifies maximum permissible amounts in the ambient air of pollutants such as carbon monoxide, nitrogen dioxide, ozone and sulphur dioxide and particulate matter.

The National Environmental (Air Emission, Fuel and Vehicle Importation Standards) Regulation No. 1 of 2003[32] establishes fuel standards and vehicle exhaust emission standards for the importation of vehicles.

25 Section 23J.
26 Section 23K.
27 Published in Gazette No. 817/6 of 03.05.1994.
28 Published in Gazette No. 1295/11 of 30.06.2003.
29 Published in Gazette No. 1557/14 of 09.07.2008.
30 Published in Gazette No. 850/4 of 05.10.1994.
31 Published in Gazette No. 1562/22 of 15.08.2008.
32 Published in Gazette No. 1295/11 of 30.06.2003.

In addition to the above specific provisions, the general provisions of the Penal Code as set out in Section 271 provide that whoever voluntarily vitiates[33] the atmosphere in any place so as to make it noxious to the health of persons in general, dwelling, carrying on business in the neighbourhood or passing along a public way, commits an offence in terms of the Code.

Water

The State Lands Ordinance (as amended) recognises that, the right to the use, flow, management and control of the water in any public lake or public stream is vested in the State. In the exercise of such right, the State may enter any land and take measures for the conservation and supply of such water, for its more equal distribution, beneficial use and protection from pollution.[34]

The NEA provisions on 'environmental protection', 'environmental quality' and the 'approval of projects', as described above, are all relevant for the prevention of water pollution.

The NEA mandates that, subject to the provisions pertaining to the 'environmental protection license', the discharge or emission of waste into inland waters in contravention of prescribed standards is an offence.[35] The provisions of the law also contain a general prohibition on the pollution of inland waters.[36]

In terms of Section 270 of the Penal Code it is an offence to voluntarily corrupt or foul the water of any public spring or reservoir, so as to render it less fit for the purpose for which it is ordinarily used.

Groundwater

There is no provision in the law that directly regulates the pollution of groundwater. However, the primary sources of pollution of groundwater is through the pollution of soil (i.e. through leachate[37] that results from the accumulation of garbage) and through the pollution of surface water bodies which are connected to groundwater. Both these sources of pollution can be regulated through other means including those in the NEA, the Penal Code and the Code of Criminal Procedure Act.

---

33 Though not defined in the Code, the term 'vitiates' could be understood to mean making the atmosphere less suitable for its purpose i.e. to render faulty.

34 Section 72.

35 Section 23G.

36 Section 23H.

37 The liquid produced from the decomposition of waste.

The Mines and Minerals Act empowers an owner or occupier of any land or a licensee authorised in terms of the Act to produce and consume mineral water in or from such land for his or her personal use.[38]

The Water Resources Board established in terms of the Water Resources Board Act (WRBA) is given the mandate of advising the Minister regarding the preparation of plans for the conservation, utilisation, control and development of groundwater.

Soil

As with all other media such as water, air and atmosphere, the provisions of the NEA relating to 'environmental protection', 'environmental quality' and the 'approval of projects', as described above, will apply to soil pollution too.

The environmental quality provisions of the NEA provide for the regulation of soil pollution. Section 23M of the Act provides that no person shall discharge or deposit waste into the soil, except in accordance with such standards or criteria as may be prescribed under the Act. Section 23N(1) of the NEA contains general provisions for the prevention of soil pollution.

2.3.3 Noise Pollution

Noise pollution has traditionally been controlled by the laws pertaining to nuisance. The nuisance laws can provide a 'situation specific' remedy to noise pollution as opposed to a law that provides more generic standards.

One of the oldest reported cases on public nuisance is that of *Marshall v Gunaratne Unnanse* where it was held that a license under Section 90 of 'The Police Ordinance, 1865,' will not be a protection against proceedings under the Penal Code for public nuisance, though it may provide protection from proceedings under the Police Ordinance. [39]

In recent times nuisance laws have been supplemented with specific pollution control laws setting out standards that must be adhered to. One of the first attempts at regulating noise through specific laws can be found in noise codes of Portland, Oregon, USA (1975).

[38] Section 42 of the Mines and Minerals Act No. 33 of 1992.

[39] 1 NLR 179.

The NEA defines noise pollution as:

> *'The presence of sound at a level which causes irritation, fatigue, hearing loss or interferes with the perception of other sounds and with creative activity through distraction'*.[40]

The CEA may require a local authority to comply with its recommendations, for the regulation of noise pollution.[41]

Subject to the provisions pertaining to the EPL, the NEA prohibits the emissions of excessive noise other than in compliance with prescribed standards or limitations. No person may emit noise greater in volume, intensity or quality than the levels prescribed for objectionable noise and tolerable noise.[42]

In terms of the Police Ordinance, any person who makes any noise in the night so as to disturb the repose of the inhabitants without having obtained a license for that purpose commits an offence.[43]

2.4 Environmental Assessment and the Approval of Projects

Part IVC of the Act relates to the 'approval of projects' and establishes a process known as the 'environmental assessment'. Environmental assessment is a tool that was introduced around the 1970s in order to examine the impact a project or activity is likely to produce. It is a planning tool formalised in the law. The assessment is conducted prior to the commencement of the project. A prior environmental assessment enables impacts to be identified and mitigatory measures to be incorporated into the planning process before the project commences and thus reduces the harm caused to the environment. In Sri Lanka, the 'environmental assessment' process was first introduced in the Coast Conservation Act, which is discussed later in this chapter.

The relevant provisions with regard to an 'environmental assessment' are found in Part IVC of the NEA. These provisions empower the Minister to gazette a list of state agencies as 'project approving agencies' and a list of projects as 'prescribed projects'. In terms of the Act all 'prescribed projects' must obtain prior approval from the relevant 'project

40 Section 33.
41 Section 10(i)(vi) of the NEA.
42 See: Section 23P; 23Q and 23R of the NEA.
43 Section 96 of the Police Ordinance No. 16 of 1865.

approving agency' before such a project commences. A list of such 'prescribed projects' and a list of 'project approving agencies' is found in the regulations.[44]

The approval may be based on an Initial Environmental Examination (IEE) report or an Environmental Impact Assessment (EIA) report as decided by the project approving agency.

The IEE is carried out for projects which are likely to be less harmful. The IEE report is a public document and in theory the public has access to the report.

The EIA is carried out for projects that may produce 'significant' environmental impacts. The Act makes it mandatory that the EIA is made available to the public and that the public be invited to send their comments to the relevant 'project approving agency' within 30 days. In the case of a project required to prepare an EIA report, approval can only be granted by the relevant project approving agency with the concurrence of the CEA.

Although rarely done in practice, in law, a project may be required to do an IEE and depending on the matters arising out of the IEE, asked to do an EIA thereafter. In practice though a decision is taken upfront on whether an IEE or EIA, is required depending on the available information.

Approval of a project is usually subject to conditions laid down for the purpose of protecting the environment and mitigating adverse impacts. Thus, strict monitoring is required to ensure adherence with the conditions of approval.

2.4.1 Alternatives

The examination of alternatives is a core concept in the 'environmental assessment' process. The definition of the term 'environmental impact assessment report'[45] mandates 'a description of alternatives to the activity which might be less harmful to the environment together with the reasons why such alternatives were rejected'. Thus, not only should the alternatives be studied and described but the recommended option should also be justified in the light of the alternatives examined. The failure to do so could result in a flawed EIA report.

[44] National Environmental (Procedure for approval of projects) Regulation No. 1 of 1993 published in Gazette Extraordinary No. 772/22 of 24.06.1993 (as amended).

[45] Section 33.

2.4.2 Public Participation

At the heart of the IEE and EIA process is the idea of 'public participation' in development and development planning. Both the IEE and EIA allow the public, or informed parts of the public, to challenge and question development projects and probe the impact that these projects will have on the environment.

2.4.3 Public Hearings

An EIA may also result in a 'public hearing'. Although not mandatory, the project approving agency may hold a public hearing if it thinks it is required under the circumstances.

Any person aggrieved by the refusal to approve any prescribed project submitted for approval has a right of appeal to the Secretary to the Ministry. This appeal is not available to a person aggrieved by the granting of approval.

The primary benefit of this assessment process is that it happens at a stage 'prior' to the commencement of the project and so has the potential to minimise the subsequent impact on the environment.

2.5 Other Relevant Provisions of the NEA

Part V of the Act contains 'general' provisions including the power to require the furnishing of information from any occupier of any premises, the power to enter and inspect premises, and the power to issue directives to persons engaged in development activities which cause or may cause damage or detriment to the environment.

The Act also provides for the declaration of 'Environmental Protection Areas'. In making such a declaration the Minister may also declare that any planning scheme or project in a protection area which conflicts with the objectives of the NEA shall cease to operate. When the Minister declares an area to be an Environmental Protection Area the CEA then assumes responsibility for the physical planning of the area in question.

The Act also empowers the CEA to give directives to local authorities for safeguarding and protecting of the environment within the limits of such local authority.[46] The powers of the CEA include that of requiring any local authority to comply with and give effect to any recommendations relating to environmental protection including (a) the

[46] Section 12.

prohibition of the unauthorised discharge, emission or deposit of litter, waste, garbage and sewage, (b) the prevention of the discharge of untreated sewage or substandard industrial effluents or toxic chemicals into soil, canals or waterways, (c) the prohibition of the display of posters or bills on walls or buildings or any other unauthorised places and regulations for the erection of advertising hoardings, (d) the prevention of the defacement of scenic places and public property, (e) the control of the pollution of the atmosphere, (f) the control of noise pollution, and (g) the storage, transport and disposal of any material which is hazardous to health and environment.[47]

The process diagram below (adapted from a CEA diagram on the EIA process), sets out the environmental assessment process in terms of the NEA. It defines the process from the initial decision as to whether the project requires an IEE (to the left) or an EIA (to the right) all the way to the final decision and monitoring of activities.

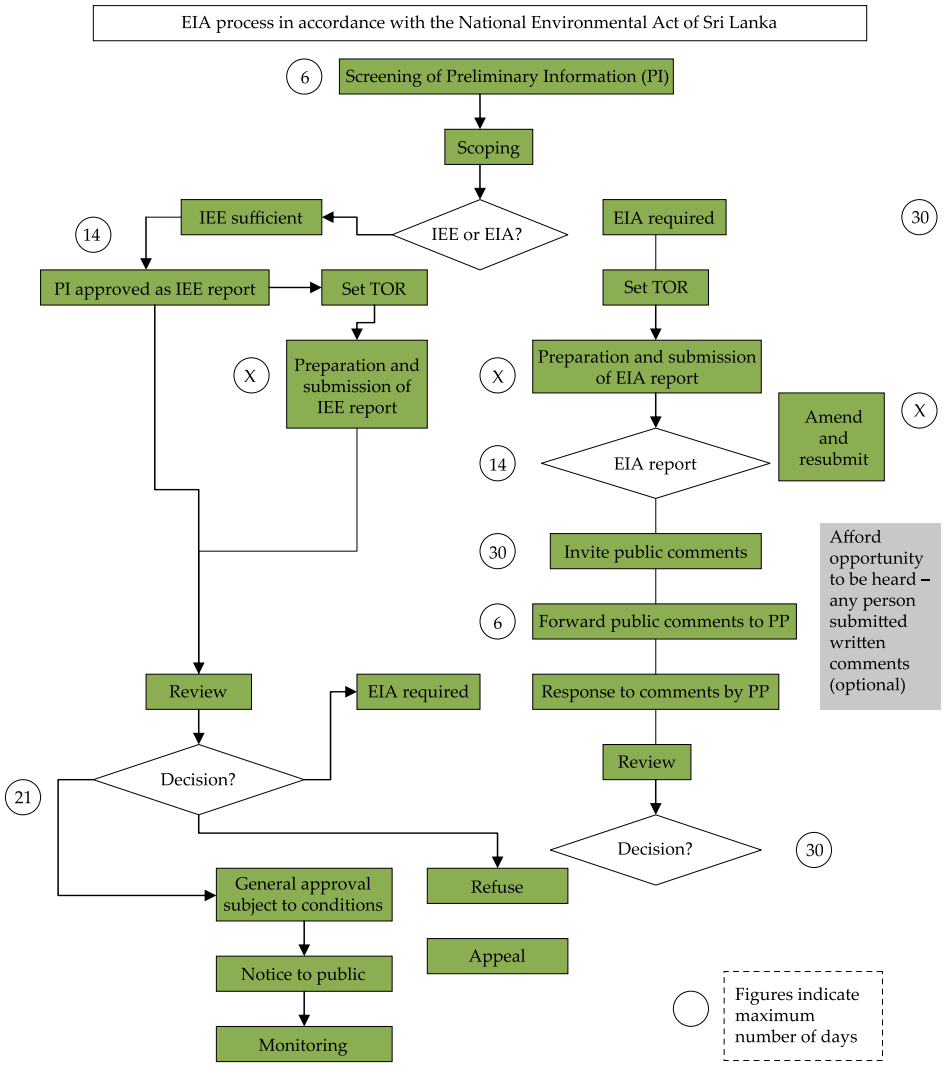

Figure 1: The EIA process

[47] Section 10 (as amended).

2.6 Protection of the Marine and Coastal Environment

The protection regime in respect of the marine environment is contained in several laws. The NEA provisions pertaining to 'environmental protection' and 'environmental quality' have general application pertaining to the pollution of the marine environment. The Coast Conservation Act[48], the Marine Pollution Prevention Act[49], the Merchant Shipping Act (as amended)[50] and the Sri Lanka Ports Authority Act[51] contain specific provisions on the marine environment.

Any development activity within the coastal zone needs a permit under the Coast Conservation Act. The Minister is empowered to prescribe categories of development activities which may be carried out within the coastal zone without a permit. In deciding on an application for a permit, the Director General of the Department of Coast Conservation may call for an environmental impact assessment report. The environmental impact assessment report must be made available to the public for scrutiny and comment for thirty days.[52]

The Fauna and Flora Protection Ordinance (FFPO)[53] restricts development activities within one mile from the boundary of a National Reserve and subjects them to an 'environmental assessment' in terms of the NEA.[54] The FFPO recognises 'marine reserves' within the category of National Reserves.[55]

2.6.1 Coast Conservation Act (CCA)

According to the CCA, the administration, control, custody and management of the Coastal Zone is vested in the State. The Director of Coast Conservation is responsible for:

- the administration and implementation of the provisions of the Act,
- the formulation and execution of schemes of work for coast conservation within the Coastal Zone; and
- the conduct of research, in collaboration with other departments, agencies and institutions for the purpose of coast conservation.

48 Act No. 57 of 1981 (as amended).
49 Act No. 35 of 2008.
50 Act No. 52 of 1971.
51 No. 51 of 1979 (as amended).
52 Section 16 (2) (b).
53 Ordinance No. 2 of 1937 (as amended).
54 Section 9A.
55 Section 2 (as amended).

In terms of the Act, the Director is required to cause a survey to be made of the Coastal Zone and to prepare a report based on the results of such survey. The report must include:

- an inventory of all coral reefs found within the Coastal Zone;
- an inventory of all commercially exploitable mineral deposits, both proven and suspected, located within the Coastal Zone;
- an inventory of all areas within the Coastal Zone of religious significance or of unique scenic value or of value for recreational purposes, including those areas most suitable for recreational bathing;
- an inventory of all 'estuarine or wetland' areas within the Coastal Zone with an indication of their significance as fisheries or wildlife habitats;
- an inventory of all areas within the Coastal Zone of special value for research regarding coastal phenomena, including fisheries and shell fisheries, sea erosion, littoral movements and related subjects;
- an inventory of all areas within the Coastal Zone from which coral, sand, sea shells or other substances are regularly removed for commercial or industrial purposes.

The Act also requires the Director to prepare a comprehensive Coastal Zone Management Plan (CZMP) based on the results of the survey. This Plan is available for public inspection and comment. Upon approval by the Cabinet of Ministers the Plan is published in the Gazette and comes into operation. The Minister may make regulations as may be necessary to give effect to any of the provisions of the Plan including regulations restricting and controlling the use of the foreshore by members of the public or prohibiting or controlling any development activity within the Coastal Zone. Presently the CZMP of 2004 is in operation.

The 'environmental assessment' process in respect of the marine environment can be found in both the Coast Conservation Act (CCA) and the NEA. The 'environmental assessment' process in terms of the NEA applies in respect of projects that are wholly or partly outside the coastal zone. Those projects which are entirely within the coastal zone require approval under the CCA.[56]

[56] See: The National Environmental (Procedure for approval of projects) Regulation No. 1 of 1993 published in Gazette Extraordinary No. 772/22 of 24.06.1993.

The 'coastal zone' is defined as the area falling within a limit of 300 metres landwards of the Mean High Water Line and a limit of two kilometres seawards of the Mean Low Water Line. In the case of rivers, streams, lagoons, or any other body of water connected to the sea either permanently or periodically, the landward boundary extends to a limit of two kilometres measured perpendicular to the straight base line drawn between the natural entrance points and includes the waters of such rivers, streams and lagoons or any other body of water so connected to the sea.[57]

2.6.2 Marine Pollution Prevention Act

The Marine Pollution Prevention Act (MPPA) regulates the pollution of Sri Lankan waters from oil or other pollutants from a source that is sea or land based. The MPPA provides criminal as well as civil liability in the case of certain types of pollution. It also provides for the implementation of international conventions pertaining to marine pollution that Sri Lanka may become a party to. In the event of an oil spill, the Sri Lanka National Oil Spill Contingency Plan will come into operation. Approved by Cabinet, the Contingency Plan contains emergency procedures to deal with an oil spill after the level of response is determined by an assessment of the threat.

2.7 Conservation of Biodiversity

The United Nations Convention on Biological Diversity (CBD) came into force on 29th December, 1993. Sri Lanka ratified the Convention on 23rd March 1994.

The Convention's main goal is the 'conservation of biological diversity', the 'sustainable use of its components' and the 'fair and equitable sharing of the benefits arising out of the utilisation of genetic resources'. The Convention seeks to ensure appropriate access to genetic resources and a transfer of relevant and appropriate technologies to parties to the Convention.

The CBD defines 'biological diversity' as:

> *'the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; including diversity within species, between species and of ecosystems'.*

[57] Section 42.

In terms of the Convention, 'genetic material' is any material of plant, animal, microbial or other origin containing functional units of heredity and, 'genetic resources' means genetic material of actual or potential value.

An important aspect of the Convention is the regulation of access to genetic resources which needs to be regulated in order to prevent unauthorised acquisition and use of genetic material and to ensure that benefits from such use accrue to the country as well as the 'owner' of the genetic material.

However, Sri Lanka has not yet enacted a specific law pertaining to access to genetic resources or to the conservation of biological diversity. Instead, these concerns are addressed primarily through provisions in the Fauna and Flora Protection Ordinance and the Forest Ordinance. The National Heritage Wilderness Areas Act[58] is also aimed at the preservation of the genetic resources in their natural state.

2.8 Protected Areas

The concept of a 'protected area' is used to restrict the scope and nature of the activities that can be conducted in a designated area. Protected areas enable the *in-situ* conservation of species and ecosystems as opposed to *ex-situ* conservation where the conservation happens in zoos, botanical gardens or other such artificially managed environments.

Sri Lanka's protected area network is established and regulated mainly through the Fauna and Flora Protection Ordinance and the Forest Ordinance. These two laws enable the Government to designate certain areas as protected areas and specify the permitted and prohibited activities in those areas. Sanctuaries established in terms of the Fauna and Flora Protection Ordinance may be declared even over private lands. The National Heritage Wilderness Areas Act and the Fisheries and Aquatic Resources Act[59] also provide for the designation and management of protected areas.

2.9 Mines and Minerals

The Mines and Minerals Act is administered by the Geological Survey and Mines Bureau (GSMB). No person may explore for, mine, transport, process, trade in, or export any minerals without a license that has been issued by the GSMB.

[58] Act No. 3 of 1988.
[59] Act No. 2 of 1996 (as amended).

The license is issued upon application and is subject to the provisions of Section 35 of the Act and in particular the conditions set out in Section 35(4) of the Act. The conditions include the following:

- that the exploration or other activity shall not be conducted in a fraudulent, reckless, grossly negligent or wilfully improper manner;
- that the licensee comply with all written laws relating to the protection of the environment, health, safety standards and the protection of natural resources;
- that the licensee shall on the completion of the exploration or other activity rehabilitate the land to such condition as may be specified.

As the experiences pertaining to sand mining and gem mining have demonstrated, it is of critical importance that these conditions be adhered to and that proper monitoring of such conditions be carried out. The primary responsibility for monitoring and supervision is vested in the GSMB.[60] However, the public may in suitable instances seek to invoke the powers of Court to ensure compliance with the conditions laid down.

Section 35 further provides that the license is time bound, non-transferable (other than in the event of an industrial mining license) and should specify the mineral concerned and the area within which the exploration, mining or other activity may be carried out. The provisions of the Act and in particular Section 44 provide the necessary power for the officers of the GSMB to supervise and monitor the activities of a licensee.

2.10 Pesticides

Agro-chemicals (pesticides) are regulated by the Control of Pesticides Act[61] substantially amended by the Control of Pesticides (Amendment) Act[62]. The Act is administered by the Registrar of Pesticides who is responsible to the Director of Agriculture.

A Pesticides Technical and Advisory Committee has been constituted to advise the Registrar on matters relating to the registration of pesticides, approval of containers, the storage, formulation, import, sale and use of pesticides and other matters that may be prescribed.

60 Section 44 (c).
61 Act No. 33 of 1980.
62 Act No. 6 of 1994.

The Act applies to 'active ingredients and pesticides formulation with adjuvants'. An active ingredient is any substance, which gives a formulated product its pesticidal properties. The term 'pesticide formulation' is any product used:

a) for destroying or repelling any pest as defined in the Act or for preventing its growth or mitigating its effects;

b) as a plant regulator defoliant or desiccant;

c) as an adjuvant, and

d) includes any similar product designated by regulations under the Act as a pesticide formulation.

The manufacture, formulation, packing or distribution, sale, offer for sale or delivery within the country of any pesticide that is not registered and for which a valid license or a provisional permit has not been obtained from the Registrar, is an offence. A license may be obtained upon application to the Registrar as provided for in the Act. A license cannot exceed a period of 3 years. A provisional permit may be issued for a period not exceeding 12 months for restricted marketing and use of the pesticide in accordance with conditions stipulated in the permit.

Where the Registrar issues a license he or she is required to declare the pesticide as an approved pesticide and to classify the pesticide as a restricted, general or domestic pesticide. When approving a pesticide the Registrar also approves the container or package that contains the pesticide.

The license may be cancelled, suspended or modified and the provisional permit may be withdrawn, suspended or modified by the Registrar for violation of the provisions of the Act or any regulation or order or in the public interest.

The decision to reject an application for registration and to cancel, suspend or modify it may be appealed to the Secretary to the Ministry in charge of the subject of Agricultural Development and Research.

The Act also addresses issues pertaining to adulterated, decomposed or deteriorated pesticides. The storage, transport and sale of pesticides in a manner that may contaminate food stuffs, the advertisement of pesticides, the storage of pesticides in bulk and the manner of harvesting or offering for sale of any food crops in which pesticides have been used are also covered by the legislation.

The Director of Agriculture is tasked with nominating agricultural officers as 'authorised officers' whose functions are to:

a) ascertain whether any person has violated any provisions of the Act or any regulation or order made under the Act; and

b) obtain samples of pesticides for the purpose of determining whether any deterioration, adulteration or decomposition has occurred.

Authorised officers may seize and detain any pesticide which has been offered for sale in violation of Section 14 and 21 of the Act for a time necessary for the purpose of launching a prosecution under the Act and to do all other acts or things connected with the exercise, performance and discharge of the powers, duties and functions under the Act.

The sale of any restricted or general pesticide is prohibited unless an authorised officer in terms of Section 21A of the Act has issued a certificate for that purpose.

The Registrar, Food Inspector, Public Health Inspector, Grama Niladhari, Inspector of Labour or other public officer authorised by the Registrar may institute proceedings and conduct prosecutions under the Act.

One of the main problems in the use of pesticides is the cumulative impact of the use of pesticides over time. This is not adequately covered in terms of the law. Although the Sri Lanka Standards Institution has come up with some standards relating to pesticide residue in food, there are no mechanisms for the enforcement of these standards.[63]

The Control of Pesticides Act provides that the court which convicts a person of an offence under this Act, may if it thinks fit, also order that all or any article or articles in respect of which the offence was committed be seized and forfeited to the state.[64] From an environmental standpoint the implementation of this measure which may require disposal of the pesticide seized, may also require special disposal methods particularly in view of the provisions of other laws such as the NEA.

2.11 Zoning

Zoning is a tool that is utilised in order to regulate haphazard development. Associated with the concept of zoning is the idea that development within that area should conform to the basic nature for which the zone has been established. Thus the establishment of a high polluting industry would be inimical to the concept of a residential zone.

63 See: SLS 910:1991 – Limits for Pesticide residues in food.

64 Section 25.

There are several laws in Sri Lanka that provide for zoning. The most significant of these is the Coast Conservation Act which not only designates the coastal zone but also dedicates an entire law to the planned management and protection of the coastal zone.

In certain instances zoning may be a temporary measure. The Contagious Diseases Ordinance[65] for example provides that the Chief Government Veterinary Surgeon may declare a belt or zone of the country adjoining an infected area as a protective zone for the purpose of checking the spread of any disease among cattle or animals.

Generally zoning is used for the regulation of development, especially with regard to the development of an urban environment. The Town and Country Planning Ordinance for example provides that a planning scheme may contain provisions necessary for the purpose of regulating or prohibiting the use or development of land in the area to which the scheme applies.[66] The schedule to the Ordinance indicates the matters for which provision may be made in a planning scheme including the prohibition, regulation or control of the use of land, the declaration of zones for the erection of residential buildings or of various classes of residential buildings, of zones in which the erection of residential buildings is prohibited or restricted, the declaration of zones for the carrying on of special trades, industries, and undertakings, and of zones in which the carrying on of any such trades, industries or undertakings is prohibited.

The Urban Development Authority Law provides for the preparation of development plans for a development area or a part of it with a view to promoting and regulating the integrated planning and physical development of lands and buildings which may contain provisions in respect of the matters provided for in the schedule to the law.[67]

The schedule provides that the development plan may provide for the manner in which the land and buildings in the development area shall be used, the allotment, reservation or zoning of land for different purposes and for provisions for regulating the uses of land and buildings in different zones such as residential, commercial, industrial, for the imposition of conditions and restrictions in regard to the floor area ratio, density, location, and height, number of floors, and size of building and structures, the size of plots, yards and open spaces, set backs from street, building lines and for the use and maintenance of buildings, structures and appurtenant land. Where zoning regulations are not implemented, development can become haphazard leading to conflicts among incompatible interests and creating health and environmental hazards.

---

65 Ordinance No. 8 of 1866 (as amended).

66 Section 38 of the Town and Country Planning Ordinance. No. 13 of 1946.

67 Section 8A of the Urban Development Authority Law No. 41 of 1978.

In *T. Damodhar Rao v Special Officer, Municipal Corporation of Hyderabad* the Court allowed a writ petition and stated that:

> *'It, therefore, becomes the legitimate duty of the Courts as the enforcing organs of Constitutional objectives to forbid all action of the State and the citizen from upsetting the environmental balance. In this case the very purpose of preparing and publishing the development plan is to maintain such an environmental balance. The object of reserving certain area as a recreational zone would be utterly defeated if private owners of the land in that area are permitted to build residential houses. It must, therefore, be held that the attempt of the Life Insurance Corporation of India and the Income Tax Department to build houses in this area is contrary to law and also contrary to Art. 21 of the Constitution'*.[68]

2.12 Institutions

Article 76(3) of the Constitution empowers Parliament to make law empowering any person or body to make subordinate legislation for prescribed purposes. The 13th Amendment to the Constitution established nine Provincial Councils and empowered them to formulate laws (statutes) on devolved subjects.

The 'protection of the environment to the extent permitted by law' is a devolved subject while 'protection of the environment' is also found in the concurrent list. Thus a Provincial Council passing an environmental law in terms of the devolved list can only do so to the extent permitted by another law made by Parliament.

In respect of a devolved subject, a national law may have no applicability in a province where there is a competing provincial statute. However, Parliament may formulate laws even in respect of a devolved subject for the purpose of implementing an international obligation.[69] At present only the North-Western Provincial Council has enacted a provincial environmental statute while the Western Province has enacted a waste management statute.

The local authorities established in terms of the Municipal Councils Ordinance, the Urban Councils Ordinance[70] and the Pradeshiya Sabhas Act are empowered to formulate by-laws. The local authorities are mandated with the regulation, control and administration of all matters relating to public health, public utility services and public thoroughfares,

68 *T. Damodhar Rao v Special Officer, Municipal Corporation of Hyderabad* AIR 1987 AP 171.

69 13th Amendment to the Constitution.

70 Ordinance No. 61 of 1939 (as amended).

and generally with the protection and promotion of the comfort, convenience and welfare of the people. In addition, the local authorities also have a licensing function in respect of prescribed activities where such licensing function has been delegated to them in terms of the NEA.

Provincial statutes and local authority by-laws may be challenged at any time in a Court of law and do not enjoy finality that acts of Parliament enjoy.

2.13 Non-Governmental Institutions

In Sri Lanka there are a number of non-government organisation (NGOs) and community-based organisations (CBOs) that seek to protect the environment. Whilst a large number of these organisations have environment as their primary object, there are a significant number of organisations which have been established for functions other than environment.

These organisations play a watchdog role guarding against violation of the law and regulations and providing an important monitoring role that supplements the Government's role in monitoring and supervision. A significant body of environmental litigation has developed in Sri Lanka due to the intervention of environmental organisations. The courts in Sri Lanka have recognised the *locus standi* of a person who can show a genuine interest in the matter complained of and who has come before court as a public spirited person, concerned to see that the law is obeyed in the interests of all.[71]

2.14 Conclusion

Responding to environmental degradation effectively and devising strategies to protect the environment requires us to rely on and draw from a variety of laws.

Till 1980, several scattered laws addressed 'pollution control' and 'nuisance'. The legal regime changed significantly with the enactment of an umbrella law, the National Environmental Act in 1980.

Although the NEA was passed in 1980 none of the previous pollution control laws has been repealed. This has required a fresh perspective in dealing with the implementation and interpretation of these various laws. The Court of Appeal has in the recent case of

[71] *Environmental Foundation Limited v Minister of Public Administration* [1997] 2 Sri L.R. 306.

Ramachandradewage Premasiri Weerasekera v Keangnam Enterprises Limited held, amongst other things, that there is no inconsistency or repugnancy between the nuisance provisions of the Code of Criminal Procedure and the NEA.[72] The Court went on to hold that each law is different in its approach. Whilst the Code of Criminal Procedure is geared to remove or abate a nuisance, the amendment (Act No. 56 of 1988) to the NEA seeks to control pollution and noise and lays down certain prescribed standards which need to be followed. This judgment recognises that the jurisdiction of the Magistrate with regard to public nuisance continues, notwithstanding the provisions of the NEA.

The conflict between the environment and development is inevitable. In these circumstances, the public would increasingly turn to the courts, as the final arbiter of rights and responsibilities. The courts will have to not only provide redress but also set standards of control and chart the future directions. This may at times require innovative approaches to interpretation and new methods of enforcement. Effective enforcement will need a combination of the stick and the carrot and neither approach will work, on its own.

[72] C.A. (PHC) Application No. 40/2004, decided on 28.05.2009.

Notes

Chapter 3

How Environmental Cases Come before the Courts

3.1 Environmental Rights and the Courts of Law

There are several reasons why matters pertaining to the environment should be considered by the courts. These may be summarised as:

- Reinforcing the Rule of Law: there are many Acts of Parliament and Regulations relating to the environment, and cases are filed to enforce these laws and to punish violators of the law.
- Giving redress to affected persons: violations of environmental laws often result in damage to health and property; affected persons need to be compensated and the wrongful actions halted.
- Preserving or restoring the environment: sometimes the law expressly provides for enforcement of the 'polluter pays' principle by which the polluter is made to bear the cost of environmental restoration.[1] The creative use of the writ and fundamental rights jurisdiction may also be used for this purpose. In the *Maha Oya* case and the *Deduru Oya* case there is an ongoing court-supervised programme for the restoration of the river banks after a long period of illicit sand mining.[2]

[1] e.g. Part IVB of National Environmental Act No. 47 of 1980 (as amended).

[2] *Hettiarachchige Don Chrishan Priyadarshana Wijewardena v Geological Survey and Mines Bureau* (the *Maha Oya* case) - S.C.F.R. 81/04 and S.C.F.R. 226/06 (the *Deduru Oya* case). In the latter case interim orders were issued prohibiting the Geological Survey and Mines Bureau from issuing new sand mining licenses or extending licenses already issued, while subsequent interim orders were issued on area police officers to take steps to prevent unlicensed sand mining: see proceedings of 06.07.2006 and 16.10.2006.

This chapter will review the different ways in which environmental cases reach the courts of law and discuss some of the environmental jurisprudence. Unlike in some other countries, there are no special courts or tribunals for hearing environmental matters, nor is there the concept of the 'Green Bench', as in India. Regular law courts at all levels of jurisdiction thus have an opportunity to be creative in this field and promote the recognition of environmental rights.

3.2 Fundamental Rights and the Environment

3.2.1 Legal Background

Sri Lanka's Constitution contains two references to the environment. First, under the 'Directive Principles of State Policy' in Chapter VI, the State is required to 'protect, preserve and improve the environment for the benefit of the community'.[3] These Directive Principles are supposed to 'guide Parliament, the President and the Cabinet of Ministers in the enactment of laws and the governance of Sri Lanka'.[4] Secondly, under the section on 'fundamental duties' in the same chapter, it is the duty of every person in Sri Lanka 'to protect nature and conserve its riches'.[5] There is thus a shared responsibility between the state and community to ensure environmental protection.

Although it is expressly declared that the Directive Principles and Fundamental Duties 'do not confer or impose legal rights or obligations and are not enforceable in any court or tribunal', no part of the Constitution can be dismissed as redundant. These Directive Principles have today been linked to the 'public trust' principle and should guide state functionaries, from lowest to highest, in how they exercise their powers.[6] At the same time the 'fundamental duties' of citizens are often cited by public interest petitioners to justify their *locus standi* to file environmental cases.

Articles 11, 12 and 13 of the Fundamental Rights chapter set out rights available to every 'person' while Article 14 sets out certain additional rights available to every 'citizen'. Article 15 sets out the circumstances in which such rights may be restricted. Unfortunately, there is no explicit reference to the environment in the 'Fundamental Rights' chapter (Chapter III). Neither is there an expressly declared 'right to life' in the Constitution. The right to life has been frequently invoked in countries such as India and Bangladesh when filing cases on environmental matters.

3 Article 27(14) of the Constitution of Sri Lanka.
4 Article 27(1) of the Constitution of Sri Lanka.
5 Article 28(f) of the Constitution of Sri Lanka.
6 Per Justice Tilakawardane in *Sugathapala Mendis v Chandrika Bandaranaike Kumaratunga* S.C.F.R. 352/2007, S.C. Minutes of 01.10.2008 (the *Waters Edge* case).

Despite these gaps in the constitutional framework, environment-related cases have increasingly become the subject of fundamental rights litigation in Sri Lanka. This has been achieved by bringing environment-related issues within the ambit of the declared fundamental rights, most notably under Article 12(1), which states that 'All persons are equal before the law and are entitled to the equal protection of the law'. Article 14 has also been used in some cases.

3.2.2 How Environmental Cases were Brought under Article 126

Under Article 126 of the Constitution, which lays down the procedure for filing fundamental rights applications, 'any person' alleging that his fundamental right has been, or is about to be, infringed by executive or administrative action, may file action in person or by an Attorney-at-Law on his behalf.[7]

Initially environment-related fundamental rights cases were always filed in the names of affected individuals, even though such cases were often funded and assisted by environmental organisations. For example, in *Bulankulama v Secretary, Ministry of Industrial Development* (the *Eppawela phosphate mining* case) the petitioners were from the Eppawela area but were legally assisted by the Environmental Foundation Limited.[8]

Corporate bodies incorporated in Sri Lanka have been recognised as being 'persons' and 'citizens' for the purpose of the fundamental rights jurisdiction, and in 2004 the Environmental Foundation Limited filed a case in its own name for the protection of Galle Face Green from commercial exploitation. An objection taken to its legal status was overruled by the Supreme Court which went on to give judgment in favour of the Foundation.[9]

The Rules of the Supreme Court have broadened the provisions of Article 126 to include what in India is known as 'epistolary jurisdiction'. Under these Rules, when any alleged infringement or imminent infringement of a fundamental right is brought to the notice of the Supreme Court in writing, whether by the complainant or some other person, the Court may in its discretion treat such writing as a petition under Article 126(2), if satisfied that the affected person does not, or may not, have the means to pursue such a complaint in accordance with prescribed procedure, and that such person has suffered or may suffer prejudice as a result of such infringement or imminent infringement.

---

7 Article 126(2) of the Constitution of Sri Lanka.

8 *Bulankulama v Secretary, Ministry of Industrial Development* (the *Eppawela phosphate mining* case) [2000] 3 Sri L.R. 243.

9 *Environmental Foundation Limited v Urban Development Authority*, S.C.F.R. No. 47/2004, S.C. Minutes of 28.11.2005. Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.22.

In such cases the Registrar of the Supreme Court is directed to refer the matter to the Legal Aid Commission or any Attorney-at-Law who is a member of any panel or organisation established for the purpose of providing legal aid, in order that a formal application be prepared and submitted to Court. Where the complainant is not the person aggrieved, the Registrar is required to verify from the person aggrieved that he or she wishes to proceed with the application. Under these provisions it would be open to the Court to refer an environment-related complaint to a recognised environmental organisation to assist the complainant.

The Supreme Court has also allowed environmental organisations to intervene in environment-related cases filed by private parties. In *Al Haj M.T.M. Ashik v R.P.S. Bandula, OIC Weligama*, (the *Noise pollution* case) the Environmental Foundation Limited which was not a party to this case, which involved a dispute between two groups wanting to use loudspeakers, was permitted to intervene as *amicus curiae* on behalf of the public.[10]

The examples given in the preceding paragraphs illustrate that today, even without a specific right to a clean and safe environment, there is no procedural bar to environmental groups filing fundamental rights actions, assisting others to do so, or intervening on behalf of the public where it is necessary to protect the environment, in cases where disputing parties are seeking to pollute the environment.

3.2.3 Environmental Issues and the Substantive Rights Set Out in Chapter III of the Constitution

Article 12, which guarantees equality before the law and equal protection of the law to all citizens, is the most frequently invoked article in environment-related fundamental rights cases, either on its own or in conjunction with other rights.

A failure to apply the environmental laws of the country to a particular project or a particular geographical area could amount to unequal treatment of the persons who are affected, or a violation of the right to equal protection of the law, and thus constitute an infringement of Article 12(1). This principle was applied in the *Eppawela phosphate mining* case where the petitioners were denied the right to participate in the Environmental Impact Assessment process prescribed by the National Environmental Act, because the project proponent was to be allowed to do his own impact assessment through a foreign consultant of his choice.[11]

[10] *Al Haj M.T.M. Ashik v R.P.S. Bandula, OIC Weligama*, (the *Noise pollution* case) S.C.F.R. No. 38/2005, S.C. Minutes of 09.11.2007. Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.1.

[11] *Bulankulama v Secretary, Ministry of Industrial Development* (the *Eppawela phosphate mining* case) [2000] 3 Sri L.R. 243.

Dissanayake v Gamini Jayawickrema Perera (the *Thuruwila* case) was a case that involved the competing needs for water on the part of farmers and town folk in Anuradhapura.[12] The Court, conscious of the water needs of both sectors, encouraged the parties to formulate a scheme that would look to the interests of both. An agreement was reached amongst the different parties and the settlement endorsed by the court. The terms of settlement illustrate the detail that is often required in judgments on economic rights.

In the *Galle Face Green* case already referred to, the Environmental Foundation Limited invoked Article 12(1) along with Articles 14(1)(a) and 14(1)(g). Its claim was based on the refusal of the Urban Development Authority to disclose information pertaining to the leasing of Galle Face Green to a private party which, the Foundation alleged, was preventing it from discharging its legitimate functions of campaigning and keeping the public informed on a matter relating to environment.[13] The Supreme Court upheld this claim, stating that 'Article 14(1)(a), to be meaningful and effective should carry within its scope an implicit right of a person to secure relevant information from a public authority in respect of a matter that should be in the public domain'.[14]

It is settled law that the right to freedom of speech and expression guaranteed by Article 14(1)(a) includes the right to obtain information so as to exercise the right more meaningfully.[15] In the *Eppawela phosphate mining* case, Justice Amerasinghe stated that 'access to information on environmental issues is of paramount importance'.[16] In fact, at the leave to proceed stage of that case, the Court presided over by Justice Fernando directed the respondents to forward to the Registrar within one week a certified copy of any signed mineral investment agreement pertaining to the Eppawela phosphate deposit.[17]

The case of *Peiris v Rupasinghe* involved a physical attack on the head of an organisation that was campaigning on an environmental issue.[18] The Court held that there had been an infringement of the petitioner's rights under Articles 14(1)(a) – freedom of speech and expression; 14(1)(b) – freedom of peaceful assembly; and 14(1)(c) – freedom of association.

---

12 *H.B. Dissanayake v Gamini Jayawickrema Perera, Minister of Irrigation and Water Management S.C.F.R.* 329/2002 decided 30.09.2002 (the *Thuruwila* case).

13 *Environmental Foundation Limited v Urban Development Authority* S.C.F.R. No. 47/2004, S.C. Minutes of 28.11.2005. Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.22.

14 Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.29.

15 See: *Wimal Fernando v Sri Lanka Broadcasting Corporation* [1996] 1 Sri L.R. 157.

16 [2000] 3 Sri L.R. 243 at 316.

17 S.C.F.R. 884/99, S.C. Minutes of 27.10.1999.

18 *Peiris v Rupasinghe* (1999) 6 S.A.E.L.R. 141.

3.2.4 Just and Equitable Orders under Article 126(4)

Article 126(4) of the Constitution gives the Supreme Court a wide discretion 'to grant such relief or make such directions as it may deem just and equitable' in the circumstances of the case.

The Court invoked this power in *M.T.M. Ashik v Bandula*, the *Noise pollution* case referred to earlier in this Chapter.[19] When the Central Environmental Authority (CEA) failed to formulate a set of regulations pertaining to noise emissions after several dates, the Court itself, in the exercise of its powers under Article 126(4), formulated a set of regulations and directed the Police to enforce such regulations using their powers under Section 261 of the Penal Code No. 2 of 1883 (as amended) (public nuisance) and Section 80(1) of the Police Ordinance No. 16 of 1865 (as amended) (issue of permits for loudspeakers).

Where parties are receptive, the Court may encourage them to reach a settlement. This approach may be particularly useful where the activity complained of is not illegal or dangerous per se, but the manner in which it is carried out causes injury or discomfort.

An example was *Environmental Foundation Limited v Attorney General* where, after the Court had granted leave to proceed, the CEA, in consultation with a quarry owner and the residents of the surrounding area, drew up a regime to control the times and frequency of the blasting operations. This settlement was then entered into as an Order of Court.[20]

In addition, the Supreme Court has held that the *audi alteram partem* rule or 'the right to be heard', which is an important ground for the issue of writs of *certiorari*, is also part of Article 12(1) and has used this interpretation in environmental matters. *Gunaratne v Homagama Pradeshiya Sabha* involved a cancellation of permission previously granted to the petitioner to establish a saw mill at a particular location and since no hearing was given prior to the withdrawal of permission the act was held to be 'arbitrary'.[21]

3.2.5 The Right to Life in Relation to the Environment

As the fundamental rights chapter of the 1978 Constitution does not expressly mention 'the right to life', it has sometimes been argued that there is no such right. The alternative argument is that the recognition of the right to life is implicit in all the other rights that

[19] *Al Haj M.T.M. Ashik v R.P.S. Bandula, OIC Weligama* (the *Noise pollution* case) S.C.F.R. No. 38/2005, S.C. Minutes of 09.11.2007. Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.1.

[20] *Environmental Foundation Limited v Attorney General* (1994) 1(1) S.A.E.L.R. 17.

[21] *Gunaratne v Homagama Pradehsiya Sabha* [1998] 2 Sri L.R. 11.

are expressly set out, since such rights would be meaningless without the right to life itself. This alternative argument receives some tenuous support from the wording of Article 4(d) of the Constitution which speaks of 'the fundamental rights which are by the Constitution declared and recognized …'

Initially, proponents of the viewpoint that the Constitution does not contain the right to life could cite a significant procedural point in their favour, namely that Article 126(2) allowed for the filing of fundamental rights applications only by the aggrieved party himself or an Attorney-at-Law on his behalf. However, in the case of *Sriyani Silva v Iddamalgoda,* the Supreme Court upheld a claim to compensation by the widow and child of a man who had been assaulted to death in police custody.[22] The basis of the action was that the man's fundamental rights under Articles 11 (freedom from torture) and 13(2) (wrongful deprivation of personal liberty) had been infringed, and since he was no longer alive to claim the compensation that would have been due to him, the respondents should be required to pay that compensation to his next of kin, namely his widow and child. This follows the normal civil procedure where the person entitled to receive compensation has died.

However, the Supreme Court did not base its judgment solely on the laws of civil procedure but took the position that the right to life was implicitly guaranteed under certain other provisions of the fundamental rights chapter, most notably Article 13(4), which states that no person shall be punished with death or imprisonment except by order of a competent court. This article necessarily recognises that a person has a right to life, although the Court was careful to state that this right to life was to be interpreted in the sense of 'mere existence' as distinct from the quality of life.

Thus the Court appeared to shut the door to the broader interpretation of right to life, which has come to be judicially recognised in countries such as India and Bangladesh, where the Constitution expressly includes the 'right to life'. In these countries the courts have held that the right to life includes the things necessary for a healthy life, such as clean water and a clean environment.[23]

The right to life as set out in Article 21 of the Indian Constitution is linked to 'liberty' and not to the socio-economic quality of life. Yet the socio-economic dimensions of the right to life were developed through a process of judicial interpretation by relating it to the 'Directive Principles of State Policy' in the Indian Constitution.

---

22 *K.D. Sriyani Silva v C. Iddamalgoda, OIC, Police Station Payagala* [2003] 2 Sri L.R. 63.

23 e.g. *M.C. Mehta v Union of India*, AIR 1988 SC 1057 (the *Kanpur Tanneries* case), AIR 1988 SC 1117; *Dr. Mohiuddin Farooque, Secretary, Ministry of Commerce, Government of the People's Republic of Bangladesh*, Writ Petition No. 300 of 1995; 3 S.A.E.L.R. 80.

In Sri Lanka such principles, including protection of the environment, are likewise mentioned in the Directive Principles of State Policy. In the recent judgment in the *Waters Edge* case[24] the Supreme Court linked the Directive Principles to the public trust doctrine, which has long been accepted as part of Sri Lanka's 'unwritten law' which is kept alive under the Constitution.[25] Thus it is possible to argue that life-threatening environmental harm would be actionable, using a combination of Article 12(1), the Directive Principles and the public trust doctrine.

An environmental case that attempted to invoke the 'right to life' directly, on the basis that such a right is implicitly 'recognised' by the Constitution, even if not expressly declared, was *Deshan Harindra (a minor) v Ceylon Electricity Board,* which involved severe noise pollution from a diesel generator that was affecting very young children.[26] As a result of the case the Ceylon Electricity Board (CEB) stopped the operation of the generator and the private power generating company made an *ex-gratia* payment to the affected families. As the case ended in a settlement, the legal argument on the right to life was not tested.

3.3 Challenges to Bills in the Supreme Court

Some environment-related legislation has come before the Supreme Court under the constitutional provisions relating to Parliamentary Bills.

3.3.1 Substantive Challenges to Bills under Article 121(1) of the Constitution

Under this Article, the President may refer a Bill to the Supreme Court for a determination as to whether it requires to be passed by a two-thirds majority in Parliament and/or a referendum on the ground of inconsistency with any provision of the Constitution. In addition, any citizen may petition the Supreme Court within seven days of the Bill being placed on the Order Paper of Parliament, on the grounds that one or more of its provisions are inconsistent with the Constitution. However, once an Act of Parliament is certified by the Speaker as having been duly passed, its validity cannot thereafter be challenged.[27]

[24] *Sugathapala Mendis v Chandrika Bandaranaike Kumaratunga*, supra.

[25] Article 16(1) of the Constitution of Sri Lanka.

[26] *A.V. Deshan Harindra (a minor) v Ceylon Electricity Board* (1998) 5(4) S.A.E.L.R. 116.

[27] However, see S.C. Reference No. 03/08, Supreme Court Minutes of 15.10.2008 where the Supreme Court raised some doubt about the inevitability of this principle.

3.3.2 Procedural Challenges to Bills in terms of the 13th Amendment

The 13th Amendment to the Constitution introduced in 1987 created nine Provincial Councils to coincide with the nine provinces. These Councils are elected bodies which have law-making powers over the subjects named in List I of the Ninth Schedule to the Constitution ('Provincial Council List') while the Government has exclusive legislative powers over the subjects in List II ('Reserved List'). There is a third list called the 'Concurrent List' in respect of which either the Government or the Provincial Council can legislate after consultation with the other. In the event of there being a conflict between the provisions of a Provincial Statute and an Act of Parliament, the latter shall prevail, and the former, to the extent of such inconsistency, shall be void.

Parliament is not precluded from making laws in respect of a subject in the Provincial Council List, but it has to follow the special procedure prescribed by Article 154G, which requires the Bill to be referred to every Provincial Council for its views prior to being placed on the Order Paper of Parliament. Where every Council approves the Bill, it may be passed by a majority of members present and voting in Parliament. Where one or more Councils do not agree to the Bill, such a Bill is required to be passed by a two-thirds majority in Parliament if it is to be applicable throughout the country, or else it may be passed by a simple majority and becomes applicable only within the Provinces whose Councils approved it.

3.3.3 Determinations of the Supreme Court

The *Water Services Reform Bill of 2003* provides an example of a Bill that was dismissed on the procedural ground referred to above. While 'water services' as such is not referred to in the Provincial Council List, the said list mentions the powers vested in local authorities under existing law. The Court found that the Bill under review was 'pervasive in its content in eroding the functions of local authorities to provide water services to consumers'. As the Bill had not been referred to the Provincial Councils prior to being placed on the Order Paper of Parliament as required by Article 154G, the Court held that the Bill could not be proceeded with.[28]

The *Land Ownership Bill of 2003* was likewise found to have contravened the procedural requirements of Article 154G, as 'land' is a provincial subject to the extent set out in Appendix II to the Ninth Schedule of the 13th Amendment and no reference of the Bill had been made to the Provincial Councils. However, the Court went on to list several

[28] Special Determinations Nos. 24 and 25/2003, reported in 8 S.C.S.D. 35.

other grounds of inconsistency with the Constitution. In the course of its determination the Court referred to land as 'one of the most valuable natural resources' and stressed the importance of not taking away the powers of the National Land Commission established under the 13th Amendment to determine national policy in regard to land use, having regard to soil, climate, rainfall, soil erosion, forest cover, environmental factors and economic viability.[29]

A contrasting case involved a 1992 Amendment to the *Greater Colombo Economic Commission Law No. 4 of 1978*, which changed the name of that institution to the 'Board of Investment of Sri Lanka' (BOI) and permitted it to operate throughout the country as a licensing authority exercising 'all powers, duties and functions conferred or imposed on or assigned to any persons, body or authority by any written law relating to the approval of plans for building … or the issue of any license, permit or authority required for the setting up … of such licensed enterprise'.

It was contended that the Bill sought to interfere with the licensing powers of local authorities, and that as 'Local Government' was a subject on the Provincial List, this could not be done without first referring the Bill to all the Provincial Councils for their views. The Supreme Court in this case, pointed out that the whole of the subject of local government had not been devolved under the 13th Amendment but only certain specific powers that did not include the power of approving building plans or issuing licenses to enterprises licensed by the Government.[30] Despite the sweeping powers conferred on the BOI under this Amendment, it was expressly stated in the Bill that the Board could not exercise any power under the National Environmental Act No. 47 of 1980 (as amended) except in consultation with, and with the concurrence of, the Central Environmental Authority.

3.3.4 Issues of Constitutionality Arising in other Proceedings

In terms of Article 125 of the Constitution, the Supreme Court shall have sole and exclusive jurisdiction to hear and determine any question relating to the interpretation of the Constitution. Accordingly, if any question of constitutional interpretation arises before any other court or tribunal, the matter should be forthwith referred to the Supreme Court which may stay further proceedings in the case until the constitutional matter is determined.

[29] Special Determinations Nos. 26 - 30, 33, 34 and 36/2003, 8 S.C.S.D. 41.
[30] Special Determination No. 1/1992, 1 S.A.E.L.R. 99.

3.3.5 Special Writ Jurisdiction of the Supreme Court

Section 2 of the Urban Development Projects (Special Provisions) Act No. 2 of 1980 allows the President, upon the recommendation of the Minister in charge of urban development, to declare by Gazette notification that any land or lands are urgently required for an urban development project that would meet the just requirements of the general welfare of the people. Section 3 thereupon declares that any person aggrieved by such order shall not be entitled to a remedy except by way of compensation or damages, and in particular, will not be entitled to any stay order or injunction to restrain any acquisition of land within the area so declared. Section 4 transfers the writ jurisdiction of the Court of Appeal to the Supreme Court in respect of any land that is the subject matter of this Act.

These provisions came before the Supreme Court for interpretation in *Amarasinghe v Attorney General*.[31] The Court held that a Section 2 order under the Act does not by itself have any adverse impact on the rights of the citizen. The Act does not empower the State to take over privately owned land under the State Lands (Recovery of Possession) Act No. 7 of 1979 (as amended) without first acquiring the land under the Land Acquisition Act No. 9 of 1950 (as amended). The Court also held that Section 3 cannot take away the powers of the superior courts that are enshrined in the Constitution itself.

By this judgment, the Court, without actually striking down the Act, interpreted it in a manner that rendered ineffectual its more objectionable provisions. Perhaps due to this judgment, this Act is seldom used.

3.4 Writ Jurisdiction under Article 140

The writ jurisdiction conferred by Article 140 of the Constitution is one of the principal safeguards against excess and abuse of executive power. It is linked to the 'public trust' doctrine to the effect that:

> *'Powers vested in public authorities are not absolute and unfettered but are held in trust for the public, to be exercised for the purposes for which they have been conferred, and that their exercise is subject to judicial review by reference to those purposes'.*[32]

[31] *S.C. Amarasinghe v Attorney General* (1994) 1 (1) S.A.E.L.R. 23.

[32] Fernando, J. in *Heather Therese Mundy v Central Environmental Authority* S.C. Appeal 58/2003, S.C. Minutes 20.01.2004.

Furthermore, the Supreme Court has referred to 'the fundamental assumptions' which underlie legislation conferring judicial and administrative remedies, namely that:

> *'The Legislature intended that disputes should be determined rather than avoided or postponed, that they should be decided after hearing both sides, rather than with one side unrepresented and therefore unheard, and that fair procedures should be respected. In relation to procedural issues … courts and tribunals must not act upon the principle that every procedure is to be taken as prohibited unless it is expressly provided for by the Code, but on the converse principle that every procedure is to be understood as permissible until it is shown to be prohibited by the law …'*[33]

The most commonly invoked writs in environment-related cases are *certiorari*, prohibition and *mandamus*. The jurisdiction of the Court of Appeal under Article 140 of the Constitution has not been diminished by the subsequent allocation of limited writ jurisdiction to the High Courts of the Provinces under Article 154P.[34]

Following the case of *Wijesiri v Siriwardene* which confirmed the right of petitioners to file writ applications in the public interest, the writ jurisdiction of the Court of Appeal has been frequently invoked by individuals and organisations in relation to environmental matters.[35]

3.4.1 Writ Applications in Environmental Cases

In *Environmental Foundation Limited v Land Commissioner* the petitioner prayed for writs of *certiorari* and prohibition after a commercial company had been let into possession of 50 acres of State land for the purpose of constructing a hotel. No opportunity was provided for public objections to be lodged as required by Section 96(6) of the State Lands Ordinance read with the Regulations made thereunder. In view of the environmental sensitivity of the area, the petitioner also sought and was granted an interim stay order restraining the Minister of Lands from executing a lease of the said land without compliance with the Regulations, pending the final determination of the application.[36]

Following the issue of the interim order, the Land Commissioner issued the required notice under the State Lands Ordinance and, despite receipt of a number of objections,

[33] *Atapattu v People's Bank* [1997] 1 Sri L.R. 208 at 217-281, per M.D.H. Fernando J.
[34] *Weragama v Eksath Lanka Wathu Kamkaru Samithiya* [1994] 1 Sri L.R. 293.
[35] *Wijesiri v Siriwardene* [1982] 1 Sri L.R. 171.
[36] *Environmental Foundation Limited v Land Commissioner* [1993] 2 Sri L.R. 41; (1994) 1 S.A.E.L.R. 53.

the lease was granted. The issue as to whether the Land Commissioner exercised his discretion taking into account relevant factors and ignoring irrelevant factors, was not raised before the courts. This case underscores the fact that in a writ application the court is limited to considering the legal and procedural aspects of a case and cannot go into the merits of a decision. Construction of the hotel by the company went ahead with police protection even while the objections were still being considered and the stay order against the Land Commissioner restraining him from executing the lease was in force. As the company was not a State Agency, no stay order was issued against it.

In *Environmental Foundation Limited v Central Environmental Authority* the court held that where an Act requires a power to be exercised in a certain form, the neglect of that form renders the exercise of the power *ultra vires.* The issue was the manner in which the CEA could exercise its power of project approval under the NEA in respect of a mini hydropower plant for which there was an option to grant approval on the basis of an Initial Environmental Examination (IEE) without requiring a full EIA.[37]

The Petitioner argued that the impacts of the project as set out in the material before Court made it arbitrary and unreasonable for the 1st Respondent to grant approval without an EIA. It was also evident, from the documents placed before Court, that the decision to call only for an IEE had been made by a Technical Evaluation Committee (TEC) and was not the decision of the Project Approving Agency (the CEA). It was further established that approval had been granted for the project on the basis of the project proponent's answers to an 'Environmental Questionnaire' and not on the basis of the IEE report.

The Court, while stating that it would not substitute its judgment for that of the experts in determining whether the project required an EIA or an IEE, quashed the approval that had been granted on the twin grounds that:

(a) The CEA could not in law surrender or abdicate the discretion vested in it to the TEC and had therefore failed to exercise its discretion in granting its approval in the manner provided in Sec. 23BB(1) of the NEA; and

(b) The approval granted was based on the project proponent's answers to an environmental questionnaire, and not on a proper consideration of the IEE Report.

[37] *Environmental Foundation Limited v Central Environmental Authority,* C.A. Application No. 1556/2004, C.A. Minutes of 31.07.2006 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.15.

Interestingly in this case the court granted an interim order restraining the 4th Respondent company from carrying out the project until the final hearing and determination of the application. It is submitted that this is the better approach, as the purpose of a stay order is to prevent irreversible damage from being done pending the final judgment. Without the use of the stay order, private parties could reap benefits from a wrongful decision and cause irreversible damage to the environment even if the administrative decision in question is eventually set aside.

Where significant facts are in dispute, the use of writ jurisdiction is considered inappropriate, as such cases are decided entirely on the basis of affidavits and other documents placed before court and there is no opportunity for cross-examination of witnesses.[38] In the *Heather Mundy* case which involved deviations from the originally approved route of the Colombo-Matara Expressway, the Court of Appeal attempted to circumvent this difficulty by appointing a committee comprised of retired judges, whose expenses were met by the petitioners, to interview persons and ascertain facts. The outcome of this case was not favourable to the petitioners in the Court of Appeal, although they were subsequently granted substantial sums in damages by the Supreme Court on the basis of violation of their legal rights, while the project went ahead. [39]

3.4.2 Land Acquisition

Land Acquisition and environmental matters are frequently linked. Land can only be acquired by the State for a 'public purpose' and the notice under Section 2 of the Land Acquisition Act should state this purpose.[40]

Manel Fernando v Jayaratne cited above was a fundamental rights case under Article 12(1), but the facts would be equally amenable to a writ of *certiorari*. It involved the acquisition of the petitioner's land by order of the Minister despite the fact that it was not required for a public purpose and the Land Commissioner had not made or forwarded a request in that regard. In a case that had overtones of racial harassment and discrimination, the Court found that the acquisition was 'unlawful, arbitrary and unreasonable'. Justice Fernando also stated that the Section 2 notice under the Land Acquisition Act should state the public purpose for which the land was being acquired, except perhaps in matters of national security.

38 e.g. *Thajudeen v Sri Lanka Tea Board* [1981] 2 Sri L.R. 471 (not environment specific).

39 C.A. No. 688/2002, which subsequently reached the Supreme Court by way of S.C. Appeal No. 58 of 2003, decided 20.01.2004.

40 *Manel Fernando v D.M. Jayaratne, Minister of Agriculture and Lands*, [2000] 1 Sri L.R.113.

In *Udapussellawa Plantations Limited v Anuruddha Ratwatte* a writ was issued to quash an order under Section 38 of the Land Acquisition Act seeking to acquire land as a matter of urgency, as the State authorities were unable to establish any grounds for such urgency.[41] The Court cited *Manel Fernando* case as an authority.

3.4.3 Writ Applications before Provincial High Courts

Under Article 154P(4)(b) of the Constitution as amended by the 13th Amendment, the High Court of the Province shall have jurisdiction to issue according to law, orders in the nature of writs of *certiorari*, prohibition, *procedendo*, *mandamus* and *quo warranto* against any person exercising within the Province any power under:

(i) any law; or

(ii) any statute made by the Provincial Council established for that Province;

in respect of any matter set out in the Provincial Council List.

The meaning of Article 154P was extensively considered by the Supreme Court in the case of *Weragama* referred to above, where the Court held that the writ jurisdiction conferred on the Provincial High Courts is concurrent with the jurisdiction of the Court of Appeal under Article 140 and that the jurisdiction of the latter has not been diminished by the 13th Amendment. Secondly, on the question of interpretation of Article 154P(4)(b), the Supreme Court held that the words 'any law' under that Section should be read conjunctively with the words 'in respect of any matter set out in the Provincial List'.

The 'Concurrent List' in the Ninth Schedule to the Constitution contains the item 'protection of the environment' as well as a number of other environment-related subjects such as relief or rehabilitation of those distressed by floods or drought, soil conservation, plant pests, certain aspects of irrigation and the establishment of pastures.

The 'Provincial List' includes protection of environment within the Province 'to the extent permitted by or under any law made by Parliament'. This list also gives the Province control of many aspects of lands and provincial irrigation works.

At the time of writing, the North-Western (Wayamba) Provincial Council is the only Provincial Council to have established an environmental authority. This authority was established by a statute passed by the Provincial Council and not by or under the authority of an Act of Parliament, which has led some persons to question its validity. In

[41] *Udapussellawa Plantations Limited v Anuruddha Ratwatte,* C.A. No. 466/2002, C.A. Minutes of 25.07.2003.

the ongoing *Deduru Oya* case[42] the legal status of the Provincial Environmental Authority as a monitoring and regulatory authority for the North-Western Province appears to have been accepted by the Supreme Court. However, the authority of its Chairman in regard to this particular case stems from the fact that he is carrying out orders of the Supreme Court, as illustrated by the following extract from the proceedings:

> '*….considering the extensive nature of violations that are reflected in these papers, Court directs further action to be taken. Mr. Senanayake, Provincial Director of the Environmental Authority, Wayamba Province submits that a meeting will be convened of the Senior Superintendent of Police of the North Western Region to evolve a comprehensive strategy to stop the violations that are now taking place. The meeting is to be convened by Mr. Senanayake who is authorized to request the officers to attend the meeting at the G.S.M.B.'*[43]

Any issue as to the constitutional validity of the Authority, and any allegation that the Authority has infringed fundamental rights, would have to be heard in the Supreme Court. Any other legal action against the Provincial Environment Authority could be instituted in the High Court of the Province or the Court of Appeal, following the decision in *Weragama* case referred to above.

3.4.4 The *audi alteram partem* Rule

The duty to hear both sides to a dispute is an important principle of administrative fairness, and failure by a public authority to observe this principle could form the subject matter of an application for writ of *certiorari* to the Court of Appeal or the Provincial High Court, depending on the subject matter.

The fundamental rights case of *Gunaratne v Homagama Pradeshiya Sabha*, discussed in the preceding part of this chapter, could equally well have been dealt with under the writ jurisdiction.[44] The principles on which the relevant administrative authority should act when issuing or cancelling an Environmental Protection License (EPL) were well set out by a previous Secretary to the Ministry of Environment.[45] In the course of his written decision, the Secretary not only held that there had been a procedural lapse in failing to give the industrialist a hearing prior to cancelling the EPL which was an infringement of the principles of natural justice (the '*audi alteram partem*' rule) but also made the following observation:

---

42 S.C.F.R. 226/06 supra.

43 S.C.F.R. 226/06, S.C. Minutes of 18.02.2008.

44 *V.D.S. Gunaratne v Homagama Pradeshiya Sabha* (1998) 5 S.A.E.L.R. 28.

45 See: *Appeal under Section 23E of the National Environmental Act by E.M.S. Niyas*, [1995] 2 S.A.E.L.R. 1.

'The CEA and other delegated institutions have a legal duty to follow the principles of natural justice when issuing, suspending and cancelling environmental protection licenses. This does not mean that the CEA and such institutions have to conduct proceedings like a court of law. Natural justice and the duty to act judicially simply require that the CEA and the institutions to which it has delegated that power must act "fairly", giving affected parties a fair opportunity to place their case before the CEA/ delegate institutions and making EPL decisions only on relevant data, evidence and facts.'

3.5 Actions or Prosecutions under Criminal Law

3.5.1 Public Nuisance under the Code of Criminal Procedure Act

Chapter IX of the Code of Criminal Procedure Act[46] headed 'Public Nuisances' empowers a Magistrate to make orders for the removal or abatement of a public nuisance. The categories of public nuisance for this purpose are enumerated in Section 98(1) as:

- any unlawful obstruction or nuisance in any public way, harbour, lake, river or channel;
- any trade or occupation or the keeping of any goods or merchandise that is injurious to the health or physical comfort of the community;
- the construction of any building or the disposal of any substance that is likely to cause conflagration or explosion;
- any building or tree that is in such condition that it is likely to fall and injure passers by;
- any tank, well or excavation adjacent to any public way or place which may be a danger to the public.

Any member of the public may institute legal proceedings by filing a report or other information before the Magistrate having jurisdiction over the relevant location.

The Magistrate may then make a conditional order directing specified action to be taken to abate the nuisance. The order should be served on the relevant person or persons in the manner of service of summons, or, if such service is not practical, a copy should be posted at such a place as the court shall think fit for conveying the information to the relevant person(s).

[46] Code of Criminal Procedure Act No. 15 of 1979 (as amended).

An affected person against whom a conditional order is made, is entitled to have the order set aside or modified. After recording evidence from the affected party and the complainant and any other witnesses, the Magistrate may rescind or vary the conditional order or make the same absolute under Section 101.

An order thus made cannot be set aside in a civil court but may be the subject of an appeal or revision application to the High Court.

If the Magistrate, while making an order under Section 98, considers that immediate measures should be taken to prevent imminent danger or serious injury to the public, he may issue an injunction under Section 104 directing the person against whom the Section 98 order was made, to obviate or prevent such danger or injury. In default of obedience to such injunction, the Magistrate may use or cause to be used such means as he or she thinks fit to obviate such danger or prevent such injury, and no suit shall lie in respect of anything done in good faith by the Magistrate under this Section.

This chapter also provides for an order absolute to be made at once in urgent cases of nuisance under Section 106. Such an order may be altered or rescinded by the same Magistrate or the Magistrate's successor.

3.5.2 Relationship between Public Nuisance Provisions and the National Environmental Act

At least two cases have gone to the Court of Appeal regarding the relationship between the issue of a license under Part IVA of the NEA and the powers of the Magistrate to determine whether or not an activity causes a public nuisance.

In *Keangnam Enterprises Limited v E.A. Abeysinghe*[47] the informants in the Magistrate's Court proceedings (a group of area residents) obtained a conditional order under Section 98(1) of the Code of Criminal Procedure Act together with an injunction under Section 104, staying the quarrying operations carried out by the company which were alleged to constitute a public nuisance. The argument of the company was that the Magistrate's jurisdiction under Chapter IX of the Code had been taken away by the licensing provisions of the NEA. The company relied on Section 29 of the NEA which states that:

> *'The provisions of this Act shall have effect notwithstanding anything to the contrary in the provisions of any other written law …'*

[47] (1994) 1 S.A.E.L.R. 1.

However, it was found that at the time the Magistrate made his order, the company had only applied for, but not received an EPL from the Central Environmental Authority. Hence a revision application by the company against the Magistrate's order was dismissed, but with a proviso that the company, which had since obtained an EPL, could make submissions on the issue in the Magistrate's Court where the main inquiry under Section 101 of the Code was yet to take place.

In the more recent case, also involving the Keangnam Company, the Magistrate of Balangoda issued a conditional order and overruled the objection taken by the company which had obtained an EPL for its proposed activities. The view of the Magistrate was that such a license did not fetter his power to determine whether a public nuisance had been committed. The company moved for revision in the Provincial High Court which set aside the order of the Magistrate. The case then went before the Court of Appeal, which extensively reviewed the authorities in Sri Lanka and other jurisdictions, and held that the Magistrate had jurisdiction to determine whether a public nuisance had been committed. The fact that the activity in question had been authorised by some other law was a relevant consideration, but the question whether the statute in question authorised the committing of a public nuisance was ultimately a matter for the Magistrate to decide.[48]

Amongst the cases reviewed in the judgment was the Indian case of *Nagarjuna Paper Mills Limited v Sub-Divisional Magistrate and Divisional Officer, Sangareddy*,[49] where the High Court rejected the argument that the State Pollution Control Board had exclusive power to control air and water pollution and held that the Water (Prevention and Control of Pollution) Act of 1974 had not taken away the powers of the Magistrate under the Indian Code of Criminal Procedure, which is very similar to that of Sri Lanka.

3.5.3 Right of Appeal from Magistrate's Court

An action for public nuisance is criminal in nature and not a *'sui generis'* action. Hence there is a right of appeal to the High Court of the relevant province under Chapter XXVIII of the Code of Criminal Procedure.[50]

However, if parties have consented to certain terms and conditions being entered into as a part of a settlement, that would then constitute a consent order from which no appeal

[48] *R. P. Weerasekera v Keangnam Enterprises Limited*, C.A. (PHC) No. 40/2004, H.C. Ratnapura No. HCRA 56/2002, M.C. Balangoda No. 73896.

[49] (1987) Cri. L.J. 2071 (Andhra Pradesh High Court).

[50] See Sections 316 – 330 of the Code of Criminal Procedure and *Fernando v Cooray*, [1991] 1 Sri L.R. 281; (1999) 6 S.A.E.L.R 31.

would lie. Where the contesting parties agree to be bound by the order of the Magistrate made after a site inspection, neither side may thereafter appeal to the High Court against the order entered by the Magistrate.[51]

3.5.4 Relationship between Chapter IX and Environmental Laws

The *Kurunegala* case referred to in the preceding paragraph went on appeal to the Supreme Court. The decision of the High Court Judge that no appeal lay from a consent order entered by the Magistrate's Court was challenged before the Supreme Court. While the matter was pending in the Supreme Court, the North-Western Provincial Environmental Authority refused to issue a license in respect of the quarry that the appellant had wanted to operate. The Supreme Court accordingly made an order dismissing the appeal on the basis that as a license had been refused, the appellants had no authority to carry out their quarrying operations.[52]

3.5.5 Public Nuisance under the Penal Code

Under Section 261 of the Penal Code a person may be charged and prosecuted in criminal proceedings for the offence of public nuisance. A person is guilty of a public nuisance who does any act or is guilty of any illegal omission, which causes any common injury, danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity or which must necessarily cause injury, obstruction, danger or annoyance to persons who may have occasion to use any public right. A public nuisance is not excused on the ground that it causes some convenience or advantage.

3.6 Civil Suits for Private Nuisance

3.6.1 The Judicature Act and the Civil Procedure Code

Private nuisance falls within the definition of a cause of action under Section 5 of the Civil Procedure Code[53], being both a neglect to perform a duty (of not causing harm to others), and the infliction of an affirmative injury. It is a common law cause of action and has no statutory definition.

---

51 See: *P. Asoka v J.M. Aruna Shantha* H.C. Kurunegala 59/04, decided 05.09.2005.

52 *P. Asoka v J.M. Aruna Shantha*, S.C. Appeal No. 27/2006, S.C. Minutes 19.10.2007. The withdrawal of the license issued by the North-Western (Wayamba) Provincial Environmental Authority obviated the need for an argument on the respective powers of the Environmental Authority and the Magistrate, such as eventually took place in the second *Keangnam* case referred to above.

53 Civil Procedure Code No. 2 of 1889 (as amended).

Pleadings and rules of procedure follow the general principles of civil law, and action is filed in the appropriate District Court. Where there are numerous parties having a common interest, there is scope for one or more of such parties, with the permission of court, to file a class action under Section 16 of the Civil Procedure Code.

If an interim injunction is prayed for, the requirements of Section 54 of the Judicature Act[54] must be fulfilled, and the procedure for such actions is laid down in Sections 662 to 667 of the Civil Procedure Code.

It should be noted that Sections 54(1)(a) and 54(1)(b) of the Judicature Act expressly refer to 'nuisance'. Sub Section (a) refers to restraining the commission or continuance of 'an act or nuisance which would produce *injury* to the plaintiff', while (b) refers to the defendant doing, committing or procuring, or threatening to commit 'an act or nuisance *in violation of the plaintiff's rights* in respect of the subject matter of the action'.

In terms of the Civil Procedure Code as amended, only an enjoining order can be issued *ex-parte,* and both plaintiff and defendant must be heard before an interim injunction is issued.

In 2002, an organisation called 'New Vision Development Foundation' instituted an action in the District Court of Colombo, and obtained an interim injunction against the Road Development Authority and two commercial companies. The plaintiffs alleged that the defendants were using heavy vehicles at excessive speeds on the road over the Kantale Tank bund, thereby damaging the road and making it unsafe for the people of the area as well as the plaintiff organisation which worked with the people. This is an example of an action under the Civil Procedure Code with a strong 'public interest' element. However it was subsequently superseded (and cited) in a Court of Appeal writ application in 2004 that brought about a change in the weight limits for heavy vehicles using the said roads. [55]

3.6.2 Civil Liability under Marine Pollution Prevention Act

Part IX of the Marine Pollution Prevention Act No. 35 of 2008 imposes civil liability on:

- the owner or operator of a ship;
- the owner or person in charge of an apparatus;

[54] Judicature Act No. 2 of 1978 (as amended).

[55] Case No. 6451/Special in the District Court of Colombo. This case is referred to in Court of Appeal Writ Application No. 627/2004 which was filed regarding the same subject matter.

- the owner or occupier of an off-shore installation;
- the owner or occupier of a pipeline;
- the owner or occupier of the place on land, or the person carrying on the operation of exploration of natural resources;

for –

- □ any damage caused by the discharge, escape or dumping of any oil, harmful substances or other pollutant into Sri Lankan territorial waters or other maritime zone, the coastal zone, the foreshore or any interests related thereto; and
- □ the cost of any measures taken for the purpose or preventing, reducing or removing any damage caused by the discharge, escape or dumping of any oil, harmful substance or other pollutant to Sri Lankan waters, the coastal zone or the foreshore or any interests related thereto.

'Interests related to Sri Lankan waters' is defined to include marine, coastal, port or estuary activities including fishing; the promotion of tourism and the development of tourist attractions including coral reefs; the health and wellbeing of the coastal population; and the protection and conservation of living marine resources and wildlife.

There is also a duty to give notice of incidents of the kinds referred to above, and a requirement of compulsory insurance.[56]

3.7 Statutory Offences under other Environment-Related Laws

There are a number of laws, some enacted before independence, which create offences or require the intervention of the Magistrate's Court and sometimes the High Court. The relevant laws, Section numbers and a brief summary of their contents are tabulated below. Where fines are provided for, the law in question should be read together with the Increase of Fines Act No. 12 of 2005.

[56] Sections 38 and 36.

Table 1: Statutory offences

Title of Act	Section No(s)	Summary	Enforcement
Coast Conservation Act No. 57 of 1981 amended by Act No. 64 of 1988.	14(1) and 28	Prosecution for engaging in development activity in the coastal zone without a permit.	Magistrate's Court (MC) – fine and/or imprisonment.
Fauna and Flora Protection Ordinance No. 2 of 1937 as amended by Act No.49 of 1993.	63 – 65	Prosecution for any offence under this Ordinance.	MC fine and/or imprisonment and confiscation of weapons and equipment used for crime and animal or animal parts resulting from crime.
Forests Ordinance No. 16 of 1907 as amended by Act Nos. 13 of 1982, 84 of 1988, 23 of 1995.	53, 53A, read with Chapter IX of Land Development Ordinance.	Prosecution for any 'forest offence'; ejectment of convicted persons who are in unauthorised occupation of state land.	MC has power to impose full penalty for offence notwithstanding any limitation to its jurisdiction under Code of Criminal Procedure.
Land Development Ordinance No. 19 of 1935 as amended by Act Nos. 22 of 1993, 9 of 1995, 20 of 1996.	Chapter IX	Procedure if permit holder whose permit has been cancelled and on whom notice to vacate has been served, fails to vacate.	Upon report being filed in MC by authorised officer, Magistrate to issue summons on person refusing to vacate, to show cause why he should not be ejected.
Marine Pollution Prevention Act No. 35 of 2008.	Part VII and VIII and Section 53.	Failure to comply with directions; criminal liability for discharge of pollutant into Sri Lankan waters; non-compliance with any provision of the Act.	Prosecution in High Court (see Section 48).
Mines and Minerals Act No. 33 of 1992.	63	Criminal liability for exploring for minerals or mining or processing, transporting, trading or exporting any mineral without a license; and other related offences set out in the Section.	Prosecution in MC.

National Environmental Act No. 47 of 1980 as amended by Act No. 56 of 1988 and 53 of 2000.	Part IVB	Restriction, regulation and control of pollution of inland waters, atmosphere (by substance, odours or noise), or soil (by dumping of litter).	Prosecution in MC: measures that may be imposed include fines; orders to clean up or bear the cost of cleaning up; closure of factories or other premises.
State Lands Ordinance No. 8 of 1947.	54 and 83.	Section 54 – ejectment from state land reservations; Section 83 – Prosecution for unlawful diversion of water from public lake or stream.	Prosecution in MC.

Notes

Notes

Chapter 4

The Interpretation of Scientific Evidence in Environmental Cases

4.1 Introduction

Scientific facts play a major role in environmental litigation. They are part of or form the basis of observations, site reports, tests, analytical reports, environmental assessments, studies on plants, animals and abiotic factors, projects and other activities. The scope of science in environmental activities is very wide and involves many different disciplines of science. Some scientific disciplines have a long history while others are quite new.

A number of laws and policies in Sri Lanka refer to standards that are based on scientific parameters. In these cases, compliance with those standards must be ascertained on the basis of scientific tests and investigations, including but not confined to the analysis of samples. The procedure adopted in collecting samples, their handling and storage, and the types of tests that are carried out, are all part of the process and have a bearing on the ultimate result.

The different disciplines of sciences play a significant role in other types of litigation and there is a tendency to depend on scientific evidence in many such cases. For example, fingerprints and palm prints have been part of scientific evidence for a long time. DNA evidence is now being increasingly used. There is now a trend to rely on scientific evidence in nuisance actions, especially those that involve chemical discharges, sound and vibration.

Scientific facts have to be produced in court as part of the evidence of those who have carried out the tests. Scientific facts could also be analysed and interpreted by others who are experts in the field. Thus, scientific evidence needs the opinions of experts who

have a specialised skill and experience in that particular scientific discipline. This has also increased the amount of expert evidence brought before courts.

It is always a safe option to rely on an expert witness to interpret a set of data or a calculation as the methodology may not be familiar to courts and others. There are many scientific facts, which if not properly interpreted, may give an erroneous impression.

Similarly, the scientific name of a species of plant or animal may mean nothing by itself but could well be an endemic, an endangered species, a common species, a pest, a predator or an invasive alien species. The importance of both these examples could be made available to court only by an expert in the relevant field.

There could be instances where the court may have to rely on more than a single witness to ascertain a fact. For example, an analyst or chemist may be able to measure different parameters but will not be competent to give an assessment or an opinion. Similarly, an expert in identifying an animal or plant may not necessarily be the expert in assessing the status and implications associated with the same species.

4.2 Scientific Reports

A scientific report is a document prepared by one or more persons with the necessary knowledge and experience to ascertain the scientific facts after observation, the taking of measurements and the analysis of samples. These can be broadly classified into two categories:

- Inspection reports
- Analytical reports

4.2.1 Inspection Reports

These are reports which are based on one or more visits to the place in question, and contain observations and evidence gathered during the visits, visual observations, tests made at the site itself (e.g. sound measurements), details if samples taken, and wherever relevant, statements made by different parties. An inspection report is a comprehensive report which may contain details of analytical reports and recommendations.

An inspection report should include the names and designations of the officers who made the inspections together with the date and time of each visit. It should be signed by the officers concerned. If details of analytical reports are included, the reports should be appended to the inspection report.

4.2.2 Analytical Reports

These are reports which contain data together with an analysis in order to highlight violations, compliance or provide an explanation. The data could be measurements of physical parameters such as sound, vibration and air blast over pressure or chemical parameters such as biological oxygen demand (BOD), chemical oxygen demand (COD), and the presence of certain substances.

Table 1: Common scientific parameters in environmental cases[1, 2]

Type of pollution	Parameter	Description
Water pollution	COD	Chemical oxygen demand is a measure of the amount of oxygen that is needed to oxidise all the organic and inorganic compounds in a particular water body.
	BOD	Biological oxygen demand is an indirect measure of the concentration of biologically degradable material that is present in organic wastes.
	pH	pH is a measure of the acidity or basicity of a solution. Distilled water is said to be neutral (pH 7). Solutions with a pH less than 7 are said to be acidic and solutions with a pH greater than 7 are said to be basic or alkaline. The pH scale is a logarithmic scale which means that for example, a solution of pH 1 is said to be 10 times as acidic as a solution of pH 2.
Noise pollution	Decibel	Decibel is a unit that measures the intensity or loudness of sound. Audible sound ranges from the threshold of hearing at 0 dB to the threshold of pain at 130 dB and over. Although an increase of 6 dB represents a doubling of the sound pressure, an increase of about 8 to 10 dB is required before the sound subjectively appears to be significantly louder. Similarly, the smallest perceptible change is about 1 dB.
Air pollution	Ambient air quality standard	It is the permissible upper limit for a pollutant in ambient air (open air), that serves as a target in air quality improvement or protection programmes (types of pollutants measured include carbon monoxide, nitrogen dioxide, sulphur dioxide, ozone and particulate matter). The maximum permissible level varies with the type of pollutant.

[1] Park, C. 2008. *Oxford Dictionary of Environment and Conservation*. Oxford University Press, New York.

[2] Brüel and Kjær. 2001. *Environmental Noise*. Brüel & Kjær Sound & Vibration Measurement A/S.

The analytical report should not only present the data but must also compare and evaluate the data along with accepted parameters and standards to show whether a problem exists. If there is a problem, the analytical report should identify the relevant parameters, and make mention of any other matters that are important. The report should contain details such as the date of receipt of the samples, how they were kept, the date on which they were analysed, and the analysts who participated in the analytical process. It should be signed by an appropriate official.

It is important to note that there should be explanatory notes accompanying the report. This is to prevent misinterpretations by those not acquainted with the analytical process, the measurements, or the particular branch of science. For example, discharge standards for inland waterways under the National Environment Act (NEA) are based on both the receiving environment and the type of industry. An analysis of a discharged effluent sample should mention these factors and also mention whether the sample was taken from the discharge outlet or from the receiving environment.

Measurements such as the sound level (decibels) and pH (acidity or alkalinity) are measured according to a logarithm and the increase in a measurement does not follow a linear increase. If such details are not explained it may give a misleading picture of the situation. For example, if a place has a background noise level of 50 decibels and also has a factory that generates a further 50 decibels of sound, the cumulative reading would be 53 decibels and not 100 as would be expected.

An analytical report therefore should be part of the examination of a competent witness who should be in a position to explain the various scientific aspects to help the court. If the document is not produced through a witness who can be examined and cross-examined there is a real danger of the court missing vital points and not being able to come to a proper assessment of the situation. The person producing the document could be an expert who can express his or her opinions or could be a person who is not an expert but can describe the scientific facts. It is vital to ascertain whether such a witness is produced as an expert or not before the person is allowed to give an opinion.

There are instances where there are no standards imposed by the legislation but instead standards are imposed by some government body as part of the approval process. In such instances it is important to ascertain whether the criteria are general to a particular industry or emission or whether they have been imposed specifically for the particular venture. If these criteria and standards are not set out in a regulation, the witness should be able to satisfy court about their relevance and the harm that the standards are seeking to prevent or cure.

4.2.3 Identification of Materials, Animals, Plants and their Parts and Products

There are instances where a report is called from a competent authority or person to confirm the identity of a species of animal or plant. The sample sent for the examination could be whole animals or plants, flesh, horn, hide, or other parts of an animal or the leaves, stem, bark or other part of a plant. There are two types of such reports. One type relies mainly on visual observations and the other on samples subjected to tests.

A party who collects a sample of an animal or plant can send it either through a court order or as part of their routine identification process. In other instances proper identification could be facilitated, hindered or prevented if the samples are not handled and preserved in the appropriate manner. It is the duty of the officer to determine, and if necessary, inform court on the proper way to preserve the sample. For example, a fish specimen is preferably placed in alcohol, or formalin (formaldehyde) if the identification of the species is the only relevant matter (to determine whether it is a protected species or not). This may also be necessary to ascertain whether the fish had been killed using explosives, which is an offence under Section 27 of the Fisheries and Aquatic Resources Act.[3] The specimens may sometimes have to be preserved in ice in a fresh condition. If the specimens are alive the officer should take all precautions to prevent any harm befalling them during transportation.

In examining such a report the first consideration would be to ascertain the process through which the sample has been identified. The report should mention the person who identified the sample and the process adopted; the basis on which the identification had been made; and any other related matter, such as the elimination of other possibilities. The report could be signed by the person who did the analysis or by an authorised officer. In some enactments, a report on identification by a competent authority is accepted as *prima facie* evidence. For example Section 35 of the Fauna and Flora Protection Ordinance (FFPO)[4] states that the Department of Museums and the Department of Zoological Gardens are the competent authorities in making identifications of animals and their parts. There are instances where a competent authority may itself seek the opinion of outside experts and it is therefore important to ascertain whether the identification has been done by the competent authority or with the help of a third person.

[3] Act No. 2 of 1996 (as amended).

[4] Ordinance No. 2 of 1937 (as amended).

In instances where the species have been identified using observations, it is important that the report gives the observations that lead to the particular identity, excluding similar species. In some instances, visual identification could be supplemented with relevant scientific data and measurements. For example, the identification of turtle eggs could be accompanied by measurements to determine the species. Similarly in the case of certain birds the colour and markings in the eggshell could be corroborated by measurements. In the identification of seeds, stems, roots and tubers of plants it may be necessary to grow the plant or let it flower to get a clear identification. For example, the exact identity of water plants belonging to the genus *Aponogeton* can only be decided by examining the flowers as the leaves of all four species found in Sri Lanka may differ according to the place where it is grown.

There are certain instances where chemical analysis or DNA analysis is necessary to identify the species. In such instances the report should detail the analytical method, the results and the basis of the conclusion. This is important because there would be more than one method employed to identify a species and the court should be given an opportunity to ascertain the merits and shortcomings of the different processes to help form its own opinion. There could be certain processes that may not fall into the category of sciences and such conclusions would be mere speculation that should not be considered as the outcome of a scientific process.

In accepting scientific reports that have an analysis of a sample, the court has to consider the authenticity of the sample. Therefore the witnesses should provide the following:

a. the process involved in collecting the sample,
b. the sampling procedure including the sealing of the sample,
c. the steps taken to preserve the sample,
d. the chain of custody from the collection till the point of analysis.

It is important that dishonest or corrupt activities do not take place from the time the samples are collected, taken from the collection point up to the testing, and during the testing process. Although there is no foolproof system to prevent such events, a systematic approach in producing the evidence may highlight a weak link or disclose an ambiguity.

The following are some examples of corrupt or dishonest practices:

a. the collection of wrong or irrelevant samples,
b. not sealing them properly,
c. tampering or breaking a seal,
d. substitution of one sample with another,

e. incorrect testing procedures,

f. incorrect or irrelevant or outdated testing methods,

g. omission of key parameters,

h. incorrect baseline data,

i. test being done under circumstances when it may give a favourable reading to a party,

j. incorrect or incomplete comparisons or interpretation of results.

DNA Testing

DNA is the name of the genetic material that is found in most living organisms. (Another type of genetic material, known as RNA is found in a few organisms such as viruses.) Although all DNA in all living organisms are the same substance, they have unique arrangements of the basic units. Each DNA molecule has four types of base units and these can be arranged as a chain with unlimited possibilities. These uniquely combined DNA is passed from parents to descendants and thus the progeny shows several similarities with parents, as they have the same DNA that was in each parent. In reproduction, one parent passes off a half of the genetic material to the progeny and is coupled with the material from the other parent.

In DNA testing, the genetic material of an individual is matched with or compared with the genetic material of a close relative to see the similarities and to establish the relationship. These are usually compared with the material of a parent, a sibling or a descendent. This process involves the taking of a tissue sample from the individual (including blood), extracting the DNA and comparing the similarities with the relative. There could be instances when a sample taken from a scene of crime (blood or semen) would be compared to material taken from a suspect.

In DNA evidence, it is important to consider the following:

a. the taking of the samples or extraction of samples,

b. the chain of custody of samples from taking, up to testing,

c. the scientific method applied in extraction of DNA,

d. the scientific method of comparison of DNA,

e. the opinion of the expert.

In some instances, the expert will give the comparison and it may therefore be necessary to get the probability of the similarities or difference and get the expert to explain the scientific basis of the probabilities.

4.2.4 Computer Evidence

Computer generated evidence such as digital photographs, computer based readings, data recordings and other such material is being increasingly used in environmental cases. Some equipment is operated after being connected to a computer system and the data and readings are immediately transferred to the computer. In other cases, the data or evidence (including photographs) are loaded and stored in the equipment itself and is thereafter transferred to and stored in a computer.

The admissibility of computer evidence, including the images recorded by digital cameras, is determined by the provisions of the Evidence (Special Provisions) Act No. 14 of 1995.

According to Section 5 (1), computer evidence is admissible if:

a. it is in the form that it was produced, or in the form in which it is reproduced, (and) is capable of being perceived by the senses,

b. the computer producing the statement was operating properly and was not of such a nature as to affect the production of the statement or the accuracy of the information,

c. the information supplied to the computer was accurate and the information is reproduced or derived from the information supplied.

The court may admit in evidence a transcript, a translation, conversion or transformation in cases where the statement:

a. cannot be played, displayed or reproduced in such a manner as to make it capable of being perceived by the senses;

b. is capable of being so perceived but is unintelligible to a person not conversant in a specific science; or

c. is of such a nature that it is not convenient to perceive and receive in its original form.

According to Section 7, the filing of the evidence in court should follow the procedure given below:

a. a list of evidence that is proposed to be tendered by a party, together with particulars sufficient to understand such evidence has to be filed at least 45 days before the trial,

b. notice should be given to the opposing party at least 45 days before the trial,

c. the opposing party can, within 15 days of the receipt of the notice, apply to the party producing the evidence to be permitted access to:
    i. the evidence sought to be produced,
    ii. the device, machine and computer used to produce the evidence,
    iii. the records relating to the production of the evidence and the system used,
d. the party intending to produce the evidence should comply with this request within a reasonable time but within 15 days of receiving the request, and
e. if the party intending to produce evidence does not comply or both parties cannot agree on a date for inspection, the court can give an appropriate order or direction.

4.2.5 Photographs, Satellite Imagery, GPS and GIS

Technological advancements have meant that new tools and methodologies are now available for assessing environmental issues and problems. Satellite imagery, digital photographs, GPS (global positioning system) and GIS (geographical information system) are also forms of computer evidence.

Both aerial photography and satellite imagery are methods of remote sensing. Aerial photography is obtained using photographs of the ground from an elevated position, usually by aircrafts or helicopters. Aerial photography is used for mapping, land-use planning, archaeology, environmental studies and surveillance among other things. Satellite images are taken from satellites. Such imagery is now so advanced that it is of very high resolution, with resolutions of less than half a meter being possible. This means that these satellites are able to collect imagery at less than half a meter above the ground level.

Both aerial photos and satellite imagery are important technologies in the field of environment for assessing sites of interest. More importantly they provide the opportunity to assess change of land use, as photos or images of the same site, taken over a period of time can be compared. They can also be used to assess the current situation of a site, or allow comparison of the same site from a previous date: which can range from days to years.

In Sri Lanka, the Survey Department has a repository of such aerial photos covering almost the entire country, beginning from the latter half of the 1900s. Satellite imagery can be purchased from various institutions that sell satellite images. Interpretation and analysis of both aerial photos and satellite imagery requires expert skills, and often

sophisticated computer software. 'Google Earth' is a simple-to-use computer programme that can be downloaded to a computer to view the Earth virtually. It maps the Earth by the superimposition of images obtained from satellite imagery and aerial photography. In order to do a detailed assessment, obtain the latest images or to compare land use, more advanced computer programmes and images will be necessary.

GIS is a mapping software which captures, stores, analyses, manages, and presents data that is linked to a location. GIS technology can be used for activities such as scientific investigations, resource management, archaeology, environmental impact assessment and urban planning. GIS can be used for site selection for a particular development activity. For example it can be used to find sites that do not fall within the buffer zones of protected areas or areas which are not close to water bodies.

A GPS can be used to identify the exact location of a site, respective to its coordinates (latitude and longitude). A GPS receiver calculates its position by precisely timing the signals sent by the GPS satellites high above the Earth. A GPS can also give information regarding elevation. It is vital that a GPS is set up according to the settings relevant to the country or geographical area in which it operates in order to obtain the most accurate reading.

4.2.6 Environmental Assessments

Environmental assessments are required under the provisions of the National Environmental Act[5] (Section 23AA), the FFPO (Section 9A) and the Coast Conservation Act[6] (Section 16). These assessments can be an Initial Environmental Examination (IEE) or an Environmental Impact Assessment (EIA).

None of the above laws indicate what kind of report is to be prepared. This is determined during the initial evaluation that provides the terms of reference (TOR) for the final report. These reports are prepared by the proponents of the projects and thereafter submitted to the relevant authorities for evaluation. The TOR is a list of the different areas and subjects that have to be considered in the EIA/ IEE reports. The TOR enlarges on the legal requirements and covers any specific areas and concerns that have arisen at the scoping session or have been submitted by the concerned parties.

These environmental assessment reports (both EIA/ IEE) have to satisfy the criteria in the TOR and have to contain scientific and other facts, an evaluation of the project, the

5 Act No. 47 of 1980 (as amended).
6 Act No. 57 of 1981 (as amended).

possible and probable environmental consequences of a given project and recommend appropriate mitigatory measures. These reports, excluding the IEE prepared under the NEA, are open for public scrutiny and comments before being approved.

In some cases where the environment assessment report is produced in court as part of the documents, it means that the party concerned has complied with one step in the approval process. The production of the report in court does not mean that the project has been approved. It does not also indicate under what conditions the project has been approved, if approval has been granted.

Based on previous experiences some of these reports may have one or more of the following shortcomings:

a. may not conform to the TOR,
b. may not consider the alternatives in a comprehensive manner,
c. some of the data could be outdated (most probably relying on old sources),
d. the data may not be relevant to the situation or place,
e. incorrect data,
f. inadequate data,
g. inconclusive or improper analysis of data,
h. deliberate distortion of facts to get a favourable outcome.

These factors may all affect the outcome and therefore a clearer picture is formed if the EIA is accompanied by comments from the public, and both reports need to be accompanied by the decision of the project approving agency. It may be helpful for the court to request such material before making an assessment and coming to a conclusion. There are instances where the EIA has so many deficiencies and inaccuracies that they are sent back to the project proponent to complete or change it or in other instances prepare a supplement to cover the inadequacies. Therefore it is incumbent upon the project approving agency to produce the TOR, public comments, if any, comments of the evaluation committee (technical evaluation committee) and the decision, irrespective of whether the court requests it or not.

The project approval process goes through several stages until a final decision is made. It is important that all correspondence between and amongst the different parties be forwarded to be evaluated by court. The court may at its discretion, appoint an expert or a panel of experts to seek an opinion on the contents of such reports and on other information.

In the *Colombo-Matara Expressway* case[7] the Court of Appeal appointed a panel of experts to visit the site and make a report, and in the *Bomuru Ella* case[8] the Court of Appeal sought the opinion of an independent expert.

When a TOR is given to a project proponent there is no time limit for the project proponent to come up with the document. There is no time limit to fill any gaps and shortcomings that are requested to be fulfilled after the initial submission of the document to the project approving agency for evaluation before it being put out for public comments.

Similarly, there is no time period given by the project approving agency to the project proponent to respond to the public comments, or to respond to the explanations sought by the project approving agency or the technical evaluation committee, during the project evaluation stage.

The responsibility of providing these as early as possible is placed upon the project proponent. A request to make further information available arises when there are gaps and inadequacies on the part of the project proponent. Hence, delays that happen due to these inadequacies and the time taken by the project proponent to fulfil these requirements cannot be constructed as a delay on part of the project approving agency. It is seen that some project proponents want approval without fulfilling their obligations, and the failure and delays to get approval due to their own omissions are pointed out as a shortcoming on the part of the project approving agency.

Under the provisions of Section 23EE of the NEA, the project approving agency can ask for new information from a project proponent in cases where the project has been altered or abandoned after approval has been granted. The scope and format of such supplementary information is to be decided by the project approving agency in consultation with the Central Environmental Authority (CEA). Sometimes project proponents construe such requests for additional information as amounting to a refusal or cancellation and may even perceive this as a form of discrimination.

In evaluating an environmental assessment report the project approving agency has an obligation to seek the views of different governmental bodies that may have a mandate over the issues in question. However this does not happen often and the EIA does not reflect the views of other relevant government agencies. This sometimes leads to situations where the approval conflicts with other laws and cannot proceed. For example, Section

7 *Heather Therese Mundy v Central Environmental Authority* S.C. Appeal 58/2003, S.C. Minutes 20.01.2004.

8 *Environmental Foundation Limited v Central Environmental Authority* (the *Bomuru Ella* case), C.A. Application No. 1556/2004.

7 of the FFPO makes it an offence to clear vegetation in a state land inside a sanctuary. A project that is to be located within a 'state land' can request environmental approval without the environmental assessment disclosing the ownership of land. This could be overlooked at the approval stage if the views of the Department of Wildlife Conservation are not sought and the implementation of the project could be a violation of the FFPO.

4.3 Expert Evidence

Expert evidence forms an important part of environmental litigation. This is because it is vitally important for the courts to get necessary help from those skilled in particular fields and in the different technologies in forming an opinion and coming to a conclusion.

Some expert evidence would be based on the result of field visits and site inspections and in other cases the opinions will be based on analytical reports. According to Section 45 of the Evidence Ordinance[9], when the court has to form an opinion as to science, or art, the opinion upon that point, of persons specially skilled in such science or art are relevant facts. A person specially skilled in an art or science is therefore deemed to be an expert. The term science or art usually means any branch of learning which requires a course of previous habit of study in order to obtain competent knowledge of its nature.

4.3.1 Who is an Expert?

The first and foremost requirement on the party who calls an expert witness is to establish the credentials of the person as an expert, or one who is especially skilled in that branch of science, to the satisfaction of court. That is, the person should fall within the meaning of 'specially skilled' as laid down in Section 45 of the Evidence Ordinance.

In *Charles Perera v Motha* the question whether a person was 'specially skilled' within the meaning of Section 45 was considered by the court. The court observed that this is a question of fact that has to be decided by the court and the opinion of the expert is also a question of fact and if the court is not satisfied that the witness possesses special skill in the relevant area, his or her opinion should be excluded.[10]

In *Bandappuhamy v Ekanayaka* the court noted that 'a failure to prove the competency of a person a party calls into the witness box as an expert is serious, and a real risk is being run of the evidence of such a person being ruled out as irrelevant.'[11] However, an expert

9 Ordinance No. 14 of 1895 (as amended).

10 *H.A. Charles Perera v M.L. Motha* 65 NLR 294.

11 *Bandappuhamy v Ekanayaka* 61 NLR 187.

need not necessarily be a person with relevant professional or academic qualifications. This is clear from the case of *Solicitor General v Victoria Fernando* where it was held that an excise inspector with more than 10 years of experience in detecting excise offences was a competent witness to give an opinion on the state of fermented toddy.[12]

There are instances in which an expert has a certain designation in a state or private sector organisation. The holding of a particular office or designation does not mean that the person is an expert in a particular field. His or her status as an expert has to be established as an independent issue as in other instances. In *Regina v Pinhamy* the reference to a medical witness as the 'Judicial Medical Officer Colombo', was held to be insufficient for the purpose of making his evidence relevant under Section 45 of the Evidence Ordinance with regard to matters other than those which properly fall within the purview of a medical practitioner.[13]

(i) Satisfying the court that the person is an expert

This is the most important and the fundamental issue for a party who calls an expert. If this is not properly established, the court may not be in a position to take the opinions expressed by the expert as relevant facts in arriving at the decision. A guideline on establishing the credentials of an expert witness is found in *Solicitor General v Podisira*. Here it was stated that an expert should be questioned on the following:[14]

a. the experience of the person,
b. the special skills acquired by the person,
c. the number of occasions where the person has given opinions as an expert (both in courts and other forums),
d. the number of previous cases where he or she has been called as a witness,
e. the period during which he or she has given evidence,
f. instances when the person's opinion has not been accepted.

(ii) Questioning should proceed in a logical sequence from the facts up to the opinion

The expert should be first questioned on the facts pertaining to the opinion before being asked to state an opinion. The intention of this is to get the reasoning behind the opinion. In *Solicitor General v Podisira* it was held that the expert must give the grounds or reasons on which the opinion has been based.

12 *Solicitor General v W. Victoria Fernando* 67 NLR 159.
13 *Regina v Pinhamy* 57 NLR 169.
14 *Solicitor General v W.M. Podisira* 67 NLR 502.

In scientific evidence, the reasoning may be based on the following:

- Site inspection reports
- Analytical reports
- Evidence of other witnesses
- Evidence of the expert

The expert giving an opinion may be called upon to submit information on the following:

a. the visual factors of the situation based on observations, site inspection reports and other witnesses,

b. his or her views on the contents of analytical reports,

c. views on calculations and the computations made according to set formulas,

d. scientific publications including books and papers.

In instances where the same facts could lead to more than one opinion, the expert should be able to justify why one opinion should be taken over others.

(iii) The opinions expressed should be confined to those areas where he or she is an expert (or specially skilled)

A witness who is called on to give an opinion on a particular branch of science may not be acquainted with areas that are related. In such cases the expert should not be allowed to go beyond the confines of his or her area of expertise.

In *The Queen v Kularatna* it was stated that expert witnesses such as doctors and analysts preface their evidence with a list of qualifications and experiences and therefore there is a danger that anything said by them would be as based on expert knowledge. If an opinion is expressed, that is outside the specialised knowledge, such opinion should be categorically disregarded.[15]

(iv) The opinion of experts can be used to reinforce the case or rebut the argument of the other party and must be supported by other evidence

The opinion of an expert is a relevant fact for the court to reach its own decision. Thus, the opinions of experts, other than in cases where the expert is giving evidence on fingerprints and footprints, may not be sufficient by itself. Expert evidence has to be

[15] *The Queen v D.G. De S. Kularatna* 71 NLR 529.

supported by other evidence, which can be either direct or circumstantial. This other evidence is necessary to show that the conclusion of the expert is correct.[16]

(v) The value and weight of expert opinion has to be assessed on a case by case basis

The opinion of experts, although they may have similar educational and professional qualifications, cannot always be given the same weight. Other matters may also have a bearing on the weight of expert testimony. This includes experience in dealing with similar matters, the amount of research carried out by the person, knowledge of recent developments and familiarity with the most recent literature.

In *Charles Perera v Motha* it was held that:

> *'the weight to be attached to such an opinion would depend on the circumstances of each case. The standing of the expert, his skill and experience, the amount and nature of the materials available for comparison, the care and discrimination with which he has approached the question on which he is expressing his opinion, the extent to which he has called in aid the advances in modern sciences to demonstrate to court the soundness of his opinion, are all matters which will assist the court in assessing the weight to be assigned to the fact of his opinion.'*[17]

(vi) The court should form its own opinion on the matter with the aid of the expert

The opinion of the expert is only a relevant fact that will help court to come to a conclusion of its own. In *Gratian Perera v The Queen*, it was held that:

> *'it is not proper to act solely on the opinion of the expert. A court cannot, of course, without the assistance of an expert, come to an opinion on so difficult a question. At the same time, the decision being the judge's, he should not delegate his function to the expert. The opinion of the expert is relevant, but the decision must nevertheless be the judge's.'*[18]

A similar view was expressed in *The Queen v Wijehamy* where it was stated that 'under Section 45 of the Evidence Ordinance it is for the court to form an opinion as to the identity of finger and palm impressions, assisted by the opinion of an expert.'[19]

16 See *Lily Perera v Chandani Perera* [1991] Sri L.R. (1) 246; *R.P.W. Samarakone v The Public Trustee,* 65 NLR 100 and *The Queen v K.A. Wijehamy* 62 NLR 435.

17 *H.A. Charles Perera v M.L. Motha* 65 NLR 294.

18 *Gratian Perera v The Queen* 61 NLR 522.

19 *The Queen v K.A. Wijehamy* 62 NLR 425.

In *Solicitor General v Podisira* it has been stated that:

> *'the expert's evidence must be tested by questions as to the basis on which his opinion was formed. If this is not done, the court would be surrendering its fundamental duty of satisfying itself on a matter of which the burden of proof lies on the prosecutor.'*[20]

(vii) The disregarding of an expert's opinion should be done with adequate reasoning

The expert is brought in to give an explanation on a particular science in order to help court form an opinion. Hence, the court should state the reason why such assistance has been refused in a particular issue.

In *Selvaguru v Thaialpagar* the judge disregarded the opinion of an expert. It was held that a judge would not be justified in disregarding the opinion without justification.[21]

(viii) The weight of an expert's evidence is reduced if he or she is not cross-examined

If an expert is not cross-examined by the other party, the evidence and the opinion based on the evidence lies untested. An expert witness could be cross-examined and may be impeached like any other witness. If the witness has not been cross-examined, the validity of the witness and the opinion carries less weight than if it has been tested by cross-examination. In *Rex v Gunawardana* it was stated that it is a broad principle of justice that a person who is charged with a criminal offence is entitled to be confronted with those who accuse him.[22]

(ix) There is a duty cast upon the court to satisfy itself that the witness is a person 'specially skilled' or 'an expert'

In *Solicitor General v Podisira* it was stated that:

> *'the burden lay on the prosecutor to elicit relevant material on this matter in order to satisfy court that he is what the prosecutor represents him to be; this however does not exclude the duty cast upon the court to satisfy itself that the witness is specially skilled on the subject on which he is called to testify. It is the right and duty of the magistrate to question him, because it is he who has to be satisfied.'*[23]

---

20 *Solicitor General v W.M. Podisira* 67 NLR 502.
21 *T. Selvaguru v G. Thaialpagar* 54 NLR 361.
22 *Rex v Gunawardana* 52 NLR 297.
23 *Solicitor General v W.M. Podisira* 67 NLR 502.

4.4 Computing Damages in Environmental Cases

The remedies sought in environmental litigation fall into several categories. Some remedies deal with the restoration or the rehabilitation of an affected environment and others aim to provide redress and compensation for affected communities and people. In both these cases there needs to be an assessment of the different costs involved. The costs that have been incurred or are likely to be incurred in restoration and rehabilitation of the affected environment needs to be computed. The compensation to be paid to the affected communities also needs to be computed.

In both these instances the evaluation starts with an assessment of the affected environment. This can include the following:

- The type of environment affected (e.g. human-made, cultivated land, water bodies, coastal sea)
- The causes that have affected the environment (e.g. chemical contamination, burning, filling up)
- The adverse effects that have resulted from the activity
- Other medium and long term adverse effects that may rise in the future
- Any special habitats that are destroyed or affected
- Special species (e.g. endemics, endangered species) that have been affected or are likely to be affected
- Any other long term consequences to species and habitats

One of the challenges of making such assessments is the value that must be attached to a resource. Attaching a monetary value to habitats, plants, animals or other attributes of a habitat often pose a challenge. Calculations are made either on the basis of criteria that have been used in previous cases or criteria developed by the court for specific case before it.

One way of calculating compensation is to calculate the value of the service provided by the resource. This is calculated under three broad areas:

a. Direct value - this is the value of the service that the resource provides to the community. It can be valued by the monetary value supplied by it or by the savings incurred by the community as a result of having the free use of this resource. Examples are water, fish, firewood and food items they get free from the habitat, the loss of which will compel them to spend for alternatives.

b. Indirect values - these can be divided into attributes and services:
    i. Attributes - refer to the inherent qualities that accrue to a certain habitat or species such as their aesthetic value or their peaceful surroundings.
    ii. Services - these are the environmental processes that help maintain the quality of life, health and wellbeing of the community as a result of the environment being in a good condition. These include clean air and water.
c. Ecological benefits - these refer to the various services and ecological benefits that are provided through other natural resources and species as a result of the area being in a certain condition.

Another method of calculation, that uses an economic framework, is known as the contingent valuation method. It tries to determine the values and benefits of a resource through questionnaires that are given to communities that have been affected or are likely to be affected. The questions try to elicit information about the usage of various resources and the savings made by people as a result of the free availability of the resource. It also seeks to ascertain the increasing land value as a result of the community being located in the proximity of a particular environment. For example, the prices of land adjoining the Talangama tank are higher than those away from it due to the availability of the aesthetically pleasing, biodiversity rich habitat of the reservoir and surroundings.

Most of the methodologies used are quite new and differ from evaluation to evaluation. These are sometimes disputed and at times, controversial, as different actors claim that certain areas are not properly evaluated, ignored, over emphasised or under valued.

4.4.1 Compensating the Communities for Economic Losses

This is direct and can be computed according to the monetary value that has been lost as a result of the adverse effects on the environment. It can also be computed by calculating the additional expenditure that the community has to incur to obtain the services in an alternative manner. For example, if the groundwater is contaminated the people have to abandon the wells and seek pipe-borne water. This involves expenditure in installing the pipe-borne water systems, obtaining pipe-borne water services and the recurrent expenditure for the service. Another example is the amount spent to obtain alternate protein sources if water pollution prevents the catching of fish on which the people are dependent.

Another type of economic loss is incurred if the people have been exposed to hazards due to the pollution of the environment. This can be computed by calculating the

expenditure spent on medicines, healthcare, the loss of human-days due to illnesses and the mental anguish and agony suffered by the community.

4.4.2 Restoration Costs

Restoration costs refer to the expenditure incurred by government bodies, organisations and individuals in trying to prevent or mitigate the harm and also the expenditure of trying to rehabilitate and restore the environment. This may include the recovery of species and populations and their translocation to other habitats. An example would be oil pollution from a ship which may involve preventive measures such as the placing of booms to capture the floating oil, the cleaning of beaches, the rescue of affected animals such as sea birds, the rehabilitation of coastal ecosystems and the restoration of species such as coral and coastal plants, destroyed as a result of the oil spill.

These measures are often classified as immediate, short-term, medium-term and long-term expenditures. In some instances the immediate and short-term measures are based on the expenditure that has been incurred already, whereas the medium and long-term measures would be based partly on measures already being implemented, as well as the cost estimates for future measures. Since these evaluations are quantifiable, they are not often disputed.

Notes

Notes

Chapter 5

Multilateral Environmental Agreements and the Sri Lankan Legal System

5.1 Introduction

A broad range of environmental problems are now governed by Multilateral Environmental Agreements (MEAs). These include atmospheric pollution, marine pollution, global warming and ozone depletion, the dangers of nuclear and other extra hazardous substances and threatened wildlife species. These are all now the subject of international concern.[1] In many cases pollution generated from within one particular state has serious impact on other states. Environmental problems cannot be resolved by states acting on their own and international cooperation is vital for many modern environmental challenges to be dealt with effectively.

A substantial body of international environmental law has emerged over the years as a result of international and regional treaties and conventions, judgments of the International Court of Justice and customary international law.[2] The United Nations has been a major catalyst in the development of international environmental law and has conducted several significant global conferences to facilitate international consensus on environmental matters. Countries which have ratified these conventions and agreements are bound by international law to adopt domestic standards in accordance with the applicable international norms.

1 Shaw, M. N. 2003. *International Law*. 5th edition. Cambridge University Press. Cambridge. p.753.

2 See: Chapter 1 of this publication for more details.

5.1.1 Multilateral Environmental Agreements

A multilateral environmental agreement (MEA) is an international treaty, which legally binds a number of states on matters pertaining to the environment. MEAs are a key tool in international environmental governance and tend to focus on a specific issue in a single document. An MEA can be an international convention, treaty, agreement, covenant or a protocol. According to the United Nations Environment Programme (UNEP) there are today over 500 international agreements and other documents relating to the environment.[3]

MEAs can be divided into three categories:[4]

(i) Core environmental conventions and agreements of global significance in which UNEP has been associated.

(ii) Global conventions and regional conventions of global significance that were negotiated independently of UNEP.

(iii) Other conventions and agreements, largely restricted by scope and geographic range.

The focus of this chapter is on the first category: those agreements in which UNEP has played a role.

5.2 Key Multilateral Environmental Agreements (MEAs)

5.2.1 The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), 1973

The principle objective of the convention is to ensure that no species of wild fauna or flora becomes or remains subject to unsustainable exploitation because of international trade. The regulations for protection of each species under the convention vary according to the degree of threat faced by each species. The species covered by the convention are listed in three appendices.

Appendix I includes species threatened with extinction where commercial trade of specimens of these species is totally prohibited. Appendix II includes species not necessarily threatened with extinction but which may become extinct unless trade is

[3] Shaw, M. N. 2003. *International Law*. 5th edition. Op. cit.

[4] UNEP. 2001. Meeting of the Open-Ended Intergovernmental Group of Ministers or their Representatives on International Environmental Governance. Available online from: http://www.unep.org/IEG/docs/working%20documents/MEA_full/INF3_MEA_Add.doc [Accessed: 15.07.09].

controlled. Trade in species of Appendix II is regulated with the aim of ensuring that it is not detrimental to the survival of species.

Appendix III contains species that are protected in at least one country which has asked other CITES parties for assistance in controlling the trade. Unlike Appendix I and II (where removing or adding species can only be done with the prior approval of the conference of state parties) each Party is entitled to make unilateral amendments to Appendix III for species that are protected within its jurisdiction. Thus international trade in specimens of species listed in Appendix III is allowed only on presentation of the appropriate permits or certificates.

5.2.2 United Nations Convention on the Law of the Sea (UNCLOS), 1982

Among other things, this convention aims at the protection and preservation of the marine environment.

According to Article 192 'States have the obligation to protect and preserve the marine environment.' Article 193 provides an exception to state sovereignty by stating that 'States have the sovereign right to exploit their natural resources pursuant to their own environmental policies and in accordance with their duty to protect and preserve the marine environment.'

Section 2 of Part XII, which is titled 'Global and Regional Co-operation', obliges states to co-operate on a global and regional basis in formulating and elaborating international rules, standards and practices for the protection and preservation of the marine environment. Section 5 deals with international rules and national legislation to prevent, reduce and control pollution which can emanate from land based resources, sea bed activities subject to national jurisdiction, activities in the area covered under the convention, dumping, pollution from vessels and pollution from or through the atmosphere.

According to Article 235, Section 9 'states are responsible for the fulfilment of their international obligations concerning the protection and preservation of the marine environment and… they shall be liable in accordance with international law.'

5.2.3 Convention on Biological Diversity (CBD), 1992

The objectives of the Convention are:

(a) the conservation of biological diversity;

(b) the sustainable use of its components;

(c) the fair and equitable sharing of the benefits arising (out) of the utilisation of genetic resources (this includes appropriate access to genetic resources, appropriate transfer of relevant technologies taking into account all rights over those resources and to technologies and appropriate funding).

Article 3 recognises that states have the sovereign right to exploit their natural resources pursuant to their own environmental policies. They must, however, ensure that they do not cause damage to the environment of other states.

Article 8 relates to *in-situ* conservation highlighting the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties. Article 9 relates to *ex-situ* conservation highlighting the conservation of components of biological diversity outside their natural habitats.

Articles 10 to 14 deal with the sustainable use of components of biological diversity. Article 14 states that each contracting party shall introduce appropriate procedures requiring environmental impact assessments of projects that are likely to have a significant adverse effect on biological diversity with a view to avoiding or minimising such effects and where appropriate, allow for public participation in such procedures.

Article 15 which deals with access to genetic resources, recognises the sovereign authority of state parties over their natural resources. Nevertheless, subsection 2 of the Article states that 'each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties.'

5.2.4 The Cartagena Protocol on Biosafety, 2000

On 29th January 2000, the Conference of the Parties to the Convention on Biological Diversity adopted a supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety. The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. It establishes an advance informed agreement procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory. The Protocol contains a reference to the 'precautionary approach' and reaffirms the precautionary language in Principle 15 of the Rio Declaration on Environment and Development. The Protocol also establishes a Biosafety Clearing House to facilitate the exchange of information on living modified organisms and to assist countries in the implementation of the Protocol.

5.2.5 United Nations Framework Convention on Climate Change (UNFCCC), 1992

This treaty is aimed at stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The treaty as originally framed set no mandatory limits on greenhouse gas emissions for individual nations and contained no enforcement provisions; it is therefore considered legally non-binding.

One of its first achievements of the convention was to establish a national greenhouse gas inventory, as a count of greenhouse gas emissions and removals. Accounts must be regularly submitted by signatories of the United Nations Framework Convention on Climate Change to the secretariat under the convention.

5.2.6 Kyoto Protocol, 1997

The Kyoto Protocol is a protocol to the United Nation Framework Convention on Climate Change. The Kyoto Protocol establishes legally binding commitments for the reduction of four greenhouse gases: carbon dioxide, methane, nitrous oxide, sulphur hexafluoride; and two groups of gases (hydrofluorocarbond and perfluorocarbons) produced by industrialised nations. It also sets general commitments for all member countries.

The major distinction between the Protocol and the Convention is that while the Convention encourages industrialised countries to stabilise greenhouse gas emissions, the Protocol commits them to do so. Recognising that developed countries are principally responsible for the current high levels of greenhouse gas emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier responsibility on developed nations under the principle of 'common but differentiated responsibilities'. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and the European Community to reduce greenhouse gas emissions. Accordingly industrialised countries are to reduce their collective greenhouse gas emissions by five per cent from the level in 1990 over the five year period of 2008-2012.

5.2.7 The Vienna Convention for the Protection of the Ozone Layer, 1985

The convention which aims principally at protecting the ozone layer requires state parties to cooperate by means of systematic observations, research and information exchange in order to better understand and assess the effects of human activities on the

ozone layer (general obligation – Article 2). All parties are required to adopt appropriate legislative or administrative measures to control, limit or prevent human activity within its control which may adversely impact on the ozone layer. Further state parties are required to cooperate in the formulation of agreed measures, procedures and standards for the implementation of the convention and to cooperate with competent international bodies to implement it.

5.2.8 Montreal Protocol on Substances that Deplete the Ozone Layer, 1987

The Protocol which is an expansion of the Vienna Convention, aims at controlling the production and consumption of substances that can cause ozone depletion. Due to its widespread adoption and implementation, the Protocol stands as an example of exceptional international cooperation.

Article 2 which is entitled 'Control Measures' deals with the use of controlled substances set out in Annexes 1 and 2 of the Protocol. Embracing the principle of common but differentiated responsibility, the Article 5 of the Protocol provides special provisions for developing countries. It permits developing countries, all within a specified category based on their annual level of consumption of the controlled substances, to delay for ten years beyond the set dates their compliance with the control measures.

5.2.9 Ramsar Convention on Wetlands, 1971

According to the Convention, wetlands are defined as 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters'.

The convention requires each contracting party to designate suitable wetlands within its territory to be included in a list of wetlands of international importance. The wetlands should be selected on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology.

Three sites in Sri Lanka have been declared as wetlands under the Ramsar Convention: Bundala National Park, Anawilundawa Tank Sanctuary, and Maduganga.

5.3 Monism and Dualism

5.3.1 Monism

The concepts of monism and dualism are linked to the doctrines of Incorporation and Transformation[5]. Monism is based on the Doctrine of Incorporation where international law and municipal law in a country are seen as parts of one integrated system. This approach is known as the Doctrine of Incorporation. Thus in those jurisdictions that follow a theory of monism, the rules of international law automatically become part of the domestic legal system. Monists argue that if there is a clash between a rule of international law and municipal law, international law should prevail.

The Doctrine of Incorporation is applied to customary law and treaties differently.[6] In a monist state, once a country ratifies a Multilateral Agreement, it will automatically become a part of the legal system and is generally accorded a superior position to existing domestic laws.

Constitution of Italy

Article 10(1)

The legal system of Italy conforms to the generally recognised principles of international law.

Constitution of South Africa

Article 39: Interpretation of Bill of Rights

When interpreting the bill of rights, a court, tribunal or forum …

(a) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom;

(b) must consider international law; and

(c) may consider foreign law.

5 McNair, A. D. 1961. *The Law of Treaties*, Oxford University Press, Oxford. p.81-97.

6 McNair, A. D. 1961. *The Law of Treaties*, Op. cit.

5.3.2 Dualism

In contrast to the above provisions on monism, dualism recognises that international law and municipal law are two distinct systems which regulate different entities. This concept is based on the Doctrine of Transformation and according to the doctrine, international law governs relations between states and municipal laws deal with all internal affairs of a state under state sovereignty. The only way that international law could operate in the domestic sphere is through the explicit incorporation of such law into municipal law through enabling legislation. The extent of incorporation depends on the legal system and the constitutional provisions of a country.

Relevant Constitutional Provisions of Sri Lanka

Article 27(15) of the Constitution[7] - the State shall promote international peace, security, and co-operation, and the establishment of a just and equitable international economic and social order, and shall endeavour to foster respect for international law and treaty obligations in dealings among nations.

Article 33(f) of the Constitution confers power on the President of Sri Lanka 'to do all such acts and things, not being inconsistent with the provisions of the constitution or written law as by international law, customs or usage he is required or authorised to do so'. This article can be interpreted to permit the president to incorporate international customs and norms as long as they are not inconsistent with the constitution or any written law of Sri Lanka.

Article 157 of the Constitution provides that treaties 'essential for the development of the national economy' shall be passed by a two-thirds vote of Parliament and shall have the force of law in Sri Lanka'. This clearly stipulates a dualist approach in adopting bilateral investment agreements although the latter part of the article states that such treaties cannot be contravened by legislative, executive or administrative action giving them a superior status to Acts of Parliament.

In the *Nallaratnam Singasara v Attorney General*[8,9] case an application was made to the Supreme Court in 2005 for the exercise of the Court's inherent power of revision of

[7] The Constitution of the Democratic Socialist Republic of Sri Lanka 1978.

[8] Rodley, N. S.,The Singarasa Case: Quis Custodiet: A Test for the Bangalore Principles of Judicial Conduct (January 26, 2009). Israel Law Review, Vol. 41, p.500-521, 2008; Hebrew University International Law Research Paper No. 04-09. Available online from: http://ssrn.com/abstract=1333324 [Accessed: 12.07.2009].

[9] S.C. SPL(LA) No. 182/99 (Unreported) Supreme Court Minutes of 15.09.2006.

a conviction and sentence carried out in 1995. This was after the views of the United Nations Human Rights Committee had been conveyed to the State, that Singarasa should be released or retried as his right to a fair trial had been breached. Singarasa had petitioned the UN Human Rights Committee based on the international agreement or treaty entered into by the Sri Lankan State, namely the Optional Protocol to the International Covenant on Civil and Political Rights.

In this case, a five judge bench of the Supreme Court stated as follows:

> '*As noted in the preceding analysis, the Covenant is based on the premise of legislative or other measures being taken by each State Party "accordance with its constitutional processes…. to give effect to the rights recognized in the …. Covenant" (Article 2). Hence the act of the then President in 1980 in acceding to the Covenant is not per se inconsistent with the provisions of the Constitution or written law of Sri Lanka. The accession to the Covenant binds the Republic qua state. But, no legislative or other measures were taken to give effect to the rights recognized in the Convention as envisaged in Article 2. Hence the Covenant does not have internal effect and the rights under the Covenant are not rights under the law of Sri Lanka.'*[10]

Despite this statement the Supreme Court has drawn from international standards on several occasions to interpret both the constitution and the statues.[11] There are instances where the international norms were used to challenge a Bill.[12, 13]

In *Ekanayake v Attorney General*[14] a reference was made to the articles of the Hague Convention on Suppression of Unlawful Seizure of Air Craft.[15] Domestic law was drafted in accordance with international law in this case.[16] In *Siresena Cooray v Tissa Dias Bandaranayake*[17] Justice Deeraratne used Article 21(1) United Nations Declaration on Human Rights (UDHR) to support the view that the right to take part in the governance of one's country was as important as any of the other fundamental rights.

10 S.C. SPL(LA) No. 182/99 (Unreported) Supreme Court Minutes of 15.09.2006.

11 *Sirimal v Board of Directors, The Co-operative Wholesale Establishment* [2003] 2 Sri L.R. 23.

12 Special Determinations Nos. 24 and 25/2003, reported in 8 S.C.S.D. 35.

13 Gomez, M. 2006. Blending Rights with Writs: Sri Lankan Public Law's New Brew. *Acta Juridica.* p. 451-477.

14 [1988] 1 Sri L.R. 46.

15 See: L.H. De Alwis J. p.56.

16 Offences Against Air Craft Act No. 24 of 1982.

17 [1999] 1 Sri L.R. 1.

Justice Sharwananda's statement in *Manawadu v Attorney General*[18] also show how the judiciary has used international standards to support its decision.

In *Weerawansa v Attorney General*[19] the Supreme Court observed that consideration should be given to the provisions of the International Convention on Civil and Political Rights (ICCPR) in deciding a case of illegal detention. The court noted:

> *'Should this Court have regard to the provisions of the Covenant? I think it must. Article 27(15) requires the State to "endeavour to foster respect for international law and treaty obligations in dealings among nations." That implies that the State must likewise respect international law and treaty obligations in its dealings with its own citizens, particularly when their liberty is involved. The State must afford to them the benefit of the safeguards which international law recognises.'*[20]

In *Bulankulama v Secretary of Industrial Development* (the *Eppawela phosphate mining* case)[21] the Supreme Court referred extensively to international environmental principles in holding that a proposed agreement between the government and a multinational company constituted an imminent infringement of the fundamental rights of the petitioners.[22]

5.3.3 State Sovereignty, Transboundary Issues and Environmental Law

The main principles of international environmental law are found in treaty law. Some principles impose injunctions or prohibitions on states in relation to the way they act within their jurisdiction while others impose obligations in respect of state conduct in relation to their neighbours, or in relation to how states are supposed to conduct themselves at the global level.

The Brundtland Commission

'Legal regimes are rapidly outdistanced by the accelerating pace and scale of impacts on the environmental base of development.'

'Human law must be reformulated to keep human activities in harmony with the unchanging and universal laws of nature.'[23]

[18] [1987] 2 Sri L.R. 30.
[19] [2000] 1 Sri L.R. 387.
[20] [2000] 1 Sri L.R. 409.
[21] S.C.F.R. No. 884/ 99.
[22] [2000] 3 Sri L.R. 243. Also reported in [2000] 7 (2) S.A.E.L.R.
[23] Bruntland, G. (ed.). 1987. *Our common future: The World Commission on Environment and Development.* Oxford University Press, Oxford.

In the *Island of Palmas* case the sole arbitrator Huber, who was then President of the Permanent Court of International Justice, observed:

> *'Territorial sovereignty involves the exclusive right to display the activities of a State. This right has as corollary a duty: the obligation to protect within the territory the rights of other States, in particular their right to integrity and inviolability in peace and war, together with the rights which each State may claim for its nationals in foreign territory.'*[24]

In the *Trail Smelter* case *(United States v Canada*, awards in 1938 and 1941) the Arbitral Tribunal decided that Canada was required to take protective measures in order to reduce the air pollution in the Columbia River Valley caused by sulphur dioxide emitted by zinc and lead smelter plants in Canada, only seven miles from the Canadian-US border. The Tribunal also held Canada liable for the damage caused to crops and trees in the state of Washington and fixed the amount of compensation to be paid. According to the Tribunal:

> *'. . . under the principles of international law . . . no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.'*[25]

In 1949, in the *Corfu Channel* case *(United Kingdom v Albania*)[26] the International Court of Justice had to consider the responsibility of Albania for mines which exploded within Albanian waters and caused the loss of human life and damage to British naval vessels. The Court had also to decide on whether the United Kingdom had violated Albania's sovereignty.

The Court came to the conclusion that the laying of the minefield in the waters in question could not have been accomplished without the knowledge of Albania. The Court held that the Corfu Channel is a strait used for international navigation and that previous authorisation of a coastal state is not necessary for innocent passage. According to the Court it was Albania's obligation to notify, 'for the benefit of shipping in general, the existence of a minefield in Albanian territorial waters' and to warn 'the approaching British warships of the imminent dangers to which the minefield exposed them'. Since Albania failed to do so on the day of the incident, the Court held Albania responsible

[24] *Island of Palmas* case, (United States v The Netherlands) 2 RIAA (1928), p.829–90.
[25] 35 AFIL (1941), 716 and (1941) 3 RIAA 1938
[26] ICJ Reports 1949 p.22.

for the damage to the warships and the loss of life of the British sailors and determined the amount of compensation to be paid. The Court endorsed the principle that 'every State's obligation (is) not to allow knowingly its territory to be used for acts contrary to the rights of other states.'[27]

In the *Barcelona Traction* case (*Belgium v Spain*) the International Court of Justice pointed out that:

> '*. . . an essential distinction should be drawn between the obligations of a State towards the international community as a whole, and those arising vis-à-vis another State in the field of diplomatic protection. By their very nature the former are the concern of all States. In view of the importance of the rights involved, all States can be held to have a legal interest in their protection; they are obligations erga omnes.*'[28]

This concept of *obligatio erga omnes* is of relevance in combating global environmental problems, such as the depletion of the ozone layer, the extinction of the world's biodiversity, the pollution of international waters, and the threats posed by climate change. The world's climate and biodiversity were identified as a 'common concern' of humankind in the 1992 Conventions on Climate Change and Biodiversity. Thus the ruling of the court has relevance for the international community as a whole in extending cooperation to develop a global regime for environmental protection.

In the *Gabcikovo – Nagymaros* case the Court citing from its advisory opinion in the *Nuclear Weapons* case stated that there is a 'general obligation on States to ensure that activities within their jurisdiction and control, in respect to the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment.'[29] In this case the Court acknowledged Hungary's 'basic right to an equitable and reasonable sharing of the resources of an international watercourse' and found that Slovakia, by diverting ninety per cent of the Danube and 'by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube... failed to respect the proportionality which is required by international law'.

---

27 *Ibid*.

28 ICJ Reports 1970, p.32, para. 33. In the next paragraph the Court stated that such obligations may derive, for example, in contemporary international law, 'from the outlawing of acts of aggression, and of genocide, as also from principles and rules concerning the basic rights of the human person, including protection from slavery and racial discrimination'. In such cases a State has obligations *vis-à-vis* the international community as a whole and every other State can hold it responsible and institute a so-called *action popularis* in protection of the community's interest.

29 'Gabcikovo-Nagymaros (Hungary v Slovakia)', ICJ Reports 1997 p. 7.

5.4 International Environmental Law and the Domestic Legal System

Much of Sri Lanka's environmental obligations are being fashioned by international environmental law. Being a signatory to several conventions including, the Convention on Biological Diversity, Ramsar Convention on Wetlands, Vienna Convention for the Protection of the Ozone Layer and Montreal Protocol on Substances that Deplete the Ozone Layer, several statues in Sri Lanka endorse the legal norms and concepts developed in international environmental law and the obligations under these conventions.

The National Environmental Act No. 47 of 1980 is the most important piece of legislation which has extensive provisions on pollution control, regulation of development activities and preparation of management plans for the protection of the environment. The Environmental Protection License (EPL) and the Environmental Impact Assessment (EIA) are two important tools introduced by the NEA to integrate environmental protection in the economic development process.[30] Further, the Coast Conservation Act[31], Fauna and Flora Protection Ordinance[32], Greater Colombo Economic Commission Law[33] and the Southern Development Authority Act[34] also contain provisions on the EIA process in order to ensure that environmental concerns are considered during development activities.

5.4.1 Sustainable Development

The integration of environmental protection, economic development, the right to development, sustainable utilisation, conservation of natural resources, inter-generational equity, intra-generational equity, the polluter-pays principle are the substantive elements of sustainable development. The procedural elements of this include the environmental impact assessment process, access to information and public participation.[35] The concept of sustainable development is defined in the Brundtland Commission report[36], the Stockholm Declaration on the Human Environment 1972 and Principle 4 of the Rio Declaration:

30 See: Chapter 1 and 2 of this publication for more details.
31 Act No. 57 of 1981 (as amended).
32 Act No. 2 of 1937 (as amended).
33 Act No. 4 of 1978 (as amended).
34 Act No. 18 of 1996.
35 *Gunaratne v Homagama Pradehsiya Sabha* [1998] 2 Sri L.R. 11/ S.A.L.E.R 5(2) and (3) p. 28.
36 Development that meets the needs of the present without compromising the ability of the future generation to meet their own needs.

> *'in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it'.*

The Preamble of the Convention on Biological Diversity also reflects the importance of such principles. The United Nations Framework Convention on Climate Change (1992) and Desertification Convention (1994) are two of the recent international conventions were this principle has been incorporated.[37]

Sustainable Development under Sri Lankan Law

Being a signatory to the above MEAs, attempts were made to incorporate provisions into Sri Lankan law in order to ensure the implementation of the principle.

Though it is not explicitly mentioned, certain sections of the NEA, reflect the principle of sustainable development. In Part IV of the Act titled 'Environmental Management', the CEA is vested with the power to formulate the schemes by which the natural resources of the country should be utilised and exploited. Section 15(b) which relates to land use management, states that one of the objects of the scheme should be 'to encourage the prudent use and conservation of land resources in order to prevent an imbalance between the needs of the nation and such resources.' The other sections of the Act specify that the various natural resources shall be subject to 'rational exploitation'.

According to the National Environmental Action Plan released by the Ministry of Forestry and Environment in 1998:

> *'Environmental conservation and rational management of natural resources form integral parts of sustainable development. The crucial role of environmental management has been recognised at a national level by many environmental related policies, laws and regulations, and at international level by the various environmental conventions and treaties that Sri Lanka has ratified.'*

The EPL and the EIA processes introduced by the NEA seek to integrate environmental concerns into the development processes. The NEA provides that all polluting activities ('prescribed activities') licensed under the Act, need to function in compliance with the conditions mentioned in the license.[38] Specific standards and criteria are introduced by the regulations published under the Act.[39] The National Environmental (Protection and Quality)

[37] For further details please refer Chapter 1.

[38] See: Part IV1A of the Act and Section 23A of the Act.

[39] This is discussed in detail in Chapter 2 and 3 of this publication.

Regulations No. 1534/18 dated 01.02.2008 and Gazette No. 1533/16 dated 25.01.2008 list the prescribed activities for which a license is required and the licensing procedure to be followed.[40] Further, Part IVB of the Act contains provisions on environmental quality which prohibit the pollution of inland waters, atmosphere, soil and regulate noise pollution.[41]

The EIA[42] procedure was introduced into this Act through Amendment No. 56 of 1988. It is viewed as a remarkable improvement in our legal framework in order to fulfil the international obligations on sustainable development. It is evident that public participation[43] in these processes has been well recognised and strengthened by decisions given by the courts.[44] The Court has also noted that public participation, access to information[45] and transparency are essential if sustainable development is to be achieved.

The Principle of Sustainable Development was recognised by the judiciary for the first time in *Bulankulama v The Secretary, Ministry of Industrial Development (*the *Eppawela phosphate mining* case).[46] This is the first judgment, which specifically refers to international environmental law instruments, including the Stockholm Declaration on the Human Environment 1972 and the Rio Declaration on the Environment and Development of 1992.

In this case, the government proposed to enter into a joint venture with a foreign company, Freeport MacMoran Resources Partners of the United States to mine the phosphate deposits in Eppawela. According to the scientific evidence, the phosphate reserves in Eppawela amounted to 25 million metric tons and the inferred reserve was estimated at 35 million metric tons.

At that time the phosphate was being mined at the rate of 40,000 metric tons per year which meant that the reserves would last for many years to come. However, under the proposed project, the phosphate would have been mined at a rate of 1.2 million metric tons per year for the first 12 years and thereafter at 900,000 metric tons per year. Thus the phosphate would be mined and exported within a period of about 30 years after which Sri Lanka would not have any phosphate and would have to import it for its requirements.

---

40 See: Rescinded gazettes on this matter 595/16 dated 02.02.1990,617/07 dated 05.07.1990 and 1159/22 dated 22.11.2000.

41 Section 23H, 23J, 23M, 23P and 23 K, N, Q of the Act.

42 This is discussed in detail in Chapter 2 and 3 of this publication.

43 *Gunaratne v Homagama Pradehsiya Sabha,* [1998] 2 Sri L.R. 11/ S.A.L.E.R 5(2) and (3) p 28

44 *Environmental Foundation Limited v The Land Commissioner* – C.A. Application 573/92-[1993] 2 Sri L.R. 41, also in (1994) 1 S.A.E.L.R. 53.

45 See: *Environmental Foundation Limited v Urban Development Authority* S.C.F.R. No. 47/2004, decided on 23.11.2005 – Reported in 'Some Significant Environmental Judgments in Sri Lanka', pub. Environmental Foundation Limited at p.22 (the *Galle Face Green* case*)* and Chapter 1 and 2 of this publication for more details.

46 [2000] 3 Sri L.R. 43.

In rejecting the proposal the Court considered the concept of sustainable development at length. While recognising the right of the State to engage in economic development activities for the benefit of the people, Justice Amarasinghe stated that:

> '…. *the petitioners do not oppose the utilization of the deposit. However, they submit that the phosphate deposit is a non-renewable natural resource that should be developed in a prudent and sustainable manner in order to strike an equitable balance between the needs of the present and future generations of Sri Lankans…. the human development paradigm needs to be placed within the context of our finite environment as so to ensure the future sustainability of the mineral resources and of the water and soil conservation ecosystems of the Eppawela region, and of the North Central Province and Sri Lanka in general. Due account must also be taken of our unrenewable cultural heritage. Decisions with regard to the nature and scale of activity require the most anxious consideration from the point of view of safeguarding the health and safety of the people, naturally, including the petitioners, ensuring the viability of their occupations and protecting the right of future generations of Sri Lanka*.'

In a recent unreported Supreme Court Judgment – *Watte Gedera Wijebanda v Conservator General of Forests*[47] Justice Tilakawardane[48] referred to Principle 21 of the Stockholm Declaration 1972 and Principle 1 and 2 of the Rio Declaration 1992:

> '…. *Although the instruments and the constitutional provisions cited above are not legally binding upon government, they constitute an important part of our environmental protection regime.'*

Referring to the *Eppawela phosphate mining* case, Justice Tilakawardane stated*:*

> '*As evidenced by the decision of this court in Bulankulama v Secretary, Ministry of Industrial Development, ([2000] 3 Sri L.R. 243) they constitute a form of soft law, the importance and relevance of which must be recognized when reviewing executive action vis-à-vis the environment. In this case the Supreme Court adverted to Principle 1 of the Rio Declaration that "Human beings are the centre of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature."'*

47 S.C.F.R. 118/2004 Supreme Court Minutes of 05.04.2007.

48 S.C.F.R. 118/2004 Supreme Court Minutes of 05.04.2007.

5.4.2 The Precautionary Principle

The precautionary principle is based on the premise that it is better to prevent environmental degradation in the first place rather than allow it to occur and then try to repair the damage.[49]

This principle is reflected in Principle 15 of the Rio Declaration and the Preamble on the Convention of Biological Diversity. The United Nations Framework Convention on Climate Change is one of the recent international conventions where this principle has been incorporated.

According to the Convention on Biological Diversity, in its Preamble:

> *'The contracting parties …. (n)oting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat.'*

The precautionary principle was cited by the Supreme Court of Sri Lanka in the *Eppawela phosphate mining* case. The petitioners alleged that there will be massive and irreversible environmental pollution and health impacts as a result of the project activities including the large scale mining and the construction of the factory for the production of phosphoric acid and sulphuric acid in Trincomalee, both of which are highly polluting substances.

In this case Justice Amarasinghe applied the precautionary principle and pointed out the way in which the principle evolved from the Stockholm to the Rio Declarations. He observed:

> *'….in applying National Environmental Act and the regulations framed thereunder, to the principles of the Stockholm Declaration: The discharge of toxic substances…in such quantities or concentration as to exceed the capacity of the environmental to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon eco-systems. The just struggle of the peoples of all countries against pollution should be supported … in order to protect the environment, the precautionary approach shall be widely applied by states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.'*

[49] This concept is discussed in detail in Chapter 1 of this publication.

5.4.3 The Polluter-Pays Principle

The polluter-pays principles means that those who are responsible for causing the pollution must bear the cost of such pollution.[50]

A wide interpretation for this Principle was given by the Indian Supreme Court in *M.C. Mehta v Kamal Nath*[51] extending the liability not only to compensate the victims of pollution but also to cover the cost of restoring the environmental degradation.

In this case the state government had leased public land to a private hotel company. The company had engaged in operations to divert the natural course of a river to prevent further flooding of its hotel, causing fears of serious ecological damage.

Holding that the company was bound to pay the costs of restoring the environment the Court pointed out that the liability extended not only to compensate the victims of pollution but also to the cost of restoring the environmental degradation.

In the *Eppawela phosphate mining* case Justice Amerasinghe said:

> *'….Today, environmental protection, in the light of the generally recognised "polluter pays" principle, can no longer be permitted to be externalized by economists merely because they find it too insignificant or too difficult to include it as a cost associated with human activity. The cost of environmental damage should, in my view, be borne by the party that causes such harm, rather than being allowed to fall on the general community to be paid through reduced environmental quality or increased taxation in order to mitigate the environmentally degrading effects of a project….'*

5.4.4 The Principle of Inter-Generational Equity

Intergenerational equity focuses on the rights of future generations while recognising the right of the present generation to exploit natural resources.[52] It is a notion that is implicit in ecological sustainability, while giving responsibility to the present generation as the custodian of the planet for future generations.[53]

50 Birnie, P. and Boyle, A. *International Law and the Environment*, Oxford University Press, Oxford. p.84-95.
51 (1997) 4(3) S.A.E.L.R. 122; (1997) 1 SCC 388.
52 This concept is discussed in detail in Chapter 1of this publication.
53 Birnie, P. and Boyle, A. *International Law and the Environment*, Op. cit.

This principle was first recognised in the Stockholm Declaration. Principle 1 of the Declaration says:

> *'Man has the fundamental right to freedom. Equity and adequate conditions of life in an environment of a quality that permits a life of dignity and well-being and he bears a solemn responsibility to protect and improve the environment for present and future generations …'*

Principle 2, of the declaration further elaborates that the natural resources and the natural ecosystems must be safeguard for the benefit of present and the future generations.[54] Several other conventions also expressed this right of future generations in their Preamble.[55]

Section 17 of the NEA makes it mandatory for the CEA to 'recommend to the Minister the basic policy on the management and conservation of the country's natural resources in order to obtain the optimum benefits there from and to preserve the same for future generations and the general measures through which such policy may be carried out effectively'.

In *SmithKline Beecham Biologicals v State Pharmaceuticals Corporation of Sri Lanka* Justice Amerasinghe stated: [56]

> *'Obviously the cheapest, as common experience should, may not procure the best product. On the other hand, affordability is always an important consideration, and in relation to some matters perhaps, having regard to our limited resources, it may be appropriate to settle for something less desirable; but when any authority is dealing with a product concerned with the lives of the people, including unborn citizens of Sri Lanka – as in the case of rubella vaccine which as we have seen, according to the chairman of the Tender Board, is to be injected into pregnant women to immunize their babies – would the government compromise; may it gamble? Can it afford to do with less than the best available in terms of efficacy?'*

In the *Eppawela phosphate mining* case Justice Amerasinghe referred extensively to the principle in the context of the sustainable development use of Sri Lanka's phosphate deposits which are non-renewable resources. He observed:

---

54 See: Principle 2 of the Stockholm Declaration; Principle 3 of the Rio Declaration and Article 3(1) of the United Nations Framework Convention on Climate Change.

55 See: Preambles of Convention on Biological Diversity; Convention on the Conservation of Migratory Species of Wild Animals, Convention on International Trade in Endangered Species of Wild Fauna and Flora.

56 [1997] 2 Sri L.R. 20 at 37; (1997) 4(3) S.A.E.L.R. 159.

> *'International standard setting instruments have clearly recognised the principle of inter-generational equity. It has been stated that humankind bears a solemn responsibility to protect and improve the environment for present and future generations. The natural resources of the earth including the air, water, land flora and fauna must be safeguarded for the benefit of present and future generations. The non-renewable resources of the earth must be employed in such a way as to guard against their future exhaustion and to ensure that benefits from such employment are shared by all humankind. The right to development must be fulfilled so as to equitably meet development and environmental needs of present and future generations. The inter-generational principle in my view, should be regarded as axiomatic in the decision making process in relation to the matters concerning the natural resources and the environment of Sri Lanka in general, and particularly in the case before us. It is not something new to us, although memories may need to be jogged.'*

In the case of *Watte Gedera Wijebanda v Conservator General of Forests*[57] the Supreme Court stated that 'the natural resources must be utilised in a sustainable manner, in keeping with the principle of intergenerational equity'.

5.4.5 Public Trust Doctrine

The concept which is closely linked to the principle of inter-generational equity embodies the idea that the present generation holds the earth and its natural resources in trust for the future generations.[58]

In *Gunaratne v Ceylon Petroleum Corporation*[59] the Court stated that:

> *'it is now well settled that powers vested in the State, public officers and public authorities are not absolute or unfettered, but are held in trust for the public, to be used for the public benefit and not for improper purposes.'*

In *Premachandra and Dodangoda v Jayawickrema and Bakeer Markar*[60] which concerned the exercise of power granted under the Constitution, the Court quoted the Supreme Court in a previous decision where it was said that:

57 S.C.F.R. 118/2004 Supreme Court Minutes of 05.04.2007 p.18.
58 See: Chapter 1 and 3 of this publication for more information.
59 [1996] 1 Sri L.R. 315 at 324.
60 [1993] 2 Sri L.R. 294 at 306.

> *'there are no absolute or unfettered discretions in public law: discretions are conferred on public functionaries in trust for the public, to be used of the public good and the propriety of the exercise of such discretions is to be judged by reference to the purpose for which they are so entrusted.'*

In the *Eppawela phosphate mining* case Justice Amerasinghe interestingly rejected the notion of the public trust doctrine and formulated a novel concept to replace it: the doctrine of public guardianship. In rejecting the public trust doctrine Justice Amerasinghe stated that:

> *'the public trust doctrine relied upon by learned counsel on both sides, … in my view is restrictive in scope and I should look at our resources and the environment as our ancestors did and our contemporaries do, recognizing a shared responsibility.'*
>
> *'the constitution states that the legislative power of the people shall be exercised by the parliament, the executive power of the people shall be exercised by the President of Sri Lanka and judicial power of the People shall be exercised, inter alia, through the courts created and established by the constitution (Article 4) …'*
>
> *'The organs of the State are guardians to whom the people have committed the care and preservation of the resources of the people. This accords not only with the schemes of government set out in the constitution but also with the high and enlightened conceptions of the duties of our rulers, in the efficient management of resources in the process of development …'*

Justice Amerasinghe's rejection of the public trust doctrine seems to be based on a reluctance to accept that as trustee, the legal ownership of the land and resources is vested in the state (specifically the Executive). Such ownership would give the Executive in its capacity as trustee certain discretionary powers over the land, although these are limited powers. Instead, he preferred to vest this responsibility on the other organs of the State, as well as on the people themselves. They all participate in a 'shared responsibility' as 'guardians'. This is significant since a guardian would not have as wide powers as a trustee.[61]

[61] *Bulankulama v Secretary, Ministry of Industrial Development* (the *Eppawela phosphate mining* case) [2000] 3 Sri L.R. 243. Also see: *Sugathapala Mendis v Chandrika Bandaranaike Kumaratunga* (the *Waters Edge* case) S.C.F.R.352/2007 decided on 08.10.2008 at p.13.

5.4.6 Status of MEAs to which Sri Lanka is a Party

Table 1: Status of MEAs to which Sri Lanka is a party as at July 2009[62]

Multilateral agreement and date	Entry into force (international)	Date of signature	Ratification (R), Acceptance (A), Accession (a)*
1. Convention on International Trade in Endangered Species of Wild Fauna and Flora *Washington, DC, 3 March 1973*	1 July 1975	-	4 May 1979 (a)
2. United Nations Convention on the Law of the Sea *Montego Bay, 10 December 1982*	16 November 1994,	10 December 1982	19 July 1994 (R)
3. Convention on Biological Diversity *Rio de Janeiro, 5 June 1992*	29 December 1993	10 June 1992	23 March 1994 (R)
Cartagena Protocol on Biosafety to the Convention on Biological Diversity *Montreal, 29 January 2000*	11 September 2003	24 May 2000	28 April 2004 (R)
4. United Nations Framework Convention on Climate Change *New York, 9 May 1992*	21 March 1994	10 June 1992	23 November 1993 (R)
Kyoto Protocol to the United Nations Framework Convention on Climate Change *Kyoto, 11 December 1997*	16 February 2005	-	3 September 2002 (a)
5. Vienna Convention for the Protection of the Ozone Layer *Vienna, 22 March 1985*	22 September 1988	-	15 December 1989 (a)
(a) Montreal Protocol on Substances that Deplete the Ozone Layer *Montreal, 16 September 1987*	1 January 1989	-	15 December1989 (a)
(b) Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer *London, 29 June 1990*	10 August 1992	-	16 June 1993 (a)

[62] UN. 2009. *United Nations Treaty Collection.* Available online from: http://treaties.un.org/Pages/Home.aspx?lang=en [Accessed: 20/07/2009].

(c) Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer *Copenhagen, 25 November 1992*	14 Jun 1994	-	7 July 1997 (a)
(d) Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer adopted by the Ninth Meeting of the Parties *Montreal, 17 September 1997*	10 November 1999	-	20 August 1999 (a)
(e) Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer *Beijing, 3 December 1999*	25 February 2002	-	27 November 2002 (A)
6. Convention on Wetlands of International Importance especially as Waterfowl Habitat *Ramsar, 2 February 1971*	21 December 1975	-	15 October 1990 (a)
7. Convention on the conservation of Migratory Species of Wild Animals (CMS) *Bonn, 23 June 1979*	1 November 1983	-	1 September 1990 (R)
8. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal *Basel, 22 March 1989*	5 May 1992	-	28 August 1992 (a)
(a) Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal *Geneva, 22 September 1995*	Not yet in force	-	29 January 1999 (R)
9. United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa *Paris, 14 October 1994*	26 December 1996	-	9 December 1998 (a)
10. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade *Rotterdam, 10 September 1998*	24 February 2004	-	19 January 2006 (a)

11. Stockholm Convention on Persistent Organic Pollutants *Stockholm, 22 May 2001*	17 May 2004	5 September 2001	22 December 2005 (R)
12. Convention for the protection of the world cultural and natural heritage *Paris, 16 November 1972*	17 December 1975	-	6 June 1980 (A)
13. Convention on the High Seas *Geneva, 29 April 1958*	30 September 1962	30 October 1958	-
14. Convention on the Continental Shelf *Geneva, 29 April 1958*	10 June 1964	30 October 1958	-
15. International Convention relating to intervention on the high seas in cases of oil pollution casualtie *Brussels, 29 November 1969*	6 May 1975	-	11 July 1983 (a)
16. International Convention for the Prevention of Pollution of the Sea by Oil *London, 12 May 1954*	26 July 1958	-	30 November 1983 (A)
17. International Convention on Civil Liability for Oil Pollution Damage *Brussels, 29 November 1969*	19 June 1975	-	11 July 1983 (a)

*Explanation of terms[63]:

Ratification (R): Ratification defines the international act whereby a state indicates its consent to be bound to a treaty if the parties intended to show their consent by such an act.

Acceptance (A): The instruments of 'acceptance' or 'approval' of a treaty have the same legal effect as ratification and consequently express the consent of a state to be bound by a treaty.

Accession (a): 'Accession' is the act whereby a state accepts the offer or the opportunity to become a party to a treaty already negotiated and signed by other states. It has the same legal effect as ratification. Accession usually occurs after the treaty has entered into force.

[63] UN. 2009. *Glossary of terms relating to Treaty actions.* Available online from: http://treaties.un.org/Pages/Overview.aspx?path=overview/glossary/page1_en.xml [Accessed: 20.07.2009].

Notes

Notes

Judges and Environmental Law

by

Judge C.G. Weeramantry

The following are extracts from an Introduction written by Judge C.G. Weeramantry to the 'Judicial Handbook on Environmental Law' published by the United Nations Environment Programme in 2005[1].

The importance of the judiciary in the environmental field was considered so crucial that it was thought appropriate, before the World Summit on Sustainable Development, to convene a meeting of the judges from around the world at Johannesburg with a view to the preparation of a document for the consideration of heads of state at the summit. The result of this meeting was the Johannesburg principles on the rule of law and sustainable development, which consisted of a series of guidelines and principles for the judiciary in environmental matters.

…

Environmental law is a comparatively new branch of law and has evolved mainly over the last thirty years. It is therefore as yet in a formative stage and is undergoing a process of rapid development inspired also by a quantum leap in our understanding of the environmental challenge.

[1] Shelton, D. and Kiss, A. 2005. *Judicial Handbook on Environmental Law.* United Nations Environment Programme, Nairobi, Kenya.

By reason of its comparatively recent emergence, environmental law was not generally taught as a subject in law schools. Additionally, many a judge who has to decide these cases may not have studied international law as a subject in law school, for general international law is not a required subject in many law school curricula. The relevant body of law could thus be totally unknown territory to many a judge called upon to take a critical decision in an environmental lawsuit.

…

Particularly in developing countries, many environmental cases may not fall within a settled legislative provision or judicial decision but in the gray area not specifically covered by black letter law. Yet they may still be within the reach of existing principles that can be applied or extended to them. Even in countries where environmental legislation has been enacted in some detail, it is beyond the competence of the legislature to anticipate every factual situation giving rise to environmental considerations, and consequently it is the judiciary that would have to handle such situations when they arise for the first time. All these factors leave a significant area for the appropriate exercise of judicial discretion. The judges are thus positioned, along with other institutions such as legislatures and environmental agencies, at the cutting edge of the development of environmental law and in the forefront of its adaptation to a diverse array of community needs and challenges.

…

The panorama of considerations presenting themselves in environmental litigation ranges as far afield as justice between generations, the relationship between humans and other living occupants of the planet and the duty of preservation of the life-sustaining capacity of the earth – considerations far different in quality and reach from those ordinarily surfacing in day-to-day litigation. … The ways in which the judges will handle the new situations coming before them will influence and shape the development of the relevant aspect of environmental law for the foreseeable future.

…

The judiciary is moreover one of the most valued and respected institutions in all societies. The tone it sets through the tenor of its decisions influences societal attitudes and reactions towards the matter in question. This is all the more so in a new and rapidly developing area. Judicial decisions and attitudes can also play a great part in influencing society's perception of the environmental danger and of the resources available to society with which to contain it.

A judiciary exhibiting sensitivity to environmental problems can also stimulate more resort to the judiciary for settling environmental problems. A judiciary that is adequately sensitised and informed regarding this vibrant area of legal development will be in a good position to handle the cases that are brought. One of the purposes of this handbook is to stimulate such well-informed responses.

…

International law becomes relevant to them primarily through its incorporation into national law where that has taken place. It can also become relevant to the exercise of their domestic jurisdictions where national legislation has been based on international instruments or norms, in which case knowledge of the relevant international law can be of great importance in interpreting the domestic legislation.

The Judge's Role

Judicial institutions serve several functions in society, among them:

1. The peaceful settlement of disputes
2. Upholding the rule of law
3. Applying and interpreting the law

The role of the judge in environmental law is in principle no different from other settings, but for many judges the subject matter may seem complex and unfamiliar. Judges, as guardians of the rule of law, are uniquely positioned to give environmental law force and effect. They can bring integrity and certainty to the process of environmental protection, and help to ensure environmental responsibility and accountability within the government and the private sector. Judges also advance the development of environmental law by their traditional task of interpreting and filling the gaps in the legal texts.

Judges as Educators

Judges have an important educational role in environmental law. The judiciary should be seen as one of the most stable and respected institutions of the society it serves. As such, the judiciary both reflects and sets the tone for a society at large. The voice of the judge should represent reason, impartiality, and understanding of all the interests at stake. A judge's serious response to a given case helps to shape and reinforce a society's view of the seriousness of the problem represented by that case. Accordingly, judges are able to encourage all groups in society – government, industry and citizens – to share in the task of environmental stewardship.

Protection of the environment may require rethinking and changing economic practices and even ways of life, as well as assuming and sharing new responsibilities and costs. The judge is the ultimate arbiter of the resulting tensions and conflicting interests. He or she is called upon to provide the just answer, in a manner acceptable to the parties and those affected.

Judges are unable to achieve this result by themselves. Their knowledge of the facts rests on the evidence before them, and their understanding is informed by the issues and arguments presented. Indeed, even a well-informed and effective judiciary amounts to relatively little if cases are not brought forward to the courts. Judicial education in this area is but one piece of a broader challenge to educate, inform and equip all important stakeholders.

Public participation and public access to justice – both directly by access to and involvement in hearings, and indirectly through the media – are critical to the enforcement and implementation of environmental law. The courts are, in essence, the guarantors of such participation.

National and International Law

For the national judge, international environmental law is most relevant when it has been 'nationalised' or become part of the corpus of national law through, for example, ratification, incorporation or transposition.

This is not however, the only manner in which international environmental law may be relevant. In jurisdictions where national legislation closely follows or is modeled after international norms, reference to international law may be of value in interpreting national law. Moreover, developments in international environmental law convey the sense of urgency in the broader international community concerning environmental problems and, accordingly, offer insights into the nature and significance of environmental problems.

Different Legal Systems

Substantive law principles relating to the environment, like the environment itself, are potentially of universal relevance. International law, particularly through treaties and other instruments, reflects these shared principles and informs national laws. While the methodology, mechanisms and procedures that the judge uses in administering justice differ in some respects, the search for justice is the same and

the substantive law principles are similar as are many of the ways and practices available to affect redress.

Accordingly, many of the same principles are shared by the common law and civil law systems, and authorities and cases under either system may be relevant for both. However, a full understanding of the cases calls for awareness of their origins and attention to their legal context. It must in any event be remembered that the judge's first duty is to apply the law of the jurisdiction in which he or she serves. Resolution of a given environmental problem will always need to start from consideration of any relevant national and local laws.

Judging Environmental Cases

Environmental law is a comparatively new branch of domestic and international law. As such, it is in the process of being moulded, unlike older areas of law, which have already assumed fairly defined concepts, principles and procedures. In this process of moulding, the judiciary has a vital role to play. The fine nuances of particular situations that the judge encounters in individual cases are often not matters with which legislatures have time and resources to deal. It is often before the judiciary that they come up for the first time. Consequently it is often judicial decision-making that gives shape and direction to the new concepts and procedures involved. As more such situations come before judges, these individual decisions initiate trends, which give the newly emerging discipline of environmental law the requisite conceptual framework and momentum for its development.

Viewed in this light it is essential for the judiciary to have an understanding of environmental problems and a creative vision of how the law can deal with them, failing which environmental law can be rendered ineffective or retarded in its development and implementation. Particular challenges that may need to be addressed include:

(a) **Dealing with Scientific Issues –** Environmental law often involves consideration of scientific issues. Different sides in a case may bring forward different interpretations of the available science and may even cite to different bodies of scientific evidence. Thus, whether reviewing government decisions or private sector conduct, courts are increasingly called upon to consider whether the available scientific evidence has received appropriate consideration and whether a particular body of scientific evidence has probative value.

(b) **Managing uncertainty –** Managing against the uncertainty of whether a given harmful event is likely to occur or not is a difficult and important aspect of judging

environmental cases. The administration of justice depends upon developing ways of allocating fairly the risks incident to lack of knowledge. Some of the methods recognised in adjudication include the use of presumptions, and shifting burdens of proof.

(c) Sustainable development – Increasingly, with the integration of principles of sustainable development into national legal frameworks, environmental factors are given equal stature along-side economic and other considerations in governmental decision-making. In its most comprehensive form, integrated policymaking for sustainable development pays explicit attention to social, cultural and environmental consequences of actions. Thus, when reviewing government decisions for legitimacy, courts are, with increasing frequency, called upon to apply principles of sustainability to matters before them.

(d) Diversity of issues and settings – Matters of environment and development which surface in courts are not limited to disputes between the specific parties alone, but could have wide ranging implications of national and international significance. Judges may be compelled to consider issues of human rights, development policies, and economics in the course of deciding an individual case. These cases often involve the question of the relationship between the state and its citizens.

(e) Individuals and society – A challenge to judicial decision-making in this field is to determine the appropriate balance between individual entitlements and more general societal concerns. Some decisions involving pollution weigh the harm to the individuals against the economic benefits of the enterprise causing the harm. These and other decisions often will have impacts beyond those of the parties directly involved. In many cases, the costs involved in avoiding or remedying the harms in question may be borne by society at large or by a group not fully represented in the action.

(f) Economics – Economic principles provide important background. For example, the notion of an external cost – one that burdens anyone other than the actor – is essential to understanding and applying the polluter pays principle. Concepts in environmental law such as strict liability for hazardous activities and the law of nuisance are among the legal concepts that have played a role in ensuring that externalities of this kind are internalised. Some countries also incorporate notions of cost-benefit balancing or cost-effectiveness into their legal standards via statute or regulations.

(g) Retroactive effect – Judges may face the issue of retroactive effect of environmental statutes and regulations. Law is presumed to be prospective only, but environmental law that seeks to address ongoing harm to the environment may need to apply to pre-existing activities and operations if it is to be effective. In such circumstances, legislators may expressly direct retroactive application of the law or, as appropriate, judges may infer the need for retroactivity in order to give effect to the statutory objective. Retroactive operation of the law may sometimes be premised on the 'polluter pays' principle, on the basis that, even if the condition resulted from conduct arguably lawful at an earlier time, it is more appropriate for the entity creating the harmful condition to pay for cost of its polluting activity, than to impose those costs on the society at large.

In resolving these issues, judges will use the ordinary techniques of legal interpretation as developed in their own courts, but will need to adapt them to the special context. For example:

(a) Reasoned judicial decisions – Fully reasoned decisions are important in shaping the law and explaining the consequences of individual behaviour, especially when decisions of broad social impact are issued. A fully reasoned opinion not only cloaks judicial decision-making in transparency and fairness, but also provides a more effective basis for review by the higher courts, and the development of a consistent and principled system of law.

(b) Statutory Interpretation – Judicial decision-making begins with the texts of the applicable laws, whether treaty (if self-executing or implemented as a matter of national law), constitutional, statutory or administrative. The words used in the enactment are the best guide to its meaning. If the text is clear then the task is simply to apply it to the case. Where there is uncertainty, further reading may help to put the language in the context of the entire enactment, looking at it as an integrated whole to determine its object and purpose. Canons of construction may help to resolve some ambiguities.

(c) Legislative History – In many legal systems, judges may look at the legislative history, including records of the legislative or administrative process, in order to determine the purposes of the enactment and how its authors intended it should be interpreted. In others, consultation of legislative history is disfavoured, typically out of concern regarding the difficulty ascribing a common intention to a group such as a legislature or administrative body. The extent to which legislative history can be considered will be determined by national law and practice, which, in turn,

may be influenced by legislative procedures and the manner in which legislative history is developed and expressed.

(d) Precedent – Legal systems vary in the extent to which they require precedent to be followed. Even where there is no formal obligation to follow precedent, there are sound reasons for treating previous decisions of parallel or higher courts as a guide:

- As a general principle of justice and fairness, equals should be treated equally. Thus, where an issue or case is presented that is in all essential respects the same as one previously addressed, the same result should ordinarily obtain.

- Following precedent can promote judicial efficiency. Where individuals believe that every issue that has been decided is open for repeated challenge, judicial case loads tend to increase. In addition, precedent can provide a quick reference for the judicial solution of the case, avoiding the need to 'reinvent the wheel' or undertake original primary research of the issue.

- Major changes in interpreting or applying statutory law from one case to another may be criticised as unprincipled or as 'judicial legislation.'

However, precedent should not become a straightjacket. In any case, there is a need to evaluate precedent functionally to understand the legal effect of a particular decision. A judge must analyse the earlier case to see if the facts differ materially and whether the differences have legal significance. There may also be good reasons to overturn or disregard precedent, such as where new knowledge undermines the foundation for the earlier ruling, or where societal values have clearly and fundamentally changed.

List of Cases

1. *Al Haj M.T.M. Ashik v R.P.S. Bandula, O.I.C. Weligama,* (the *Noise Pollution* case), S.C.F.R. No. 38/2005, S.C. Minutes of 09.11.2007.
2. *Amendment to the Greater Colombo Economic Commission Law No. 4 of 1978,* Special Determination No. 1/1992, 1 S.A.E.L.R. 99.
3. *Andra Pradesh Pollution Control Board v Prof. M.V. Nayadu* [1999] 2 SCC 718.
4. *Atapattu v People's Bank* [1997] 1 Sri L.R. 208.
5. *Bandappuhamy v Ekanayaka,* 61 NLR 187.
6. *Bandara v Premachandra, Secretary, Ministry of Lands, Irrigation and Mahaweli Development* [1994] 1 Sri L.R. 301.
7. *Barcelona Traction* case *(Belgium v Spain),* ICJ Reports (1970), p.32.
8. *Bulankulama v Secretary, Ministry of Industrial Development* [2000] 3 Sri L.R. 243.
9. *Corfu Channel* case *(United Kingdom v Albania),* ICJ Reports 1949, 4 p.22.
10. *De Silva v Atukorale, Minister of Lands, Irrigation and Mahaweli Development* [1993] 1 Sri L.R. 283.
11. *Deshan Harindra (a minor) v Ceylon Electricity Board* [1998] 5(4) S.A.E.L.R. 116.
12. *Dr. Mohiuddin Farooque v Secretary, Ministry of Commerce, Government of the People's Republic of Bangladesh*, Writ Petition No. 300/1995.
13. *Ekanayeke v Attorney General* [1988] 1 Sri L.R. 46.
14. *Environmental Foundation Limited v Attorney General* [1994] 1(1) S.A.E.L.R. 17.

15. *Environmental Foundation Limited v Central Environmental Authority* (the *Bomuru Ella* case), C.A. Application No. 1556/2004, C.A. Minutes of 31.06.2007.

16. *Environmental Foundation Limited v Land Commissioner* [1993] 2 Sri L.R. 41, [1994] 1(2) S.A.E.L.R. 53.

17. *Environmental Foundation Limited v Urban Development Authority* (the *Galle Face Green* case), S.C.F.R. No. 47/2004, Supreme Court Minutes of 28.11 2005.

18. *Environmental Foundation Limited v Minister of Public Administration* [1997] 2 Sri L.R. 306.

19. *Fernando v Cooray*, S.C. Appeal No. 46/1997, [1999] 6 S.A.E.L.R. 31.

20. *GabCikovo-Nagymaros Project* case *(Hungary v Slovakia), 1. C. J. Reports 1997*, p.7.

21. *Geethani Wijesinghe v Patali Champika Ranawake, Ministry of Environment and Natural Resources*, S.C.F.R. 87/2007.

22. *Gratian Perera v The Queen*, 61 NLR 522.

23. *Gunaratne v Ceylon Petroleum Corporation* [1996] 1 Sri L.R. 315.

24. *Gunaratne v The Homagama Pradeshiya Sabha* [1998] 2 Sri L.R. 11.

25. *H.A. Charles Perera v M.L. Motha*, 65 NLR 294.

26. *H.B. Dissanayake v Gamini Jayawickrema Perera, Minister of Irrigation and Water Management* (the *Thuruwila* case), S.C.F.R. 329/2002, decided 30.09.2002.

27. *Heather Therese Mundy v Central Environmental Authority* (the *Colombo-Matara Expressway* case), S.C. Appeal 58/2003, decided 20.01.2004.

28. *Hettiarachchcige Don Chrishan Priyadarshana Wijewardena v Geological Surveys and Mines Bureau*, (the *Maha Oya* case) S.C.F.R. 81/2004.

29. *Illinois Central Railroad Company v Illinois*, 146 U.S. 387 (1892).

30. *In Re the 19th Amendment to the Constitution* [2002] 3 Sri L.R. 85.

31. *Island of Palmas* case, (*United States v The Netherlands*) (1928)2 RIAA 829

32. *Jayawardena v Dharani Wijayatilake, Secretary, Ministry of Justice and Constitutional Affairs* [2001] 1 Sri L.R. 132.

33. *Keangnam Enterprises Limited v E.A. Abeysinghe* [1994] 1 S.A.E.L.R. 1.

34. *Kumara Gunathilake v Maithripala Sirisena, Minister of Agriculture, Irrigation and Mahaweli Development* (the *Deduru Oya* case) S.C.F.R. 226/2006.

35. Water Services Reform Bill of 2003, Supreme Court Special Determinations Nos. 24 and 25/2003, reported in 8 S.C.S.D 35.

36. *Land Ownership Bill of 2003, Supreme Court Special Determinations* Nos. 26 - 30, 33, 34 and 36/2003, reported in 8 S.C.S.D. 41.

37. *Lily Perera v Chandani Perera* [1991] 1 Sri L.R. 246.

38. *M.C. Mehta v Kamal Nath* [1997] 1 SCC 388.

39. *M.C. Mehta v Union of India* (the *Kanpur Tanneries* case), AIR 1988 SC 1057/AIR 1988 SC 1117.

40. *Manawadu v Attorney General* [1987] 2 Sri L.R. 30.

41. *Manel Fernando v Jayaratne*, C.A. Application No. 688/2002 [2000] 1 Sri L.R. 113.

42. *Marshall v Gunaratne Unnanse*, 1 NLR 179.

43. *Nagarjuna Paper Mills Limited v Sub-Divisional Magistrate and Divisional Officer, Sangareddy*, 1987 Cri L.J. 2071 (Andhra Pradesh High Court).

44. *Nallaratnam Singarasa v Attorney General*, S.C. Special (L.A.) 182/1999, Supreme Court Minutes of 15.09.2006.

45. *National Audubon Society v Superior Court of Alpine Country* (the *Mono Lake* case), 33 Cal.3d 419.

46. *P. Asoka v J.M. Aruna Shantha*, H.C. Kurunegala 59/2004, S.C. Appeal No. 27/2006.

47. *Pedro Flores y Otros v Corporation del Cobre (CODELCO),* Corte de Appelaciones (23 June 1988).

48. *Peiris v Rupasinghe* [1999] 6 S.A.E.L.R. 141.

49. *Premachandra and Dodangoda v Jayawickrema and Bakeer Markar* [1993] 2 Sri L.R. 294.

50. *R. P. Weerasekera v Keangnam Enterprises Limited*, C.A. (PHC) No.40/2004, decided on 28.05.2009.

51. *R.P.W. Samarakone v The Public Trustee*, 65 NLR 100.

52. *Regina v Pinhamy,* 57 NLR 169.

53. *Rex v Gunawardene,* 52 NLR 297.

54. *S.C. Amarasinghe v Attorney General* [1994] 1(1) S.A.E.L.R. 23.

55. *Samarakone v Public Trustee*, 65 NLR 100.

56. *Saram v Seneviratna*, 21 NLR 190.

57. *Sirimal v Board of Directors, The Co-operative Wholesale Establishment* [2003] 2 Sri L.R. 23.

58. *Sirisena Cooray v Tissa Dias Bandaranayake* [1999] 1 Sri L.R. 1.

59. *SmithKline Beecham Biologicals v State Pharmaceuticals Corporation of Sri Lanka* [1997] 3 Sri L.R. 20.

60. *Solicitor General v W. Victoria Fernando,* 67 NLR 159.
61. *Southern Bluefin Tuna* cases (*Australia and New Zealand v Japan*), (2000) 39 ILM 1359.
62. *Sriyani Silva v Iddamalgoda, O.I.C Police Station Paiyagala* [2003] 2 Sri L.R. 63.
63. *Sugathapala Mendis v Chandrika Bandaranaike Kumaratunga* (the *Waters Edge* case), S.C.F.R. 352/2007 Supreme Court Minutes of 08.10.2008.
64. *T. Damodhar Rao v Special Officer, Municipal Corporation of Hyderabad,* AIR 1987 AP 171.
65. *Thajudeen v Sri Lanka Tea Board* [1981] 2 Sri L.R. 471.
66. *The Forest Ranger, Chilaw v Fernando,* 23 NLR 212.
67. *The Queen v D. G. De S. Kularatne,* 71 NLR 529.
68. *The Queen v K.A. Wijehamy,* 62 NLR 425.
69. *T. Selvaguru v G. Thaialpagar,* 54 NLR 361.
70. *The Solicitor General v W. M. Podisira,* 67 NLR 502.
71. *Trail Smelter Arbitration (United States v Canada),* (1941) 3 R.I.A.A. 1938.
72. *Udapussellawa Plantations Limited v Anuruddha Ratwatte,* C.A. Application No. 466/2002.
73. *Vellore Citizens Welfare Forum v Union of India* [1996] 5 SCC 647, S.A.E.L.R. 4(2) June 1997.
74. *Watte Gedara Wijebanda v Conservator General of Forests*, S.C.F.R. 188/2004, Supreme Court Minutes of 5th April 2007.
75. *Weerawansa v Attorney General* [2000] 1 Sri L.R. 387.
76. *Weragama v Eksath Lanka Wathu Kamkaru Samithiya* [1994] 1 Sri L.R. 293.
77. *Wijesiri v Siriwardene* [1982] 1 Sri L.R. 171.
78. *Wimal Fernando v Sri Lanka Broadcasting Corporation* [1996] 1 Sri L.R. 157.

List of Statutes

A Agrarian Development Act No. 46 of 2000

Apartment Ownership Law No. 11 of 1973 (as amended)

Atomic Energy Authority Act No. 19 of 1969

C Civil Procedure Code No. 2 of 1889 (as amended)

Coast Conservation Act No. 57 of 1981 (as amended)

Code of Criminal Procedure Act No. 15 of 1979 (as amended)

Condominium Property Act No. 12 of 1970

Constitution of the Democratic Socialist Republic of Sri Lanka 1978

Contagious Diseases Ordinance No. 8 of 1866 (as amended)

Control of Pesticides Act No. 33 of 1980 (as amended)

E Evidence (Special Provisions) Act No. 4 of 1995

Evidence Ordinance No. 14 of 1895 (as amended)

Explosives Act No. 12 of 1956 (as amended)

F Factories Ordinance No. 45 of 1942 (as amended)

Fauna and Flora Protection Ordinance No. 2 of 1937 (as amended)

Felling of Trees (Control) Act No. 9 of 1951 (as amended)

Fisheries and Aquatic Resources Act No. 2 of 1996 (as amended)

Flood Protection Ordinance No. 4 of 1924

Forest Ordinance No. 16 of 1907 (as amended)

G Greater Colombo Economic Commission Law No. 4 of 1978 (as amended)

H Health Services Act No. 12 of 1952 (as amended)

I Increase of Fines Act No. 12 of 2005

Irrigation Ordinance No. 32 of 1946 (as amended)

J Judicature Act No. 2 of 1978 (as amended)

L Land Acquisition Act No. 9 of 1950 (as amended)

Land Development Ordinance No. 19 of 1935 (as amended)

Lotteries Ordinance No. 81 of 1844 (as amended)

M Mahaweli Authority Act No. 23 of 1979 (as amended)

Marine Pollution Prevention Act No. 35 of 2008

Merchant Shipping Act No. 52 of 1971 (as amended)

Mines and Minerals Act No. 33 of 1992

Municipal Councils Ordinance No. 29 of 1947 (as amended)

N National Aquaculture Development Authority of Sri Lanka Act No. 53 of 1998 (as amended)

National Environmental Act No. 47 of 1980 (as amended)

National Heritage Wilderness Areas Act No. 3 of 1988

Nuisances Ordinance No. 15 of 1862 (as amended)

O Offences Against Air Craft Act No. 24 of 1982

P Penal Code No. 2 of 1883 (as amended)

Plant Protection Act No. 35 of 1999

Police Ordinance No. 16 of 1865 (as amended)

Pradeshiya Sabhas Act No. 15 of 1987 (as amended)

S Soil Conservation Act No. 25 of 1951 (as amended)

Southern Development Authority Act No. 18 of 1996

Sri Lanka Land Reclamation and Development Corporation Act No. 15 of 1968 (as amended)

Sri Lanka Ports Authority Act No. 51 of 1979 (as amended)

Sri Lanka Sustainable Energy Authority Act No. 35 of 2007

State Lands (Recovery of Possession) Act No. 7 of 1979 (as amended)

State Lands Ordinance No. 8 of 1947 (as amended)

T Town and Country Planning Ordinance No. 13 of 1946 (as amended)

U Urban Councils Ordinance No. 61 of 1939 (as amended)

Urban Development Authority Act No. 41 of 1978 (as amended)

Urban Development Projects (Special Provisions) Act No. 2 of 1980

W Water Hyacinth Ordinance No. 4 of 1909

Water Resources Board Act No. 29 of 1964

List of Treaties

1. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1989.
   - Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1995.
2. Convention on Biological Diversity (CBD) 1992.
   - Cartagena Protocol on Biosafety 2000.
3. Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) 1973.
4. Convention on the Conservation of Migratory Species of Wild Animals (CMS) 1979.
5. Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 (Ramsar Convention).
6. International Covenant on Civil and Political Rights 1976.
7. International Covenant on Economic, Social and Cultural Rights 1966.
8. Rio Declaration on Environment and Development of 1992.
9. United Nations Convention on the Law of the Sea (UNCLOS) 1982.
10. United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa 1994.

11. United Nations Framework Convention on Climate Change 1992.
    - Kyoto Protocol to the United Nations Framework Convention on Climate Change 1997.
12. Vienna Convention for the Protection of the Ozone Layer 1985.
    - Montreal Protocol on Substances that Deplete the Ozone Layer 1987.
    - Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 1990.
    - Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 1992.
    - Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 1997.
    - Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer 1999.

Index

Profiles of Contributors

Editor

Mario Gomez (LL.B; LL.M; Ph.D) is a human rights lawyer and a Member of the Law Commission of Sri Lanka. He was previously a lecturer at the University of Colombo where he taught administrative law, constitutional law, jurisprudence, and women's rights at undergraduate and post-graduate levels. He has published in the areas of public interest law, economic and social rights, women's rights, human rights commissions, internally displaced persons and public law. He has designed and conducted training programmes for judges, human rights activists, and staff of human rights commissions. He was a Post-Doctoral Human Rights Fellow at Harvard University in 2001/ 2002. He also serves as a Director of the Environmental Foundation Limited.

Authors

Chapter 1

Manishka De Mel has a BSc in Environmental Management from Imperial College London, and a MSc in Biodiversity, Conservation and Management from the University of Oxford. She is the Environmental Scientist at the Environmental Foundation Limited, and has been with the organisation since 2006. In addition to carrying out project activities, she conducts scientific investigations, research, contributes to publications and awareness programmes, and represents the organisation at various committees. She was a recipient of the UNESCO MAB Young Scientist Award in 2007.

Nilshantha Sirimanne is an Attorney-at-Law and Counsel with nine years of active experience at the Bar, especially in the spheres of Public Law (Constitutional Law and Administrative Law), Commercial Law and Labour Law. He holds a Master's Degree in Law from King's College, University of London. He is a lecturer in Company Law at the Royal Institute in Colombo for the University of London external degree programme.

Chapter 2

Anandalal Nanayakkara (Attorney-at-Law) has served as the Senior Attorney for the Environmental Foundation Limited. He has also served on the Environmental Council of the Central Environmental Authority and on the Man and Biosphere Committee of the National Science Foundation. In 1997/98 he was attached to the University of Washington in Seattle, USA as a Hubert H. Humphrey Fellow. He has wide experience as a consultant in Environmental and Development Law and Institutions. He maintains a practice in civil litigation as well as in public law and fundamental rights. He is also a life member of the Royal Asiatic Society of Sri Lanka.

Chapter 3

Ruana Rajepakse is a practicing lawyer who holds an LL.B. degree from London University and qualified as a Barrister of the Inner Temple prior to qualifying as an Attorney-at-Law in Sri Lanka. She served two terms on the Sri Lanka Law Commission and is the author of two books: *'An Introduction to Law in Sri Lanka'* and *'A Guide to Current Constitutional Issues'*. Environmental law is one of her areas of specialisation, and papers written by her on this subject have been published in Sri Lanka and abroad. She edited the *'South Asian Environmental Law Reporter'* from 1994 to 2000.

Chapter 4

Jagath Gunawardana is an Attorney-at-Law and holds a diploma in Agriculture. He is a visiting lecturer at the Universities of Colombo, Peradeniya and Moratuwa in environmental law and ornithology. He is the Chairman of the Environmental Council of the Central Environmental Authority, member of Fauna and Flora Advisory Committee and National Coordinating Committee on Biosafety (Ministry of Environment and Natural Resources). He contributes regularly to newspapers and magazines on the environment and wildlife.

Chapter 5

Rukshana Nanayakkara is an Attorney-at-Law, and the Deputy Executive Director of Transparency International Sri Lanka (TISL). Before joining TISL, he taught Environmental Law at the Faculty of Law, University of Colombo. He obtained his LL.B from the University of Colombo, and has an LL.M in International and Comparative Law from George Washington University and an LL.M in Human Rights from the University of Hong Kong. He is a Draper Hill Summer Fellow at Stanford University, USA and a Visiting Lecturer at the Faculty of Graduate Studies of the University of Colombo.

Wardani Karunaratne is an Attorney-at-Law and holds an LL.B. from the University of Colombo. She is the Legal Officer at Environmental Foundation Limited, and has been with the organisation since 2006. She handles environmental matters in courts on behalf of the organisation, while supporting other counsel who appear for EFL. She also represents the organisation at committees, provides legal aid, contributes to publications and conducts awareness programmes.

Profiles of the Institutions

United Nations Environment Programme

UNEP is the designated authority of the United Nations system in environmental issues at the global and regional level. Since its establishment in 1972, environmental law has been one of the priority areas of UNEP. Its work in this field includes promoting the progressive development and implementation of environmental law, including the negotiation of Multilateral Environmental Agreements (MEAs) to respond to environmental challenges and facilitating interlinkages and synergies among them; providing technical, legal and institutional advice to Governments, upon request, in establishing and enhancing their national legal and institutional frameworks including for the implementation of MEAs; and supporting the capacity building of various legal stakeholders, including government officials, judges, prosecutors, academics, private sector and civil society organisations particularly in developing countries and countries with economies in transition through training programmes, the production of publications on environmental law at both national and international levels and through its electronic information networks including ECOLEX.

Sri Lanka Judges' Institute

The Sri Lanka Judges' Institute was established by an Act of Parliament in 1985 to provide a forum for members of the judiciary to exchange ideas and views on judicial and legal matters. It is managed by a board of management comprising of the Honorable Chief Justice (Chairman, ex-officio), two appointed Members - two senior Judges of the Supreme Court, a Director and a Deputy Director. The Institute works in collaboration with different organisations to provide the best and most comprehensive training for

members of the Sri Lankan Judiciary. Apart from providing a forum for the judiciary to meet and hold discussions, the Institute organises conferences, lectures, workshops and seminars aimed at improving the professional expertise of judicial officers and advancing their knowledge and skills. The Institute facilitates training and research courses in various aspects of the administration of justice and supports the judicial officers by providing library facilities and other educational material.

Environmental Foundation Limited

The Environmental Foundation Limited (EFL) established in 1981, is one of Sri Lanka's oldest public interest organisations working in environmental conservation and protection. It is a non profit making institution that has gained a reputation for a balanced approach, transparency and neutrality and is well known for its legal actions over the years. Successful judicial interventions by EFL include the Eppawela phosphate mining case and the Galle Face Green privatisation case, both which were resolved in the Supreme Court. EFL carries out scientific investigations of issues, provides technical support including scientific reports, expert evidence and periodically updates court on matters of environmental degradation. EFL publications include, Sri Lanka's only handbook on the environment, '*Your Environmental Rights and Responsibilities: A Handbook for Sri Lanka*' and number of issue based policy papers and briefing papers aimed at knowledge sharing and influencing policy. The activities of the organisation are supported by a number of donors, who currently include WWF, IUCN and UNEP.

Centre for Environmental Research, Training and Information

Centre for Environmental Research, Training and Information - CERTI is a private, non profit organisation established in Sri Lanka to carry out projects at global, regional and national levels in environmental law and policy, governance and sustainability, including research, organisation and conduct of global, regional and national meetings of experts and training programmes and preparation of target-specific information, training and teaching materials to enhance knowledge and skills on international and national environment law and policy. CERTI is supported in its work by a global network of distinguished lawyers, academics, judges and senior government experts specialising in environmental law and policy. CERTI has carried out research and provided environmental law resources including research papers, guidelines, handbooks, training manuals and other publications and consultancy services to United Nations bodies such as UNEP, United Nations University (UNU), Secretariats of Multilateral Environmental Agreements and several governments and has also organised and conducted global, regional and national meetings and workshops on environmental law and policy.

JUDGES & Environmental Law

A Handbook for the Sri Lankan Judiciary

This book looks at the role the law plays and could potentially play, in preserving and protecting our natural environment. It brings together in a single volume, six important essays on legal approaches to environmental sustainability. The book is written mainly for the Sri Lankan judiciary and seeks to engage judges in a conversation about current environmental challenges and the most effective methods of legal protection.

Judges have a unique role in today's society. As custodians of the rule of law and interpreters of the constitution, legislation and public policy, judges are well placed to make an important contribution to the replenishment and protection of the natural environment.

While this book is aimed mainly at judges, it is likely to be of interest to legal educators, students, policy makers, lawyers and environmentalists.

Division of Environmental Law and Conventions
United Nations Environment Programme
P.O. Box 30552
Nairobi, Kenya
Tel: (+254 20) 7623283
Fax: (+254 20) 7624300
E-mail: delc@unep.org
Website: www.unep.org/delc

Sri Lanka Judges' Institute
Superior Courts Complex
Room No. 1308, Hulftsdorp
Colombo 12
Sri Lanka
Tel: (+94 11) 2437528/2541193
Fax: (+94 11) 2437528
E-mail: slji@sltnet.lk
Website: www.sljti.org

Environmental Foundation Limited
No. 146/ 34, Havelock Road
Colombo 5
Sri Lanka
Tel: (+94 11) 4528482
Fax: (+94 11) 4528483
E-mail: efl@sltnet.lk
Website: www.efl.lk

Centre for Environmental Research, Training and Information
No. 239/1A, High Level Road
Kirulapona
Colombo 5
Sri Lanka
Tel: (+94 11) 2809590
Fax: (+94 11) 2809590
E-mail: certi@eureka.lk

Designed & Printed by Karunaratne & Sons (Pvt) Ltd.