

TOWARDS A LIABILITY AND REDRESS SYSTEM UNDER THE CARTAGENA PROTOCOL ON BIOSAFETY

A REVIEW OF THE KENYA NATIONAL LEGAL SYSTEM

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Introduction

The Cartagena Protocol on Biosafety is a Protocol to the Convention on Biological Diversity. The latter was concluded in 1992 and came into force in 1993. It had already become apparent during the Convention's negotiations that further work was required towards a Biosafety Protocol. The Protocol was concluded in January 2000 and opened for signature at the fifth meeting of the Conference of Parties to the Convention on Biological Diversity held in Nairobi in May 2000. It came into force on September 11, 2003, ninety days after ratification by fifty states parties as provided for in Article 37 of the Protocol.

Undoubtedly the Protocol charts out a new direction in the growth and development of modern biotechnology. It is a timely and vital development given that in a very short time frame, transgenic croplands have increased rapidly. This decade will witness many African countries adopt and commercialize transgenic crops. However, efforts to invest have to be guided by sound mechanisms for assessing risks and benefits. This is crucial to enable state parties to make informed choices and decisions.

The Protocol, an internationally binding legal instrument concluded by Parties to the Convention on Biological Diversity (CBD), was the result of the work of the Ad Hoc Working Group on Biosafety which was set up in 1995 and completed its work in 2000. It aims at comprehensively addressing concerns raised about biotechnology. These concerns include safe handling, use, and transfer of living modified organisms (LMOs).¹ All Parties to the Protocol are obligated to comply with its terms. However, the obligations set out in the Protocol do not fully align with the national needs and priorities of many African countries. The numerous areas of non-consensus within the Biosafety Working Group support the validity of this assertion.² The Protocol contains not only elements of compromise but also provisions forced upon some Parties, particularly African States.³ The indefinite position on liability and redress is one such issue. However, most African States intend to implement the Protocol and some have begun putting in place mechanisms for biosafety.⁴ To provide a suitable framework for the implementation of the biosafety measures, Parties are

required to put in place relevant national legislation.⁵ For LMOs intended for direct use as feed, food or processing, only developed countries are obligated to put in place domestic regulatory frameworks while developing countries including those with economies in transition need only make decisions based on risk assessments.⁶ The challenge for African states is to put in place effective legal and administrative structures to implement the Protocol. African countries have been particularly concerned about the potential harmful impacts of biotechnology on their environment and most of them have put in place very precautionary frameworks for biosafety.

In this paper, the objective is to review Kenya's legal system for liability and redress based both on legislation and common law. The main objective of the review is to analyse the adequacy and relevance of such regimes to liability and redress for damage caused by transboundary movement of Living Modified Organisms. We will seek to find out whether there are principles or provisions that can help inform the country's and regional position on liability and redress. As a starting point we will give an overview of the Protocol's main provisions. We view the Protocol as an environmental impact assessment aid and this position is borne out by the inclusion of "major developments in biotechnology including the introduction and testing of genetically modified organisms" in the Second Schedule of the Environment Management and Coordination Act

(EMCA) as one of the projects that should undergo environmental impact assessment. We will look at Kenya's Constitution and other laws and identify the main liability regimes that exist under the domestic legal framework. Finally, we will provide our assessment of the efficacy of current framework for liability and redress in Kenya to address damage arising from biotechnology activities.

Overview of the Biosafety Protocol

Biosafety is essentially a complex of the regulatory mechanisms put in place for genetic modification seeking to balance technological benefits with appropriate environmental and human health safeguards. It seeks to ensure the safe handling, transfer and use of genetically modified organisms and to guarantee these through the sanction of law.⁷ The need for an international regime to provide these safeguards was underscored during the negotiations of the Convention on Biological Diversity, carried out within the aegis of the United Nations Environment Programme (UNEP) which was mandated by the United Nations General Assembly to work out a viable solution to the continued erosion of biodiversity in the world. The CBD was put in place in 1992 with three main objectives: conservation of biodiversity, sustainable use of genetic resources, and fair and equitable sharing of the benefits arising from the use of the resources. Under Articles 8 and 19 of the CBD, Parties are required to maintain, among other things, the

means to regulate, control, and manage risks associated with the use and release of LMOs resulting from biotechnology.⁸ Based on these provisions, the management of environmental impacts on the conservation and sustainable use of biological diversity including risk to human health is a major concern of biosafety and the reason for being of the Protocol.

Article 19 of the CBD is the basis upon which negotiations for the Biosafety Protocol were initiated. Contrary to suggestions that the negotiation process of the Protocol started in 1996, Veit Koester, the person hailed as 'the father of the Protocol'⁹ contends that the process began way back in 1991 at the promulgation of the CBD.¹⁰ The advance informed agreement (AIA) procedure (which is central to biosafety) is envisaged by the CBD at Article 19.3, which provides:

The Parties shall consider the need for and modalities of a protocol setting out appropriate procedures, including, *in particular, advance informed agreement*, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have effect on the conservation and sustainable use of biological diversity.¹¹ (emphasis added).

The Advance Informed Agreement (AIA) procedure enables countries importing LMOs to undertake risk assessments for all initial shipments of LMOs into their countries.¹² This principle, coupled with the precautionary approach, allows countries to refuse importation of LMOs

whose safety is uncertain due to insufficient scientific evidence. The backbone of the decision-making process is the undertaking of risk assessments. To facilitate this procedure, a clearing house mechanism is established under Article 20 of the Protocol and capacity building provisions in Article 23 of the Protocol are incorporated representing important requirements for the Protocol's implementation.

The unpredictability of the impacts of biotechnology and the inadequacy of science to predict adverse impacts significantly influenced developing country views in the development of the Biosafety Protocol.¹³ Many of them were apprehensive that biotechnology and specifically LMOs will adversely affect their biodiversity. It is therefore not surprising that the precautionary principle is the cornerstone of the Biosafety Protocol and is ingrained in many national regulatory systems. The upshot of the precautionary principle is that "uncertainty regarding serious potential environmental harm is not a valid ground for refraining from preventive measures".¹⁴ In another enunciation of the principle, it is stated that "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".¹⁵ This enshrined in Principle 15 of the Rio Declaration which is referred to in the Preamble and Article 1 of the Protocol.

In broad parlance, the principle enables an action whose negative impacts are not

yet known in science with the requirement that preventive measures be put in place to mitigate such negative impacts. Courts have also made an attempt at defining this principle. In the case of *Leatch .v. National Parks and Wildlife Service and Shoalhaven City Council*¹⁶ Stein, J defined the precautionary principle in the *dicta* thus:

...in my opinion the precautionary principle is a statement of common sense... It is directed towards the prevention of serious or irreversible harm to the environment in situations of scientific uncertainty. Its premise is that where uncertainty or ignorance exists concerning the nature or scope of environmental harm whether this follows from policies or decisions or activities, decision makers should be cautious.

From the above definitions, it is clear that the principle is to be applied when there is a threat of harm and scientific uncertainty. It has however been criticised on grounds of scientific ambiguity and perceived of as a pessimistic response to uncertainty and gaps in regulatory risk assessment knowledge.¹⁷ There is as yet no statement on the exact parameters of 'serious', 'irreversible' and 'full scientific certainty'.¹⁸ The principle however, gives states parties to the Protocol latitude in designing their biotechnology and biosafety laws and policies to be restrictive or permissive in allowing those activities to be carried out.¹⁹ In instances where a restrictive approach is taken and a country rejects an application for intro-

duction or use of an LMO, the state party may be in violation of the free trade rules and could be taken to the World Trade Organization Dispute settlement Body for a determination as to whether the rules constitute trade barriers.

A liability and redress regime provides a way of dealing with scientific uncertainty by giving rights to injured parties to sue those responsible for causing harm and imposing an obligation on others to limit risks, mitigate losses and provide redress. As argued by Newell and Glover, liability law addresses both cause and effect by providing for compensation after damage has occurred by creating incentives to keep hazardous activities under control.²⁰

Main Requirements of the Protocol

Risk Assessment

The main requirements of the Protocol focus on risk assessment, risk management and risk communication. Risk assessment can be defined as the identification of potential environmental adverse effects or hazards, and determining, when a hazard is identified, the probability of it occurring. Article 16 of the Protocol mentions the need to establish appropriate mechanisms to regulate, manage and control risks associated with GMOs. The ecological risks policy makers and regulators need to assess include the potential for spread of traits such as herbicide resistance from genetically improved plants to unmodified plants (including weeds),

Box 1: A Summary of key characteristics of a precautionary approach in the appraisal of risk (See GM Science Review: First report, An Open review of the science relevant to GM crops and food based on interests and concerns of the public, Prepared by the GM Science Review Panel 47 (July 2003) Available at <http://www.gmsciencedebate.org.uk/report/default.htm>)

- The inclusion of diverse scientific disciplines, to guard against an unduly narrow idea of the possible hazards, conditions or mechanisms of harm.
- The careful treatment of evidence, so that absence of evidence of harm is not presented as evidence of absence of harm. This is associated with a certain shift in the levels and burdens of proof, such as to give greater favour to the environment and human health.
- The open acknowledgement of uncertainty, ambiguity and gaps in knowledge, in order to avoid concealing the role of subjective judgement and the intrinsic limitations of risk assessment.
- The transparent documentation of any assumptions and value judgements and an exploration of their scientific consequences by means of techniques like sensitivity and scenario analysis.
- The involvement of stakeholders, lay people and participatory techniques to help ensure that the 'framing assumptions' explored in scientific analysis are consistent with wider social interests and values.
- The systematic and balanced assessment of the pros and cons associated with a series of different options, rather than simply focusing on the 'acceptability' of a single option in isolation or a comparison between this and existing tolerated poor or worst practice.
- Ensuring that the appraisal process allows expression of a balanced array of options, free from the exercise of coercive pressures and as independent as possible from particular financial or political vested interests.
- The serious consideration of issues such as the irreversibility of possible harm the flexibility of possible responses, the diversity of policy options and the ease with which associated commitments may be withdrawn, to ensure that strategies are as robust as possible in the face of new knowledge and surprise.

the build up of resistance in insect populations and the potential threat to biodiversity posed by widespread monoculture of genetically improved crops.²¹ Risk management on the other hand refers to the methods applied to minimise potential hazards or adverse effects which have been identified during a scientifically based risk assessment. There are different ways of managing hazards or adverse effects identified in a risk assessment. These include: confine-

ment, restricted use, provision of guidance, technical support and advice and record keeping.²² Though risk assessment and management are required under the Protocol, there are exemptions to these rules. The Protocol provides for the exemption of certain pharmaceuticals²³ from its scope explicitly stating that this provision is 'without prejudice to the right of a Party to subject all living modified organisms to risk assessment prior to the making of decisions on import . . .'²⁴

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Along similar lines, Article 6 explicitly exempts LMOs in transit and those destined for contained use from AIA procedure. Parties also are given leeway to regulate the transport of LMOs through their territory and to undertake risk assessments prior to making decisions on importing LMOs destined for contained use. This includes the right of the importing Party to set standards for contained use within its jurisdiction under which, for instance, Kenya and Zimbabwe (which are each experimenting with LMOs) have put in place standards for contained use.

Obligation of Exporters

Article 7 of the Protocol focuses on the application of the AIA procedure. Article 7.1 refers only to initial transboundary movements and not to subsequent movements of LMOs. This provision is also subject to the right of a Party to require all LMO movements to undergo the AIA procedure.²⁵ However, Article 7 does provide exemptions for importation of LMOs intended for use as food or feed, or for processing without AIA procedures being followed.²⁶ Under Article 8, the exporting Party must notify or require the exporter to notify the importing Party of the initial shipment of LMOs to be imported. The exporter is responsible for accuracy of information in notification. To realize this goal, the exporting Party is required to take necessary and appropriate legal measures to implement this obligation.²⁷

Obligation of Importers

Article 13 of the Protocol provides for a simplified procedure of notification of imports of LMOs. This simplified procedure allows states to export LMOs without a written permit, if the importing Party consents. In effect, this system corrodes the AIA procedure as it alienates further opportunities to check accuracy of decisions. Article 10(3) (a) of the Protocol enjoins Parties to inform exporters on how they intend to deal with subsequent imports. The time extension for decision-making under the AIA procedure shall be fixed by the importing Party.²⁸ The reasons for disapproval of import are required to be given by the would-have-been importing Party.²⁹

Article 12 of the Protocol allows exporters to request a review of decisions not to import LMOs. Importing Parties must be able to respond to this request within 90 days. Considering Africa's implementation in light of limitations in capacity, it would require great efficiency in the flow of information especially from a Biosafety Clearing House (BCH) to make informed decisions. The BCH is the mechanism set out by the Protocol to facilitate the exchange of scientific, technical, environmental and legal information on and experience with LMOs and thus assist parties in implementing the Protocol. Article 19 of the Protocol on capacity building is designed to address some of these needs. National capacity building is one of the critical tools in implementing AIA procedures. Technical as-

sistance and training, however, are not always forthcoming despite the fact that such commitments are increasingly being included in international legal instruments. Articles 19 and 20 make provisions for technical assistance in the Protocol's implementation to developing countries. The Global Environment Facility has also put in place mechanisms to assist countries in meeting their obligations under the Protocol.³⁰

The Protocol provides that a Party can require the exporter to carry out and bear the costs of a risk assessment. (Article 15.3) Given the fact that most African countries lack the capacity to undertake risk assessments, one can foresee situations whereby these countries are likely to rely on exporters' assessments. Three major issues arise from such scenarios. *First*, countries that rely on exporters to do the assessments will almost never develop their own capacity in that area. *Second*, the assessment may not be sound if the exporter (who has an interest in the assessment) not only selects but also pays the assessor. *Third*, handling liability and redress becomes problematic where the exporter's assessment is formed on the basis of the importing country.³¹ Any litigation would take place in the exporting country inviting problems related to interpretation and undue pressure on weaker Parties.

Although the scope of the AIA procedure is limited by the Protocol's list of exemptions, countries may still regulate the LMOs contained in the exemptions.³²

Ruth MacKenzie notes that 'the right of countries of import to regulate more strictly, and even to extend regulations to cover these exempted activities is recognized in various provisions of the agreement'.³³

Article 27 – Liability and redress

Liability and redress was a recurrent theme in the negotiation of the Cartagena Protocol on Biosafety to the CBD. Negotiators were unable to reach consensus on details of a liability regime under Protocol (See Box 2). An enabling clause included in the Protocol at Article 27

the conference of Parties serving as the meeting of the Parties to this Protocol shall, at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of living modified organisms, analyzing and taking due account of ongoing processes in international law on these matters, and shall endeavour to complete this process within four years.

Liability and redress was one of the issues addressed by the Intergovernmental Committee for the Cartagena Protocol on Biosafety (ICCP) in accordance with the workplan of ICCP adopted by the COP to the CBD at its fifth meeting (Decision V/1, annex, section B, item 1). ICCP was requested to elaborate "a draft recommendation on the process for elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements

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of LMOs including *inter alia* (a) review of existing and relevant instruments; and (b) identification of elements for liability

and redress.” At its second meeting ICCP considered a review of existing relevant instruments and identification of elements

Box 2: Article 27: Ruth Mackenzie et al., *An Explanatory Guide to the Cartagena Protocol on Biosafety* (IUCN Environmental Policy and Law Paper No. 46, 2003), pp. 167-170.

639. Article 27 concerns the issue of liability for damage that may result from the transboundary movement of LMOs. The kinds of questions generally addressed under the heading of liability and redress include:
- What types of remedy should be available for damage resulting from the transboundary movement of LMOs?
 - What kinds of loss or damage should be compensated?
 - Who should pay for such loss or damage?
 - In what circumstances?
 - Is a specific international regime required setting out rules on liability and redress for damage resulting from the transboundary movement of LMOs?
640. These issues are complex and could not be resolved during the negotiations. Article 27 therefore contains what is called an “enabling” provision. – i.e. it requires the first meeting of the COP/MOP to establish a process to consider this issue, and establishes a time-frame for this process.
641. In international law, the term “liability” is associated with the obligation to provide for compensation for damage caused by activities which pose potential risks to persons, property and the environment. In relation to certain activities, States have tended to opt to conclude international treaties establishing civil liability regimes, which “channel” liability for damage to private parties and operators (see Box 45 below).
642. In any regulatory system, rules and procedures on liability and redress perform various functions. They play, among other things, preventive and reparative functions. Current trends in international environmental law focus on preventing rather than remedying damage.
643. During the negotiation of the Protocol, the issues of liability and redress gave rise to considerable debate and disagreement. At an early stage in the negotiations, the African Group put forward a proposal for strict liability of the Party of export for any damage caused by LMOs – i.e. the Party of export would have been held liable for any damage caused by LMOs exported from its jurisdiction even if it was not itself at fault. Many developing countries viewed existing private international law as an inadequate means for ensuring redress for any damage that may be caused by the transboundary movement of LMOs. They therefore sought to include more detailed provisions on liability and redress within the Protocol. Among developed countries there were different views on this matter. Some argued that there was no need for international rules on liability for damage caused by LMOs, since these matters were or could be addressed under national law, and within the context of private international law. Others took the view that there simply was not sufficient time during the Protocol negotiations to address such a complex issue.
644. As a consequence of these disagreements, Article 27 of the Protocol is a compromise which provides an enabling provision for a process to consider the issue of liability and redress, but leaves all substantive discussions on liability and redress to the COP/MOP of the Protocol.

provided by the secretariat and requested governments and organizations to submit further information on national, regional and international measures and agreements in the field of liability and redress for damage resulting from transboundary movements of LMOs.

Operationalizing Article 27 of the Cartagena Protocol

The International Context

International Law

Liability and redress issues have to be seen within a broader context and are complex ones to address in an international context because the rules are enforced in a national context and different countries have had systems of liability and redress based on other areas of law. In international law, liability is normally associated with the obligation to provide for compensation for damage caused to persons, property, and the environment. Rules of state liability at international law form the fundamental basis of liability and redress in international law. States are generally responsible for breaches of their obligations under international law as stated succinctly by Ian Brownlie:

Today one can regard responsibility as a general principle of international law, a concomitant of substantive rules and of the supposition that acts and omissions may be categorized as illegal by reference to the rules establishing rights and duties. Shortly, the law of responsibility is concerned with the incidences and consequences of illegal acts, and particularly for payment

of compensation for loss caused. However, this, and many other generalizations offered on the subject, must not be treated as dogma, or allowed to prejudice the discussion, which follows. Thus the law may prescribe the payment of compensation for the consequences of legal or excusable acts, and it is proper to consider this aspect.³⁴

In the area of the environment the principles that states are responsible for breach of the obligation not to cause environmental harm (Principle 21 of Stockholm Declaration) and have a "responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment..." (Principle 2 of Rio Declaration) are the basis for liability. The International Law Commission's Draft Responsibility Rules³⁵ contain a provision on state liability to the effect that every wrongful act of a state entails the international responsibility of that state.³⁶ The defences available include acts of war and any acts wholly caused by acts or omissions done by a third party with intent to cause damage. The remedies available include discontinuation of the wrongful conduct, reparation for injury caused and non-repetition.

Some international agreements have provided for liability regimes. (See Box 3) These include nuclear liability and oil pollution damage regimes, transboundary movement of hazardous wastes and their disposal.³⁷ Nuclear energy schemes provide for absolute liability and the liability is ascribed to the operator of the nu-

clear installation or vessel. There is provision for limitation on the amount payable and time frame.³⁸ Under the hazardous wastes regime, it is notable that a technical group has been working on a liability regime with a view to getting a Protocol in place. It has been considering such issues as scope of liability (should it extend only to actual shipment); what standard of liability should be applied (strict, joint, several); parties liable: generators, exporters, persons in control of waste at time of release, required insurance or other financial guarantees and creation of an international fund for emergency response actions.

There is very limited case law reported. Indeed, the Trail Smelter Arbitration remains the only arbitral resolution touching on state responsibility.³⁹ Case law is uncommon as states prefer resolving disputes through negotiations. Consequently, there has been limited development of principles relating to liability. It is worth noting that state responsibility is concerned with state to state obligations since it is only states that are actors on the international scene. Private individuals concerns can only be articulated internationally through states as they are not recognised as actors on the international plane save for the internationally recognised non-state actors.⁴⁰ Increasingly emphasis in international environmental law treaties has been on preventive measures. There have also emerged other schemes to supplement and strengthen the customary international law liability provisions.

These include the Polluter Pays Principle (PPP) whose main plank is preventive-precautionary principle. Other treaties such as the Basel Convention, at Article 4.3, have criminalized some activities.⁴¹

Liability and redress in the context of the Protocol relates to what would happen if the transboundary movement of LMOs resulted in damage. One issue that has dogged the discussions has been whether parties should develop a regime suited specifically to LMOs or whether they should include damage caused by LMOs within a broader purview namely, damage to biodiversity or damage to the environment and including specificities on LMOs.

Regional Level

At the regional levels, there have been developed liability regimes for specific issues. For instance, the Council of Europe Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 1993 was negotiated with a view to ensuring adequate compensation for damage resulting from activities dangerous to the environment (Art. 1).⁴² Dangerous activity was defined to include GMOs, which as a result of the properties of the organisms pose a significant risk to man, the environment or property. (Art. 2). Damage was defined to include loss of life, personal injury, loss or damage by impairment of the environment (limited to costs of measures of reinstatement), cost of preventive measures (Art. 7).

Box 3: Ruth Mackenzie et al., *An Explanatory Guide to the Cartagena Protocol on Biosafety* (IUCN Environmental Policy and Law Paper No. 46, 2003), Box 44: Other International Conventions and Processes relating to Liability and Redress: Examples, p. 168

State Liability

- 1972 Convention on International Liability for Damage Caused by Space Objects

Civil Liability

- 1960 Paris Convention on Third Party Liability in the Field of Nuclear Energy), and 1963 Brussels Supplementary Convention.
- 1963 Vienna Convention on Civil Liability for Nuclear Damage, amended by the 1997 Protocol, and 1997 Convention on Supplementary Compensation for Nuclear Damage.
- 1969 Convention on Civil Liability for Oil Pollution Damage and 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, amended and replaced by the 1992 Protocols
- 1992 International Convention on Civil Liability for Oil Pollution Damage
- 1992 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
- 1993 Lugano Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (not in force).
- 1996 International Convention on Liability and Compensation in connection with the Carriage of Hazardous and Noxious Substances by Sea (not in force).
- 1999 Basel Protocol on Liability and Compensation for Damage resulting from the Transboundary Movements of Hazardous Wastes and their Disposal (not in force).
- 2001 International Convention on Civil Liability for Bunker Oil Pollution Damage (not in force).

Other relevant processes

- Examination by the Conference of the Parties of the CBD of the issue of damage to biological diversity in accordance with Article 14(2) of the CBD.
- Consideration of a liability regime under the 1991 Protocol on Environmental Protection to the Antarctic Treaty.
- International Law Commission Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, 2001.
- International Law Commission Draft Articles on Responsibility of States for Internationally Wrongful Acts, 2001.

In the African region, the Bamako Convention⁴³ represents an example of a regime under which there are attempts at establishing a liability regime. African countries have been very cautious in dealing with developed countries where activities of the latter are likely to have adverse impacts on the environment in African countries. This explains the vigour with which they have pursued liability regimes in the contexts of hazardous waste

movement and disposal and biotechnology activities. Indeed the position articulated by the African countries during the negotiations for the Protocol favoured a stringent liability regime. In line with this stance, a meeting of African Biosafety Experts held in Addis Ababa in June 1999 drafted a Model Biosafety Law. Under this law, risk assessment is defined as "evaluation of the direct and indirect risk to the environment, biological diversity

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and health, including to the socio-economic conditions and ethical values of the country which may be posed by the import, contained use, release or placing on the market of the genetically modified organism or of a product of genetically modified organism. This may include the evaluation of secondary and long-term effects.”⁴⁴

This definition is very broad definition. It requires the assessment of risk on a multiplicity of levels.

Standard and incidence of Liability

Article 14 of the Africa Model Biosafety Law which specifically addresses the issues liability and redress imposes strict liability for any harm caused by GMOs or products of GMOs imported, made, in contained use, released or placed on the market It requires that such harm be fully compensated. It further provides that liability shall attach to the person responsible for the activity which results in the damage, injury or loss as well as the provider, supplier or developer of the genetically modified organism or products of the genetically modified organism and that if there is more than one person responsible for the damage, injury or loss, then the liability shall be joint and several.

Liability shall also extend to harm or damage caused directly or indirectly by the GMO or product of the GMO to the economy or social or cultural practices or the livelihood or indigenous knowledge

systems or technologies of a community or communities. Such harm includes the following: disruption or damage to production systems, agricultural systems, reduction in yields, soil contamination, damage to the biological mass, and damage to the economy of an area or community.

Remedies

In the case of harm to the environment or biological diversity, Article 14 provides that compensation shall include the costs of reinstatement, rehabilitation or clean-up measures which actually are being incurred and, where applicable, the costs of preventive measures.

Article 15 of the Model Biosafety Law proposes the institution of criminal sanctions against persons who import, release, place on the market or make contained use of, any genetically modified organism or products of a genetically modified organism without the written approval of the competent authority; violate any conditions attached to the grant of approval under this law; fail to furnish any information as required by the provisions of this law; provide false, misleading or deceptive information in order to secure an approval; does not label, package or identify any GMO; labels, packages or identifies any GMO or products of a GMO in a manner that is false, misleading or deceptive and exports a GMO or products of a GMO without the advance informed agreement of the importing country.

On limitation of actions, the article provides that any action in respect of the harm caused by a genetically modified organism or products a genetically modified organism shall lapse only after a reasonable period from the date on which the affected person or the community could reasonably be expected to have learned of the harm, taking due account of:

- (a) the time the harm may take to manifest itself; and
- (b) the time that it may reasonably take to correlate the harm with the genetically modified organism or products of the genetically modified organism, having regard to the situation or circumstance of the person or community affected.

Locus Standi

Under Article 14.7, any person or group of persons may be entitled to bring a claim and seek redress in respect of the breach or threatened breach of any provision of this Act, including any provision relating to damage to the environment and biological diversity; relating to socio-economic:

- (a) in that person's or group of persons' interest;
- (b) in the interest of, or on behalf of, a person who is, for practical reasons, unable to institute such proceedings;
- (c) in the interest of, or on behalf of, a group or class of persons whose interests are affected;
- (d) in the public interest; and
- (e) in the interest of protecting the environment or biological diversity.

To promote public interest litigation on issues of GMOs and the protection of the environment, the Article provides that no costs shall be awarded against any of the above persons who fail in any action as aforesaid if the action was instituted reasonably out of concern for the public interest or in the interest of protecting the environment or biological diversity.

From the above rendition, it is clear that there are elements of liability schemes that Kenya can build on in consolidating a liability and redress regime for biosafety. In the next section, we look at the framework within which this regime is poised to be hosted interrogating its adequacy and making proposals for improvement where that is necessary.

The Legal & Institutional Framework for Biosafety in Kenya

Liability and redress have to be considered within the broader context of legal regimes in a country. For liability to arise, there has to be a set standard. The standard set under the Protocol is to *contribute to ensuring an adequate level of protection in the field of safe transfer, handling and use of LMOs resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focussing on transboundary movements.*

The Protocol thus focuses on safe handling, transportation and release of LMOs. It adverts to the fact that even with

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the greatest safety measures taken, damage may occur for instance, where LMOs are for contained use or released for experimental purposes or in a market context. Further transboundary movement may be intended or unintended (cross-border movement of LMO in use in one country given that borders are political fixations and there is no firm wall and the ecosystem may be one making movement across the border very easy).

The question as to who should be liable and what standard of liability should attach to specific acts becomes critical. In reviewing the Kenyan laws on these issues, we will look at the Constitution, environmental law provisions that pertain to adverse impacts on the environment and general laws on civil liability under the law of tort.

Broad Legal Provisions

Constitutional

In a national context, it is imperative that the supreme law of the land provide the parameters for one to get a remedy when their rights are infringed. Kenya's operative constitution does not contain explicit environmental provisions.⁴⁵ It does, however, place importance on the right to life, and experts argue that the right to life encompasses the right to a clean and healthy environment.⁴⁶ This would entail a positive obligation on others to ensure that the environment is wholesome and cover adverse effects of LMOs that would impinge on this right. The constitution

also includes the right of access to the High Court for redress regarding enforcement of fundamental individual rights and freedoms. The constitution defines "person" to include "any body of persons, corporate or unincorporate."⁴⁷ Judicial decisions confirm that "person" includes "corporate person."⁴⁸

While virtually all African countries have constitutional provisions on the right to life,⁴⁹ few African courts have had occasion to address the question of whether the scope of the right to life can be expanded to include the right to means necessary for supporting life such as clean air, water and food. The scope of the right to life in the context of environmental protection in Africa was first addressed in Tanzania in 1988 and 1991. The first occasion arose in *Joseph Kessy v. Dar es Salaam City Council*⁵⁰ where the residents of Tabata, a suburb of Dar es Salaam, sued the city council to cease dumping in their region because it posed environmental harm directly threatening human existence. The court held that the garbage dump endangered the health and lives of the residents and that the operation of the dump violated the right to life enshrined in the constitution. The other case (*Balegele*) which is quite similar to *Kessy* is discussed below under *locus standi*. At the international level there have been cases involving the right to life where the scope has been expanded to include privacy and home.⁵¹ Closer home, the High Court of Uganda had occasion to address environmental harm as a breach of the

right to privacy and the home. This was in *Dr. Bwogi Richard Kanyerezi v. The Management Committee Rubaga Girls School*.⁵² The plaintiff complained that the defendants' toilets emitted smelly gases which reached the plaintiff's home thus unreasonably interfering with and diminishing the plaintiff's ordinary use and enjoyment of his home. In spite of the fact that the defendant's school benefited society, the court held that the defendants should cease using the toilets. Although this case was argued from the traditional common law principle of nuisance it illustrates the use of privacy and home rights to protect the environment.

In the context of biotechnology, courts have the onerous task of deciding on the purview of the precautionary principle. The task is worsened by the fact that, as pointed out above, there is no clear definition of the parameters of this principle or guidelines on how to apply it. In the case of *Sheila Zea & Others .v. Wapda*⁵³ the Pakistan Supreme Court declined to give any definitive finding because the technical evidence adduced by the experts was inconclusive. The *Sheila Zea Case* was a Human Rights case, which was as a result of the apprehension of citizens of Pakistan who were against the construction of a grid station by the national authorities. The citizens felt that their health would be affected adversely by the exposure to the huge electromagnetic field from the grid station. They invoked Articles 4, 9 and 184 of their Constitution, which entitled them to "...protection by

the law from being exposed from hazards which may be due to installation and construction of any grid station, any factory, power station or such like installation."

In this case the likelihood of adverse effects could not be ruled out. The court observed in its *dicta* that under such circumstances the balance should be struck between the rights and also the plans of the State for "...the welfare, economic progress and prosperity of the country and if there were threat of serious damage, effective measures should be taken to control it and it should not be postponed merely on the ground that the scientific research and studies were inconclusive."

Courts in Kenya called upon to decide on the purview of the precautionary principle can, in the absence of definitive pronouncements by Kenyan courts, use *Sheila Zea* as a persuasive authority. In the Draft Bill of the Constitution, 2002, the rights to an environment that is safe for life and health and to compensation for damage arising from the violation of the rights are included in the Bill of Rights (Article 63). This is accompanied by the right to access justice through independent tribunals in respect of these rights (Article 67). Chapter 12 of the draft Bill contains a duty to safeguard the environment and adoption of the precautionary principle in protecting the environment. (Article 239). It is apt to state that the current constitutional provisions provide a legal basis for the promulgation of a liability and redress system under the laws of Kenya.

EMCA

The EMCA provides for the right of every person to a clean and healthy environment. It also makes it every person's obligation to protect and manage the environment.⁵⁴ Any person may bring an action in the High Court to enforce the right to a clean and healthy environment. Redress may be sought if the right has been violated, is being violated, or is likely to be violated. In judging the dispute, the court must be guided by the principles of sustainable development, such as public participation in the development of policies, plans, and processes for environmental management.⁵⁵

Under the EMCA, environment impact assessments (EIAs) are required to be undertaken for projects specified under the second Schedule to the Act. As pointed out above, biotechnology including the introduction and testing of genetically modified organisms, is one of the projects included in the schedule. Further, EMCA overcomes most of the limitations on standing to sue. It explicitly provides that an aggrieved person need not show special damage or particular injury beyond that which is suffered by other affected people.⁵⁶ In effect, this provision grants to every person the right to protect the environment. This promotes public interest litigation on in environmental matters.

Environmental impact assessment is undertaken by the project proponent at her or his own expense but must be conducted by experts authorized by National Environment Management Authority

(NEMA). NEMA is empowered to set up a technical advisory committee to advise it on environmental assessment (EA). Lead agencies may submit written comments on EAs at NEMA's request. These agencies comprise organizations and institutions vested by law with controlling or managing the environment. This tallies with the AIA procedure under the Protocol.

The act imposes on project proponents the obligation to conduct EIAs and grants all persons the right to participate in the EIA process.⁵⁷ Project proponents have to submit reports to NEMA. If, after studying the report, the authority is convinced that the proposal will result in significant environmental impact, an EIA must be undertaken. No other licensing authority can lawfully issue a license for a project for which an EIA is required under the Environment Management and Coordination Act. As mentioned above, EIAs must be conducted by experts authorized by the authority. Only a license issued by the director general of NEMA will be valid.⁵⁸

To promote public involvement, the act requires that the general public, including potentially project-affected persons, be notified of the intention to carry out an EIA. The notices must contain a summary of the project, the location in which the project is to be carried out, and the place at which the EIA report may be inspected.⁵⁹ The time limit within which public comments may be submitted should not exceed 60 days. To afford reasonable opportunity for comments to be

submitted, the time limit may be extended. Provision is made for the general public, on payment of a prescribed fee, to inspect the register of EIA experts. NEMA also has powers to set up a technical advisory committee on EIAs and to require the developer to provide additional information to ensure the accuracy and adequacy of reports.⁶⁰

On conclusion of the review, if the authority decides that the project may proceed, it issues an environmental impact assessment license. The license may be given with conditions, and the authority may give other directives at any stage of the project. The register of EIA licenses is maintained by the authority as a public document and, as mentioned, is open to inspection on payment of a fee. It is important to note that the requirement for payment of a prescribed fee may impede public participation if members of the public are unable to raise the fee, which, in many cases, is likely.

The act provides that EIAs shall be carried out in accordance with regulations and guidelines issued by NEMA and that EIA reports shall be available for public scrutiny and input.⁶¹ Section 53 of the Act provides a basis for promulgating biosafety regulations. (See Box 4)

EMCA has incorporated the polluter pays principle, the precautionary principle and the inter-generational and intra-generational equity principles among others.⁶² On the issue of redress for damage caused, the Act provides for both civil and criminal law remedies.⁶³ Of particular rel-

evance to redress for damage arising from biotechnology activities are the environmental restoration orders provided for at section 108 of the Act. Such an order compels persons 'responsible for environmental degradation to restore the degraded environment as far as practicable to its immediate condition prior to the damage'.⁶⁴

Civil Liability under the Law of Tort

Tortious liability arises from the breach of a duty primarily fixed by law towards persons generally whose breach is redressable by an action for unliquidated damages. The law of torts defines the obligations imposed on a person to his fellows to provide for compensation for harms caused by breach of the obligations. Tort has been said to be concerned with loss adjustment and judged by its success as a compensation system. The primary issue to be determined is who should bear the relevant loss or should the loss lie where it falls? In determining whether the loss should be shifted to a defendant, a relevant issue is whether the conduct of the defendant warrants such shifting. Since tort concerns situations where one person's conduct causes or threatens to cause harm to the interests of others (broadly defined), it provides a basic infrastructure for building a liability and redress system.

The three torts that are relevant to liability and redress for biotechnology are negligence, nuisance and the rule in *Rylands Vs Fletcher*.⁶⁵ Negligence protects interests in physical and mental health, reputation, property interests, economic rela-

Box 4: Article 53 of EMCA on Access to Genetic Resources

53. (1) The Authority shall, in consultation with the relevant lead agencies, issue guidelines and prescribe measures for the sustainable management and utilization of genetic resources of Kenya for the benefit of the people of Kenya.
- (2) Without prejudice to the general effect of subsection (1), the guidelines issued or measures prescribed under that subsection shall specify -
- (a) appropriate arrangements for access to genetic resources of Kenya by non-citizens of Kenya including the issue of licences and fees to be paid for that access;
 - (b) measures for regulating the import or export of germplasm;
 - (c) the sharing of benefits derived from genetic resources of Kenya;
 - (d) biosafety measures necessary to regulate biotechnology;
 - (e) measures necessary to regulate the development, access to and transfer of biotechnology; and
 - (f) any other matter that the Authority considers necessary for the better management of the genetic resources of Kenya.

tionships and public rights.⁶⁶ To establish negligence, there has to be in existence of what in law “a duty of care situation”, namely, a situation in which the law attached liability to carelessness; secondly, there has to be breach of the duty of care by the defendant, that is, failure to measure up to the standard set by the law; a causal connection between the defendant’s careless conduct and the complained of damage; and damage that is foreseeable and not remote.⁶⁷ It has been noted that the concept of negligence presents a difficulty in enforcing liability and redress for biotechnology activities because of the *locus standi* requirements and the time limits.⁶⁸ The rule in *Rylands Vs Fletcher* applies to anything brought on land in the course of its non-natural use that is likely to do mischief on escape.⁶⁹ Damage and escape need not be reasonably foreseeable. Nuisance on its part comprises an

act or omission, which is an interference with, disturbance of or annoyance of a person in enjoyment or exercise of a right belonging to him as a member of the public, his ownership/occupation or enjoyment of his land, easement or profit or other use connected with land.⁷⁰

There are differing standards of liability, namely, strict which makes a specific person responsible regardless of fault, but offers limited justifications; absolute liability which makes a person liable regardless of fault and allows no justifications/excuses and fault based liability where there is need to prove negligence on part of person responsible for damage.

Liability can also be attributed to several persons where the cause of loss is attributable to a number of persons. However, most torts require that the plaintiff have suffered damage and it is for this damage

that the law gives compensation. There is also a fundamental requirement that the damage should have been caused by the Defendant's tortious act or omission. The "but for" test is applied to establish the causative link, namely, the D's wrong is a cause of the damage if the damage would not have occurred if his wrongful act or omission had not taken place. This test can be problematic in situations where there is multiple causation.

Most actions under tort law are based on common law which comprises rules of customary law which have been recognized by English courts and is built on precedents thus focusing on individual decisions. Common law was adopted in Kenya through the Judicature Act, Chapter 8 of the Laws of Kenya. It provides that courts are to apply "the substances of the common law" but only to the extent that Kenya's circumstances and its inhabitants permit. Indeed, the common law constitutes a significant source of law for Kenya, since it is the applicable law in the absence of legislation.⁷¹

Tort law provides a good basis for developing a liability and redress regime. There is however need to tailor the regime to be better suited to biotechnology activities especially with regard to definition of claim, locus standi requirements and time limits.⁷²

National Biosafety Law

At the national level, a competent national authority, national focal points, and advisory groups (in the form of committees

or commissions to serve as an oversight mechanism)⁷³ must be established to facilitate the implementation of the Protocol's obligations at national levels. The need to develop harmonized approaches to the risk assessment of products of modern biotechnology has been identified as critical to biosafety. National committees on biosafety need to publish expert reports on safety considerations, concepts and principles for risk assessment as well as information on field releases of transgenic crops and a consideration of traditional crop breeding practices. Safety considerations for genetically engineered organisms should include the issues relevant to human health, the environment and agriculture, which might be considered in a risky assessment.

The institutions mandated with the task of carrying out risk assessments must of essence be scientific bodies with the requisite capacity. They should be comprised of experts from government, private agencies and other institutions, which should work together in close association with competent national authorities in areas such as information dissemination. In addition to undertaking risk assessments and management, national bodies will need to provide systems by which countries provide AIA. They administer requests for AIA, issue import and export permits, monitor compliance (through a compliance information system), and serve as points of contact and for liaison with the Secretariat. They will also perform other functions required by the Pro-

tol such as facilitating public awareness.⁷⁴

National legislation also authorizes the established institutions to perform prescribed administrative functions required by the Protocol. A Party may designate one institution to perform all the functions required,⁷⁵ which will provide the advantage of efficiently allocating the use of scarce resources with particular reference to financial constraints.⁷⁶ These institutions should be given legal authority and clear mandates in all aspects of biosafety including authority for institutional collaboration.

In Kenya the competent authority is the National Council for Science and Technology (NCST) which hosts the National Biosafety Committee. The membership of the Committee comprises representation from key institutions involved in biotechnology activities such as the national agricultural research institutes and relevant line ministries such as agriculture, health and environment. To assist in decision-making, the NCST, in 1998, promulgated *Regulations and Guidelines for Biosafety in Biotechnology for Kenya*.⁷⁷ These regulations focus on inputs into the decision-making process which is based on the precautionary principle, prior informed consent or advance informed agreement, public participation and consultation, access to information (without prejudice to the protection of confidential information), access to justice (through compliance, liability, and compensation systems), and enforcement procedures and sanctions.

They require that the release of LMOs be preceded by the approval of the National Biosafety Committee (NBC). The authorities are supposed to undertake risk assessments before making the decision to approve or deny approval of the import. In order to do so they should be provided with enabling information such as description of the LMOs and its intended uses in Kenya.⁷⁸ The guidelines provide that it is an offence to import LMOs without prior approval of the NBC. Penalties for offences under the biosafety regulations were left to be made by the Minister. To do this the Minister requires the powers to be conferred upon him by an Act of Parliament. To date, this has not been done although there are some prescribed penalties in draft form under the proposed National Biosafety Bill.⁷⁹

The Proposed Kenya Legal Framework for Safety in Biotechnology forms the basis of the National Biosafety Act first raised in 1999.⁸⁰ Under the proposed framework, an exporter of LMOs or related products is required to provide to the NCST or the competent authority a written AIA of the competent authority of the importing country.⁸¹ The exporter is also required to comply with other regulations on foreign trade in LMOs. Before approving the export, the importing country is empowered to consider other relevant concerns it may have. Significantly, the provisions of the proposed regime preclude the export of LMOs or their products that have been banned under the laws of the country of export. In practice the

NBC in Kenya applies relatively high standards in screening GMOs and is slow in approving imports of GMOs and related products.⁸²

Under the draft National Biosafety Act, 1999, “no person shall import release make contained use or offer for sale genetically modified organism or product for a genetically modified organism without approval of the competent Authority.” Further, any person who intends to import release used in contained conditions or offer for sale genetically modified organisms or their products shall submit an application in prescribed form to the Council/Competent Authority.

The proposed Kenya Legal Framework for safety in Biotechnology adopts the Model Law provisions on liability and redress, including strict liability, provisions for costs of reinstatement, rehabilitation or clean-up and preventive measures incurred. It is worth noting that Kenya is in the process of putting in place a biotechnology policy to guide developments in biotechnology. There is also an ongoing process to develop a national biotechnology strategy and a biosafety law. The lack of a policy framework has been perceived as a hindrance to the application of biotechnology in national development. The regulations and guidelines are also being revised in line with suggestions raised through their usage. The national biosafety committee has considered applications and allowed work on *Bt. Maize*, *Bt. Cotton*, recombinant rinderpest vaccine and the transgenic sweet potato

on the basis of the draft regulations. This raises the need to urgently think through and institutionalise a liability and redress system for biotechnology activities. The draft biosafety bill at section 42 provides that “liability and redress for any damage that occurs, as a result of activities subject to this Act, shall be addressed by applicable laws”.⁸³ Given that these laws predate biotechnology activities and may not cover all kinds of damage likely to arise from biotechnology activities, the urgent need to look through these laws and work out a suitable liability and redress system cannot be gainsaid. The NCST has, in conjunction with other stakeholders, been working to get the draft policy, bill and regulations and guidelines finalised.⁸⁴

Assessment of the National Context for the Implementation of Article 27

Biosafety is about risk assessment and management. Consequently the framework and efficacy of biosafety laws and institutions dealing with liability and redress will to a great extent depend on the capacity of countries to put in place mechanisms for risk assessment and management. Article 16 of the Protocol stipulates that Parties must establish appropriate domestic mechanisms to regulate, manage and control risks associated with LMOs. If a potential hazard or adverse effect is identified, measures must be taken to minimize or mitigate it. The ecological risks policy makers and regulators

need to assess include the potential for spread of traits such as herbicide resistance from genetically improved plants to unmodified plants (including weeds), the build up of resistance in insect populations, and the potential threat to biodiversity posed by widespread monoculture of genetically improved crops.

The basic requirements of the Protocol as outlined above include the advanced informed agreement (AIA) mechanism; the precautionary approach; risk assessment and management; and the clearing house mechanism. Although the Protocol only makes reference to the precautionary principle in its preamble, textual analysis evinces incorporation of the principle throughout the Protocol.⁸⁵ The principle is operationalized through decision-making procedures which are based on sound science and rigorous risk assessment and management. The specific legal and administrative mechanisms that Parties are required to institute are supposed to cover the related but separate fields of development, handling (including packaging and identification), transport, use, transfer, and release of LMOs.⁸⁶

It is anticipated that regulations on AIA, precautionary principle, risk assessment and management, and capacity building will be incorporated into national legislation. The main objective of these legal and administrative mechanisms should be to ensure that the activities stated above are undertaken in such a safe manner that any adverse effects arising therefrom are

reduced or prevented. The risks relate not only to biodiversity but also to human health. All decisions are to be based on risk assessments. The assessment of such risks should be done in accordance with sound science based on the available information.

It is our view that the rudiments of a liability and redress system is there in Kenyan laws and what needs to be done is to refine it to cover LMOs. The biosafety regulations in their definition of risk assessment already intimate what issues one should look for, namely risk identification, risk-source characterisation, exposure assessment and risk estimation.

The general objectives of the liability regime will be to protect human health, protect property against degradation generally from the effects of LMOs and protect the environment/ecosystem integrity. Since Protocol is to the CBD, the primary focus should be on effects to biodiversity and human health. In assessing harm, regard should be had to adverse effects that are actual and significant.

On causation, there is need to establish the standard that there be harm, some LMO trait and a relationship between the harm and transboundary movement of the LMO containing the trait. In addition to damages or compensation, preventive action and reinstatement should be required where feasible given the adage that an ounce of prevention worth a pound of cure. Clean up/reinstatement should also be availed as remedies and a regulatory regime for risk management and moni-

toring availed in light of the fact that a biosafety system should aim at managing risk.

With regard to liability standard, I would propose varying standards of liability (fault-based, strict and absolute) depending on the circumstances. It is however also important to consider not exempting the state and state operatives from liability as is usual in general tort law. This is because most entities engaged in biotechnology activities in the region are national agricultural research centres. The option of channelling liability to multiple persons should be availed.

Guiding Principles

- Procedural issues: access to information, public participation and access to justice
- Balance this with proprietary nature of technology
- Different interests need to be considered and protected
- AIA – activities not illegal *per se*
- Compulsory insurance for actors as an organized way of managing risks and to ensure that if and when damage occurs, it is not brought against people of straw.
- Legal justifications to be availed to defendants where they adhered to all conditions laid out by NBC
- Establishment of a national fund: NBC allows activities and may be read to be in line of causation; need to cushion them in view of fact that biotechnology is an activity many countries in the region will be getting

involved in and deemed necessary for national development. Also need to balance against interests of technology development for food security

- Fund establishment necessary given the limitation of actions; damage may only become apparent after long periods.
- Funds could be sourced from imposition of tax on biotechnology activities and the setting of the cash aside
- The broader national contexts for implementing the rules: constitutions, environmental laws
- Consider fault-based liability and/or strict liability (dependent on loci of activities—centers of diversity or high endemism – need for extra caution given extensive effects)
- Precautionary principle
- Joint and several liability
- Capability of countries to handle assessment: context of EIA is constrained and biosafety is in that broad context. Development of biotechnology capacity is indeed vital for implementation of any kind of liability and redress system.

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Notes

1. These concerns are captured in the preambular paragraphs and Article 1 of the Protocol.
2. For a detailed analysis of the positions of the various interest groups comprising the Biosafety Working Group see: T.B.G. Egziabher, 'An Analysis of the Sixth Negotiation Session of the Biosafety Working Group, Cartagena, 14-23 February

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- 1999', *Report for the Like-Minded Group*', (March 1999). (Draft paper on file with the author).
- 3 It is worth noting that the negotiation process was characterised by arm-twisting and threats and lacked effective participation and transparency as reflected in the documents produced after the Sixth Negotiation Session of the Biosafety Working Group in Cartagena. (See for instance: *ibid.*).
 - 4 This is evident from the resounding response seen when the Protocol was opened for signature in Nairobi on 24 May 2000. At least 65 signatures were recorded in that day according to the UN. See IUCN *Environmental Law Programme Newsletter*, (January-April 2000), at 5. Further African a number of African countries have already ratified the Protocol.
 - 5 Cartagena Protocol, Article 2(1).
 - 6 *Ibid.* at Article 11. Cf. R. Mackenzie, 'Cartagena Protocol on Biosafety: Overview' *IUCN Environmental Law Programme Newsletter*, (January-April 2000), at 1. This article is found at: <http://www.iucn.org/themes/law/index.html>.
 - 7 See Ruth Mackenzie et. al., An explanatory Guide to the Cartagena Protocol on Biosafety, IUCN Environmental Policy & Law Paper No. 46, London 2003, p. 11.
 - 8 CBD, Articles 8(g) and 19.
 - 9 See note 7 above, at 4.
 - 10 V. Koester, 'Excellence in the art of the possible', *IUCN Environmental Law Programme Newsletter*, (January-April 2000), at 6.
 - 11 Emphasis added to underscore the relevance of the AIA principle on which the biosafety regime should be founded.
 - 12 As discussed below, it is possible for a Party to require that both first and subsequent imports of LMOs be subjected to the AIA procedure.
 - 13 See Amarjeet Ahuja, "A Developing-Country Perspective", in Christoph Bail et. Al (eds.), *The Cartagena Protocol on Biosafety: Reconciling trade in Biotechnology with Environment and Development?*, (Royal Institute of International Affairs & Earthscan, London, 2002) 497.
 - 14 See Ruth Mackenzie et. al., *supra* note 7.
 - 15 See Principle 15, UNCED, Final Declaration of the UN Conference on Environment and Development, Rio de Janeiro (1992).
 - 16 81 LGERA 270
 - 17 See J. Morris, *Rethinking Risk and the Precautionary Principle*, (Nutterworth Heinemann, London, 2002).
 - 18 *Ibid.*
 - 19 See generally, Robert L. Paarlberg, *The Politics of Precaution: Genetically Modified Crops in Developing Countries*, International Food Policy Research Institute, (The Johns Hopkins University Press, Washington, 2001). See also Box 1 summarizing the specific elements of the precautionary principle relevant to risk appraisal.
 20. Peter Newell & Dominic Glover, *Business and Biotechnology: Regulation and the Politics of Influence*, IDS Working Paper No. 192, Biotechnology Policy Series No. 17, July 2003.
 21. Organisation for Economic Co-operation and Development, *Safety Considerations for Biotechnology: Scale-up of crop plants* (OECD, Paris, 1993).
 22. Organisation for Economic Co-operation and Development, *Recombinant DNA safety Considerations. Safety Considerations for industrial, agricultural and environmental applications of organisms derived by recombinant DNA techniques* (OECD, Paris, 1986).
 23. The exemption covers the transboundary movement of LMOs, which are pharmaceuticals for humans and are regulated by other international regimes.
 24. Article 5 of the Cartagena Protocol.
 25. Article 7 read together with Articles 5 and 6 of the Cartagena Protocol.
 26. Special procedures of LMOs intended for use as food or feed, or for processing are made under Article 11 of the Cartagena Protocol. These simply require notification to Parties through the Biosafety Clearing House. The end result is essentially to lay responsibility on importers

- to regulate and communicate that regulation to the Party of export. For further details on this point see: A. Cosbey, & S. Burgiel. 'The Cartagena Protocol on Biosafety: An analysis of results', An IISD Briefing Note, Winnipeg, Canada, (2000).
27. Cartagena Protocol, Article 8.2. Cf. Art. 11.2.
 28. *Ibid.*, at Article 10(3)(d).
 29. *Ibid.*, at Article 10(4)
 30. Article 28 of the Cartagena Protocol makes provision for financial mechanisms.
 31. J. Mugabe, 'From Cartagena to Nairobi: Towards an African agenda on the biosafety protocol', Background paper for panel discussion at the 5th Conference of Parties to the Convention on Biological Diversity, Nairobi, (May 10, 2000).
 32. Five types of LMOs are exempted from AIA. They include most pharmaceuticals, LMOs in transit, LMOs for contained use, LMOs for direct use as feed, food or processing, and LMOs declared by the Parties.
 33. See note 7 above, at 4.
 34. Ian Brownlie, *Principles of Public International Law* (4th ed. 1990).
 35. Draft Articles on Responsibility of States for internationally Wrongful Acts, adopted by the International Law Commission at its fifty-third session (2001)(extract from the report of the International Law Commission on the work of its fifty-third session, *Official records of the General Assembly*, fifty-sixth session, Supplement No. 10(A/56/10),chap. IV.E.1).
 36. *Ibid.* Article 1.
 37. See e.g., Basel Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movements of Hazardous Wastes and their Disposal, 1999 (Not Yet in force).
 38. International Atomic Energy Agency: Diplomatic Conference to Adopt a Protocol to Amend The Vienna Convention On Civil Liability For Nuclear Damage And To Adopt A Convention On Supplementary Funding 36 I.L.M. 1454 (1997).
 39. Case No. 128 (1937).
 40. See International Environmental Law Research Centre, *Report of a Workshop on Liability and Redress under the Cartagena Protocol*, Workshop held on 22-26 September 2003, Mombasa. Available at www.ielrc.org.
 41. *Ibid.*
 42. See Council of Europe: Convention on Civil Liability for Damage resulting from Activities Dangerous to the Environment done at Lugano, June 21, 1993, 32 I.L.M. 1228 (1993).
 43. Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Adopted at Bamako, Mali on 30 January 1991.
 44. See Organization of African Unity, African Model Law on Safety in Biotechnology, Addis Ababa, Ethiopia, 2002.
 45. Act No. 5 of 1969 (last amended in 1992 and rev. in 1998).
 46. Environmental Management in Kenya: A Guide to the Environmental Management and Coordination Act, 2 (G. M. Wamukoya and F. D. P. Situma eds, Centre for Research and Education Environmental Law 2000).
 47. *Supra* n. 46 at § 123.
 48. *Shah Vershi Devshi and Co. Ltd. v. The Transport Licensing Board*, 289 EALR (1971).
 49. ACTS *et al* "East African Environmental Laws" Vol. 1, materials prepared for a Regional Workshop on Access to Environmental Justice, Jinja Nile Resort, 18th - 21st June, 2000.
 50. Civil Case No. 29 of 1988 (High Court of Tanzania)
 51. See, e.g. *Arrondelle v. United Kingdom and Boggs v. United Kingdom* discussed in Shelton, D. "Protection of Environmental Rights by Regional Human Rights Tribunals" pp. 7-8.
 52. Uganda High Court Civil Appeal No. 3 of 1996 (unreported).
 53. PLD 1994 Supreme Court 693
 54. Environmental Management and Coordination Act, 1995 (Kenya).

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- dination Act (1999) [hereinafter EMCA], § 37.
55. *Id.* § 3(3).
 56. *Id.* § 3(4).
 57. The scheduled categories of projects that must undergo EIA are broadly defined. They include urban development, major roads, storage dams, river diversions, aerial spraying, mining, clearance of forest areas, irrigation, use of pesticides, processing and manufacturing industries, electrical infrastructure, waste disposal, nature conservation areas, and major developments in biotechnology, such as the introduction and testing of genetically modified organisms. The minister responsible for environmental matters has powers to amend the schedule after consultations with key actors in the environment field.
 58. *See supra* n. 54 at § 58.
 59. *Id.* at § 59.
 60. *Id.* at § 60.
 61. *Id.* at §§ 58(7) and 59.
 62. *Id.* at § 3.
 63. *Id.* Parts IX & XIII
 64. *Id.* at § 3 (3) (d)
 65. *Ryland v. Fletcher* (1868) L.R. 3 H.L. 330; (1868) 37 L.J. Ex. 161 (1868) 19LT (Ns) 220.
 66. *See Migai Akech, Common Law Approach to Liability & Redress and its Application to East African Countries*, Paper presented at the International Environmental Law Research Centre Workshop held on 22-26 September 2003, Mombasa. Available at www.ielrc.org.
 67. *See Winfield & Jolowicz on TORT Fifteenth Edition*, by W.V.H. Rogers, London Sweet & Maxwell, 1998.
 68. *See Migai Akech, supra* note 66.
 69. *See Winfield & Jolowicz on TORT Fifteenth Edition*, by W.V.H. Rogers, London Sweet & Maxwell, 1998.
 70. *Ibid.*
 71. *See Migai Akech, supra* note 66.
 72. *See generally* International Environmental Law Research Centre, *Workshop Report*, Workshop held on 22-26 September 2003, Mombasa. Available at www.ielrc.org.
 73. J. Richter, *et al.*, (eds.), *Biotechnology for Crop Protection: Its Potential for Developing Countries*, (German Foundation of International Development (DSE), 1998).
 74. *See* Charles Gbedemah, UNEP-GEF Project on National Biosafety Framework, Presentation made at the International Environmental Law Research Centre Workshop held on 22-26 September 2003, Mombasa. Available at www.ielrc.org.
 75. Protocol, article 19.1
 76. *See* n. 20 above.
 77. Republic of Kenya, *Regulations and Guidelines for Biosafety in Biotechnology for Kenya*, (National Council for Science and Technology (NCST), 1998).
 78. *See for instance, Ibid.*, at Annex F.
 79. It seems that the proposed penalties may not achieve the desired goals as they are relatively lenient. For example, a person who imports LMOs without the AIA of the country of import may only be liable to a fine not exceeding fifty thousand shillings. (See: Clause 15 of the NCST, 1999, UNEP/GEF, Pilot Biosafety Enabling Activity Project: Kenya Biosafety Framework . In such circumstances one may find it convenient to commit the offence and pay the fine.
 80. The legislation is yet to be passed by Parliament into law.
 81. *See* NCST, 1999 n. 58, Clause 13.
 82. R.L. Paarlberg, 'Governing the GM crop revolution: Policy choices for developing countries', Food, Agriculture, and the Environment Discussion Paper 33, (International Food Policy Research Institute, , December 2000).
 83. *See* Draft Biosafety Bill, September 2003 (On file with the author).
 84. Between 2002 and 2003, a number of meetings of stakeholders have been held to discuss these documents including meetings with members of Parliament.
 85. *See* Protocol, Articles 12, 15 and 16.
 86. *Ibid.*, Article 2.2.