A STUDY ON LIABILITY AND REDRESS REGIME FOR BIOSAFETY ISSUES IN THE CONEXT OF THE CARTAGENA PROTOCOL ON BIOSAFETY AND THE BIOSAFETY ACT, 2012 AND EXISTING SWAZILAND LIABILITY AND REDRESS REGIMES.

SUBMITTED BY: **CONSTANCE Z. DLAMINI**

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1. INTRODUCTION

1.1 BACKGROUND

Swaziland is a Party to the Cartagena Protocol on Biosafety, having acceded to this international instrument in 2006. The first committal activity for the country to implement its obligations under the Protocol was to develop and adopt a Biosafety Framework which included a policy and legislation. The central standard of the Protocol is the precautionary approach which allows states to take regulatory measures even when there is no certainty of the harm occurring. Whilst encouraging that standard, the Protocol recognises that modern biotechnology has a great potential for human well-being if developed and used with adequate safety measures for the environment and human health.

The country has a vision to be in the top 10% of the medium human development group of countries founded on sustainable development, social justice and political stability by the year 2022. The National Biotechnology Policy affirms this national vision and states that biotechnology is one of a number of technologies that can contribute towards achievement of these objectives. These supportive national goals have to take on board the overarching environmental interest to ensure that developmental activities, including the handling and use of GMOs do not result in adverse effects to the environment and human health underlying the principle of sustainable development. This means that there is need to put in place safeguards to minimise adverse effects that may result from developmental activities.

The country is currently in a process of enhancing the regulation of GMOs by defining the appropriate liability and redress regime that may be adopted on cases of damage caused by genetically modified organisms (GMOs). It should be stated from the onset that issues of liability and redress often greatly influence the regulation of genetically engineered crops and present unique challenges to the adoption of the technology including investment, particularly in developing countries.

Despite the above, defining a liability and redress regime is still important as it assures certainty for all other partners on the expectation of the country on operators, including end users such as farmers and consumers. Whether a country commercializes biotechnology crops or benefits from their commercialization, it is crucial that its legal framework defines a liability regime in the subject. A liability and redress regime also provides a way of dealing with scientific uncertainty by giving rights to injured parties to charge those responsible for causing harm and imposing an obligation on others to limit risks, mitigate losses and provides redress (Wan Talaat *et al* 2011).

As the country is developing the liability and redress regime, there is need to observe and balance the competing interests under the use of GMOs. These interests include the need to protect the environment and public health on one hand, and, on the other hand, the need to protect the interest of the public and industry by not stifling innovation or driving away investors in biotechnology or trade in products of modern biotechnology that can also stimulate a national economic growth.

1.2 KEY CONCEPTS OF LIABILITY AND REDRESS

Swaziland intends to develop a separate national liability and redress regime to deal specifically with genetically modified organisms (GMOs). In this regard, key concepts should be defined in the legislation. These may include defining; what constitutes damage; who should be liable for damage at any given point where there is damage; the standard of liability and the nature of compensation or redress that may be available to victims. Other aspects of this have already been covered by the existing Biosafety Act whilst others still need to be defined taking into account the country's policy on modern biotechnology and developments in international law on the subject.

Liability will arise when an action contravenes legal rules and causes damage. Liability rules under biosafety should have a preventive effect and provide incentives to those dealing with GMOs to prevent the particular damage that is anticipated, i.e enhance compliance; punitive effect in that they should impose sanctions against wrongful conduct and help implement the 'polluter pays' principle; and be corrective in order to provide for mitigation, remediation, rehabilitation including restoration of damage where necessary. This is a different approach of dealing with legislating only for *ex post* compensation where only remedies are expected from the violator of the rules. This is the trend adopted by the Environment Management Act, 2002, called, administrative orders which should be extended to GMO issues.

When developing a liability and redress regime, there are key elements and basic terms that need to be understood and be used appropriately for the desired shape of the regime. These include the following:

1.2.1 STANDARDS OF LIABILITY

The term liability refers to an obligation of a person to provide compensation or take redress measures for damage resulting from an action or a situation for which that person is deemed to be responsible under the applicable law. Generally there are three standards of liability, namely; fault-based liability, strict liability and absolute liability.

1.2.1.1 FAULT-BASED LIABILITY

Fault - based liability exists where proof of the fault of the actor is required, that is, the wrongdoer owed a duty of care and that duty was breached, as a result damage occurred. There are three elements that are used to establish whether the wrongdoer is at fault. These are:

- *Duty of care* – the wrongdoer owed a duty of care of his action;
- *Breach of the that duty* – the wrongdoer failed to exercise reasonable care; and
- *Damage resulting from the breach* - the damage resulting from the breach must be one that was reasonably foreseeable. Hence there is no redress if the damage is evaluated to be one that was too remote to occur. Hence there is no compensation if the wrongdoer proves that he did not foresee the damage and reasonably it was not foreseeable.

In fault-based liability regime the burden is on the victim to provide evidence that will prove each of the above elements. Additional to the above elements, the victim has to prove that the wrongdoer was negligent or caused the damage out of his wilful conduct.

There is doubt as to whether this liability regime can sustain any successful claim in a civil court in activities involving GMOs. For instance, to sustain a case, it means that the victim must know quite completely the process in the production of the GMO, the circumstances of its creation, its testing and distribution (Terje Traavik and Lim Li Ching, 2007). These are normally issues that are within the exclusive knowledge of the producer, and even if accessible, would be too costly to acquire.

Where there is no redress obtainable from the wrongdoer, the victim or, with reference to environmental matters, society is left with the responsibility to remedy the damage.

1.2.1.2 STRICT LIABILITY

Strict liability exists where there is no need to establish the fault of the wrongdoer, that is, the conduct of the wrongdoer is irrelevant. All that has to be proved is that the damage was caused by the wrongdoer. There are, however, defences or exemptions that are widely acceptable to exonerate the wrongdoer in this regime. These exemptions follow that though the damage occurred, such damage was occasioned by events that were beyond the control of the wrongdoer. Normally the events are; act of God *(force majeure)*, act of war or civil unrest and intervention by third parties. Strict liability is the preferred standard for environmental offences and it is normally utilized in those circumstances where abnormally dangerous activities are carried out. This approach has been used mostly in environmental pollution legislation, including international law.

Strict liability is applied in most legal systems, particularly to environmental matters, to deal with the inevitable harmful consequences of dangerous but socially beneficial activities. The rationale is that the person who engages in an inherently dangerous activity should bear the cost of damage caused by such an activity rather than the victim or society at large.

1.2.1.3 ABSOLUTE

Absolute liability presents a scenario where no defences are available, the fact that damage was caused by the wrongdoer, redress is expected.

1.2.2 DAMAGE

A liability and redress regime should identify the substances or instances which the law recognizes as potentially causing damage and from which the

law intends to protect the potential victims (Worku Damena Yifru *et al*, 2012). The damage must be substantial (significant) to warrant legal intervention. Thus in law, damage only occurs; i) if there is harm, ii) attributed to a specific victim, iii) recognised by law (i.e, unlawful conduct), and iv) substantial to warrant the intervention of the court.

1.2.3 CHANNELLING LIABILITY

The Supplementary Protocol offers a minimum description/indicative list of the persons on whom liability may be channelled should there be adverse effects caused by the LMOs or activities involving the LMO in question. It leaves the precise definition of who such defendant/s may be to national law. The non-exhaustive list of possible defendants is coined in such a way that it directs liability and redress only to proponents of LMOs while guaranteeing protection to end-users such as consumers. This is in line with the well-established environmental principle, *viz*, "the polluter pays" principle which holds that polluters should bear the cost of the resulting environmental degradation.

1.2.4 CAUSATION

It is a basic requirement of law that for liability to hold there should be a link between the activity/action of the wrongdoer and the damage that eventually occurs. This requirement is meant to protect persons/defendants not to be required to redress situations where there is remote connection between their activities and the damage.

In the context of GMOs therefore, the requirement is that a causal link should be established between the alleged damage and the presence of the particular GMO concerned. In a nutshell, the causation requirement limits the

liability of the wrongdoer to cases he has really caused both factually and legally. If the requirement of a causal link would not have this limiting effect on liability, the result would be that many potentially beneficial activities in society would no longer take place since in effect an actor would then also be held liable for damage which would not result from his acts.

1.2.5 REDRESS

Provisions on redress provide guidance on the duty placed on the liable party with regard to measures related to the control, containment or mitigation of the damage; clean up measures; or remediation or restoration of the damage including compensation. Usually redress is sought after the wrongful act has been done and the damage caused. The only exception in which redress can be sought beforehand is when there is reasonable foresight of imminent irreparable harm resulting from a contemplated act or operation. This is a drastic preventive measure which is usually available in environmental law.

2. INTERNATIONAL AND NATIONAL LEGAL BISIS FOR A BIOSAFETY LIABILITY AND REDRESS REGIME

2.1 INTERNATIONAL OBLIGATIONS

Issues of Liability and Redress have always been a tender subject for the international community to commit to. In 1992 the Rio Declaration could not adequately deal with the subject and called on countries to cooperate to develop further international law on liability and redress.

The same is observed with the negotiation and adoption of the Convention on Biological Diversity in 1992. Whilst the issue was agreeably necessary, it was however sensitive and could not be finalised by the negotiators of the Convention. Paragraph 2 of Article 14 of the Convention provides that: "*the Conference of the Parties shall examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity…..".*

2.1.1 THE CARTAGENA PROTOCOL ON BIOSAFETY, 2000

The Cartagena Protocol on Biosafety was adopted on 29 January 2000 as a subsidiary agreement to the Convention on Biological Diversity. The Protocol seeks to contribute to the safe transfer, handling, and use of living modified organisms that may have adverse effects on biological diversity, taking also into account risks to human health, and with specific focus on transboundary movements. This Protocol was negotiated with full knowledge of the need to attend to issues of liability and redress where there has been damage to biological diversity caused by living modified organisms as per the provisions of the Convention in paragraph 14. However such an issue was not conclusively dealt with. Parties mandated themselves to further elaborate on rules on this subject in a specified timeframe (Article 27). In this mandate, the

focus was then to 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.

After about six years of negotiations, Parties finalized the negotiation of a new treaty known as the Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress. It was subsequently adopted on 15 October 2010 by the COP-MOP at its fifth meeting, in Nagoya, Japan.

2.1.2 THE NAGOYA-KUALA LUMPUR SUPPLEMENTARY PROTOCOL ON LIABILITY AND REDRESS, 2010.

The Nagoya-Kuala Lumpur Supplementary Protocol is a treaty intended to supplement the Cartagena Protocol on Biosafety by providing international rules and procedures on liability and redress for damage to biodiversity resulting from living modified organisms (LMOs) per the call in Article 27 of the Cartagena Protocol. The Supplementary Protocol provides for administrative procedures and requirements regarding response measures that need to be taken in the event of damage by LMOs that adversely affect the conservation and sustainable use of biodiversity, taking into account risks to human health. The Supplementary Protocol provides for approaches that Parties should adopt for their liability and redress regimes domestically. It brings to the disposal of parties various options for dealing with liability and redress over damage caused by living modified organisms and Parties are at liberty to adopt the best suitable procedures through their national legislation.

2.1.2.1 PROVISION FOR A LIABILITY AND REDRESS REGIME IN THE NAGOYA KUALA-LUMPUR SUPPLEMENTARY PROTOCOL

The Supplementary Protocol links to the Cartagena Protocol by providing for definition of terms that may be used in instances where there is damage emanating from the handling and use of LMOs in transboundary context.

Though no specific rules that are comprehensively provided by the Supplementary Protocol, most importantly it gives guidance for the development of national law on common issues. The Supplementary Protocol has the following salient aspects that can guide the process of determining a liability and redress regime for Swaziland:

2.1.2.1 DEFINITION OF DAMAGE:

In terms of the Supplementary Protocol, damage means:

"…an adverse effect on the conservation and sustainable use of biological diversity, taking also into account risks to human health, that:

(i) is measurable or otherwise observable taking into account, wherever available, scientifically-established baselines recognized by a competent authority that takes into account any other human induced variation and natural variation; and

(ii) Is significant" (Article 2 (2) (b))

In order for damage to warrant a redress, it should be of a worth that can sustain a cause of action. Otherwise the competent authority should put in place scientific baselines that can assist to determine whether damage has occurred in any given point. The adverse effect should further be significant. An indicative list of what constitute significance of the adverse effect is also provided by the Supplementary Protocol.

2.1.2.2 SIGNIFICANT ADVERSE EFFECT

The Supplementary Protocol refrains from limiting itself to a single meaning of what constitutes "significant" adverse effect necessary to constitute damage. The Cartagena Protocol also uses this term without defining it. The term is better used to qualify the damage that warrants the prevention, mitigation, remediation or reparation to be undertaken. This can be referred to as the threshold of the damage. In terms of the Supplementary Protocol, the array of factors that should determine significance of the adverse effects are:

- whether the damage is long-term or permanent, that is, cannot be repaired through natural recovery over a reasonable period;
- whether the components of biological diversity have adversely been affected by qualitative or quantitative changes;
- whether there is interference with the delivery of goods and services;
- whether there are any impacts on human health. (Article 2 (3))

Thus if none of these factors are present on the harm, then damage has not occurred in the context of the Supplementary Protocol. It should be noted that whether a country opts for fault-based liability or strict liability, the full definition of damage has to be sustained in the above mentioned array of elements of the definition of damage.

2.1.2.3 CHANNELLING OF DAMAGE

In terms of the Supplementary Protocol liability can be attributed to identifiable actors with some degree of control of the LMOs that causes the damage. The

term used to describe this liable actor is “operator”. The definition of operator refers a person who is either in direct control or indirect control depending on what domestic law can elaborate. Thus according to the Supplementary Protocol, operator means:

“…any person in direct or indirect control of the living modified organism which could, as appropriate and as determined by domestic law, include, inter alia, the permit holder, person who placed the living modified organism on the market, developer, producer, notifier, exporter, importer, carrier or supplier…” (Article 2 (2)(c))

The key reference to the need for national law is important for this definition. For instance the Supplementary Protocol does not make specific reference to the word “user” whilst in other jurisdiction the list includes the term “user”. The Swaziland Biosafety Act adopted this definition without reference to the word user as well. The farmer, who is in control is, however, liable. The user, such as the consumer is not an operator.

2.1.2.4 ADMINISTRATIVE APPROACH

Normally an administrative approach does not involve adjudication by the courts. All matters are dealt with administratively – usually by a designated national competent authority. The Supplementary Protocol is hailed as providing an advantage by not constraining issues of liability for damage caused by GMOs to court process as does other international and national laws. The Supplementary Protocol provides for a comprehensive administrative approach to address damage on a speedy manner where damage from LMOs is either occurring or likely to occur. In this approach both “potential damage”, “damage already occurring” and “damage that has already occurred” are provided for in Article 5. Reference to “sufficient likelihood of damage” (Article 5, para 3) allows Parties to take preventative measures to avoid damage at very remote measurement, thereby reinforcing

the concept of prevention of damage as it exist in environmental law. The administrative approach, identified as response measures in the Supplementary Protocol, require that;

i. the operator informs the competent authority of the damage, evaluate the damage and take the necessary response measures to redress the damage;

ii. the competent authority identifies the operator, evaluates the damage and determine the response measures that the operator should take; and

iii. the competent authority takes the necessary response measures and recover from the operator the costs of taking such response measures.

The third element above requires that the competent authority be always readily prepared to implement response measures should the operator be not able to do so or be unknown. This therefore brings in the issue of funding for effective functioning of the administrative approach.

By providing for response measures the Supplementary Protocol provides flexibility for not only relying on the civil liability regime on instances that may pose damage to the environment and human health. It also embraces room for maximum benefit from the potential of living modified organisms by providing rules for redress or response measures in the event something goes wrong and biodiversity suffers or is likely to suffer damage.

2.1.2.5 CIVIL LIABILITY

Article 12 of the Supplementary Protocol provides that when developing a domestic civil liability regime, each Party will in accordance with their domestic law, address issues relating to damage, standard of liability including strict or fault - based liability, channelling of liability and the right to bring claims. When addressing damage, Parties should, as a first requirement, provide for response measures in their domestic law.

The Supplementary Protocol provides for Parties to assess their domestic situation and evaluate if available rules can address the aspect of liability for GMOs; develop new rules where they deem fit and/or apply a combination of both existing rules and new ones specifically meant to address GMOs. The nature and regime of the Parties should, however, as much as possible, provide answers to the issues highlighted above. This is a very crucial guidance by the Supplementary Protocol which the country should as much as possible, implement when developing its liability and redress regime.

2.1.2.6 EXEMPTIONS FROM LIABILITY

Liability rules normally provides for specific exemptions in various jurisdictions. These exemptions are usually applied where damage can be caused by events or situations that are beyond the control of the operator. In this regard, the operator is normally said to be exempted from liability. The most commonly accepted exemptions include:

i) Act of God (*force majeure*);
ii) Act of war or civil unrest; and
iii) Intervention by a third party.

The Supplementary Protocol leaves it to the discretion of each Party to provide detailed rules on exemptions. The liability and redress regime for Swaziland will therefore have to provide for these exemptions as well. The three that have been identified are the most used exemptions in common law and in other environmental law legislation in Swaziland.

2.1.3 THE AFRICAN MODEL LAW

At regional level, the African Union (AU) has played a constructive role in the biosafety discourse as part of its abiding commitment to protect African biodiversity, culture and livelihoods in the face of enormous political pressure. The regional organization has developed a tool, *viz*, a Model Law on Biosafety to assist countries in developing their respective national laws. The purpose of the Model Law is to provide for a harmonized approach towards biosafety in Africa thereby serving as a model legal instrument for developing national biosafety legislations. The Model Law is not binding on the African States, it only provides rules and procedures that may be adopted by the African states in regulating the handling and use of GMOs in the region in a more harmonized approach.

Following the negotiations and subsequent adoption of the Supplementary Protocol on liability and redress, the Model Law presents revised and elaborate provisions on liability and redress.

In terms of Article 19 strict liability is the option for addressing damage caused by GMOs. Accordingly a person who engages in activities in GMO or a product of a GMO is liable for resultant damage caused and a minimum description of persons liable, the types of redress that can benefit both the environment and pecuniary loss, the need for a causal link, the time limit, the threshold to the damage as well as the approach in assessing the damage are provided.

The Model Law has been criticised by many, mostly proponents of GM technology, for its strict approach in regulating GMOs. Hence the African Union clarified that it should not be a basis to restrict investment in biotechnology, but rather countries should be informed by science to maximise benefits of the technology whilst minimising risks. Swaziland will nonetheless benefit in the guidance by the African Model Law in this current exercise taking into account her sovereignty to develop her own laws based on her current needs.

2.2 NATIONAL CONTEXT

Swaziland acceded to the Cartagena Protocol on Biosafety in 2006 and thereafter embarked in developing the national biosafety framework which included a policy and legislation in 2005 and 2012 respectively. The current status of applicable legal instruments in liability and redress can be dealt with as follows:

2.2.1 NATIONAL BIOTECHNOLOGY POLICY, 2005

In the National Biosafety Framework which includes a policy and legislation, Swaziland embraces the adoption of modern biotechnology applications and products which can contribute to the socioeconomic development of the country. This is done in line with the requirements of the precautionary principle, i.e, ensuring that in the use and the application of GMOs, measures will be taken to prevent, or at least minimize their adverse effects on human health and the environment. Thus one of the principles of the policy provides that:

"In the event of any adverse effects resulting from the use of a modern biotechnology application, product or product thereof, the user and the developer of said application, product or product thereof shall be jointly held responsible and shall be liable to a fine as well as any costs related to redress."

The policy further proposes that a national legislation should channel liability to the user, developer, importer, carrier in the case of transit and any person placing the GMO on the market. The policy provides the foundation for the extent of the liability to be dealt with by the legislation and expressly states that in the case of adverse effects on the environment or elements of biodiversity, liability shall include all costs relating to rehabilitation and remediation as well as any preventive measures. In a nutshell, the policy sets the type of liability regime for the country. However since this is a policy, when

legislating the appropriate liability regime, there is need to enquire in to the recent regimes of liability commonly applied by jurisdictions that are advanced in the use of modern biotechnology with a view that the country benefits from GMOs while ensuring protection of biodiversity and human health.

2.2.2 THE BIOSAFETY ACT, 2012

In 2012 the Government promulgated the Biosafety Act, 2012 which also provides for liability and redress. The Act was developed to implement the National Policy as well as to domesticate the Cartagena Protocol on Biosafety. The Act seeks to provide adequate legal certainty on national rules and procedures regarding GMOs in Swaziland. The major objective of the Act is to ensure an adequate level of protection in the field of the safe transfer, handling and use of GMOs resulting from modern biotechnology that may have an adverse effect on the conservation and sustainable use of biological diversity, taking also into account risks to human health.

Regarding liability and redress, the Act only establishes liability should damage occur from activities involving GMOs and does not extend to a comprehensive regime to include the extent of such liability as well as the standard of liability to operate in such matters. Article 32 of the Act provides that;

"An operator shall be liable for any damage, injury or loss caused by such GMO and to make and to make compensation therefor, and where more than one operator is responsible for the damage, injury or loss, such liability shall be joint and several."

This article talks to the channelling of liability. An operator is liable where damage, injury or loss is caused by a GMO under his/her/its responsibility. The act defines an operator as:

"…person in direct or indirect control of the living modified organism as authorised in terms of this Act, including inter alia the permit holder, person who placed the living modified organism on the market, developer, producer, notifier, exporter, carrier or supplier"

The definition puts everybody who is in direct control or indirect control to be responsible should damage occur. This means that farmers, as they may, most often than not, be in direct control and be licenced in terms of the Act, also have the duty to exercise care and diligence in the use of GMOs that they do not result in damage. This is in line with the National Biotechnology Policy which provides that the user is also liable for damage.

The Supplementary Protocol provides that a State Party may either rely on existing general civil liability rules or develop new ones in their national laws or proceed with a combination of both (existing rules and the new rules as enacted). Whilst there is common law providing for civil liability in Swaziland, the Biosafety Act seeks to complement this dispensation by being specific on liability regarding GMOs.

Swaziland already imports a substantive amount of GMO grain from neighbouring countries. Further, the country has already started field trials on GM seeds which inevitably means that there is already activity on living modified organisms to warrant appropriate regulation. Ideally there is need for legal certainty as to the extent of the liability and who is liable to remedy any adverse effects either to human health or the environment should damage occur from such activities.

2.2.3 THE ENVIRONMENT MANAGEMENT ACT, 2002

The Environment Management Act (EMA) is an overarching legislation dealing with issues of the environment. It is the framework legislation on environmental matters. The Act provides environmental principles, amongst which is the polluter pays principle. In terms of the Act, the polluter pays principle requires that those causing adverse effects to the environment shall be required to pay the full social and environmental costs of avoiding, mitigating, and/or remedying those adverse effects. This principle provides the foundation of the liability and redress regime which also extends to the subject of GMOs. The civil liability regime under Section 58 of the Act, does not however address the aspect of a liability regime that is appropriate to be invoked where there has been damage or adverse effects to the environment. The section only addresses itself to the rights of plaintiffs in such circumstances.

The Act further provides for response measures where there is adverse effect to the environment by providing for administrative orders by the environmental agency, in particular issued by the Director. In terms of the Act, the Director may issue a protection order against any person in control of an area where damage is likely to occur or any person responsible for the activity and require the person on whom it is served to take any measures that will assist in avoiding, remedying or mitigating the adverse effects. This is in line with the requirement of Article 5 of the Supplementary Protocol in terms of which a Party State is required to, in addition to its civil liability regime, provide for response measures. The proposed adjustments and/or regulations to the Biosafety Act should also provide for such measures as initiated by the EMA.

2.2.4 DRAFT BIOSAFETY REGULATIONS, 2013

The country is currently in a process of developing Regulations that will enhance the implementation of the Biosafety Act. Liability and redress on

damage caused by GMOs is comprehensively covered in the current draft of the regulations.

Part VI of the Draft Regulations provides for a strict liability regime for Swaziland on activities involving GMOs. The nature of damage addressed in the regulations include personal injury, damage to property, financial loss and damage to the environment or to biological diversity as well as taking into account socio-economic, cultural and ethical concerns. Redress on the other hand includes financial compensation on personal injury, including costs of reinstatement, rehabilitation or clean-up measures which are being incurred and, where applicable, the costs of preventive measures in the case of environmental damage.

Liability under the Draft Regulations extends to socio-economic damage. The Draft Regulations provides that:

"…Liability shall also extend to harm or damage caused directly or indirectly by the GMOs or products thereof to the economy, social or cultural practices, livelihoods, indigenous knowledge systems or indigenous technologies. Such harm shall include, inter alia: disruption or damage to production systems, agricultural systems, reduction in yields and damage to the economy of any area or community."

Notably, the Draft Regulations are adapted from the African Model Law and further operationalize the Supplementary Protocol.

The Draft Regulations also provides for accidents and response measures in the case of damage caused by end users such as licensees under the act and/or farmers. This is meant to ensure that other operators in the chain are not held liable for activities that are directly linked to the licensee or the farmer concerned.

This exercise comes at a time where the regulations have not yet been promulgated. There is need for the liability clause to provide for the regime

that will ensure that the country harnesses the benefits of modern biotechnology whilst preventing harmful effects on human health and biological diversity. It is envisaged that the definition of a liability regime arrived at through consensus will assist in enhancing this part of the Regulations within the spirit of addressing the somehow competing interests that the sector is faced with.

3. ANALYSIS OF AFRICAN COUNTRIES' LIABILITY AND REDRESS REGIMES

There are various reasons that influenced the development of regulatory regimes for different countries in Africa. Some legislation were developed to implement the precautionary approach following their vulnerability to receive GM food products due to drought and food shortages, whilst some were persuaded by their need to engage in field trials and weigh the benefits of modern biotechnology. Most countries developed their legislation after the adoption of the Cartagena Protocol which mandated countries to develop legislation and further availed capacity to do so.

South Africa was the first country to enact a biosafety legislation following her desire to import genetically engineered seeds for field trials and subsequent large scale release into he environment. The initiative to develop legislation came from scientists working in the field, who needed an appropriate regulatory environment to facilitate their work (David P. Keetch *et al*, 2014). During the regional drought in Southern Africa, African governments became concerned about the potential health, environmental and trade effects of importing food aid (Eicher *et al,* 2006). Biosafety legislation that was developed as a result of these pressures therefore tended to be preventative in nature. Zambia is an example of this approach.

Some African countries have subsequently developed biosafety legislation in response to other pressures. Burkina Faso, for instance, wanted to facilitate the local introduction of GE cotton to revive its flagging economy (David P. Keetch et al. 2014), while countries such as Kenya, Uganda and Nigeria have been promoting their own development of biotechnology capacity and have been pushing ahead with confined field trials. Other countries are continuing to amend or develop new legislation to align same with the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress.

The above dispensation led to the diversity of the approach of the biosafety legislation for the various African countries. This includes the object of the legislation as well as the nature and the extent to which they address issues of liability and redress in their legislation.

The table below indicates a comparison of some African Countries' Biosafety laws and the regimes adopted by each of the countries.

Table 1. A summary of some African countries' liability regimes

Country/Institution	Type of L & R Regime
1. African Union	• Revised African Model Law, 2011 • Proposes Strict Liability Standard for African countries • Focuses on biodiversity conservation • Promotes Administrative liability where appropriate –response measures
2. Botswana	• Uses available laws on civil liability
3. Cameroon	• Adopted a strict liability regime – the user is liable for damage caused by deliberate or accidental release • Sentences on violation of the Act are harsh • Competent Authority empowered to deal with "settlement" and response measures
4. Ethiopia	• Adopted strict liability standard • Biosafety Act has a comprehensive provision – includes re-instatement, rehabilitation • Covers socio-economic damage, indigenous knowledge, agricultural systems, cultural etc • Emergency measures as preventative relief
5. Kenya	• Biosafety Act, 2009 avoids making emphasis on "liability" • Provides for restoration and cessation orders and the strongest deterrence for damage to the environment • Restoration and Cessation Orders have punitive sanctions as determined by the Authority if not adhered to

	• Further provides for a strict criminal liability clause in relation to violation of the Act not for damage • Kenya has developed a set or Regulations in 2011 but do not address the liability regime
6. Mali	• Provides for strict liability regime in the Act • Provides for reinstatement, rehabilitation and clean-up measures • Provides for socio-economic and cultural loss/damage and provides for modalities of redress • Gives a time limit of 10 days from date of knowledge of the harm to sue for damage
7. Malawi	• Biosafety Act 2003 & Biosafety Regulations, 2009 • No specific liability regime, Regulations only cautions users from causing damage • Liability channelled to the operator • Provides for response measures
8. South Africa	• Biosafety Act 1997 • Specifically provides that the user is liable for damage • Biosafety Regulations, 2010 • Provides for fault-based standard to sustain liability • Provides for Accidents and emergency and response measures • Such measures to take care of environmental, human and animal health • Also provides for criminal liability on violation of the Act and regulations
9. Tanzania	• Biosafety Regulations, 2009

	• Provides for strict liability for direct or indirect harm • Provides for traditional damage and damage to the environment • Provides for reinstatement, clean-ups rehabilitation of damage to biodiversity • Provides for damage for socio-economic loss
10. Liberia	• Recently developed Regulations • Provides for strict liability
11. Nigeria	• Provides for strict liability • Provides for traditional damage as well as damage to the environment • Provides for reinstatement, clean-ups rehabilitation of damage to biodiversity • Provides for damage for socio-economic loss

It is important to further deal with the background for the choice of the liability regime to expose Swaziland to some benefits and hurdles other countries have gone or are still going to adopt an appropriate liability and redress regime, a few of these countries are discussed as follows:

3.1 BURKINA FASO

Burkina Faso is an African country that heavily relies on cotton growing for its annual revenue. Previously the country was faced with a number of challenges including low yields, drought, poor soil, insect pests and lack of infrastructure and inadequate credit. Turning to GM cotton was one way to liberalise the economy of the country in the recent past, making it the only country in West Africa that commercialises Bt

Cotton. For instance the adoption rate of Bt cotton increased from 2% of 475, 000 cotton ha in 2008 to 51% or 313, 781 ha in 2012 (David P. Keetch *et al.* 2014).

The shift to commercialise Bt cotton is accompanied by rigorous capacity enhancement for both the regulators and relevant stakeholders in the field. Burkina Faso had developed a strict liability regime in the regulations, however these are still being debated. The drive is to relax this regime to harness full benefits for commercialising Bt cotton and other GM crops (David P. Keetch *et al*, 2014). The argument is that a strict liability regime will hinder technological progress.

3.2 THE REPUBLIC OF SOUTH AFRICA

The Republic of South Africa is a Party to the Cartagena Protocol on Biosafety. The country was amongst the first countries to develop a legislation on GMOs, having enacted its Genetically Modified Organisms (GMO) Act in December 1997, before the entry into force of the Cartagena Protocol. South Africa was also the first African country to approve transgenic crops for commercial purposes and is the leader in agricultural biotechnology research and development in the continent. Approval has been granted for commercial production of three (3) GM crops. These include approval for GM cotton and GM maize (the first approvals of each of these crops occurred in 1997) and GM soybean (first approved in 2001). These GM crops either have resistance to insect pests or tolerance to broad range herbicides, or both. Multinational seed companies are leading the research of GM crops in South Africa. (Biosafety South Africa, 2013).

In light of the above, the GMO Act has undergone several amendments to the original GMO Act, largely to ensure compliance with South Africa's commitments in terms of the Cartagena Protocol as well as aligning it with international trade

obligations and national requirements. The Act was amended in 2006 and in 2010 Regulations to the Act were promulgated.

The 2006 Amendment Act addresses the issue of GMO related damage and places liability on the concerned user. User in the Amendment Act refers to a person who conducts an activity with genetically modified organisms. In terms of the Act, activity means;

> *"…any activity with genetically modified organisms but not limited to the importation, exportation, transit, development, production, release, distribution, use, storage and application of genetically modified organisms only"*

In the 1997 GMO Act, only the end-users, such as farmers and consumers were liable for damage to the environment. The term "user" was restricted to:

> *"…any natural or legal person or institution responsible for the use of genetically modified organisms and includes an end-user or consumer."*

This means that previously, persons involved in the importation, exportation, development, production, transport or application of GMOs were excluded from liability for damage caused the GMOs they have handled. The improvement made by the amendment is that this category of persons can now be held liable should damage occur resulting from their activities.

The Amendment Act, 2006, also introduces response measures, to be implemented by the user to ensure that appropriate measures are taken to avoid adverse impacts resulting from activities of GMOs from happening. In the event damage occurs the issue is preliminary dealt with through response measures.

Notably amongst these countries, South Africa is a Southern African country, neighbour to Swaziland, and has commercialized biotechnology crops. The two

countries engage in trade in most of the biotechnology crops including maize. Most actors and potential investors in GMO activities recommends that Swaziland aligns her legislation with South Africa.

3.3 TANZANIA

Tanzania adopted the strict liability regime on GMO activities. In terms of the Biosafety Regulations, 2009 all approvals for introduction of GMO or their products shall be subject to a condition that the applicant is strictly liable for any damage caused to any person or entity. In the spirit of the African Model Law, the Regulations further provide for socio-economic damage as follows:

> *"…Liability shall also extend to harm or damage caused directly or indirectly by the GMOs or products thereof to the economy, social or cultural principles, livelihoods, indigenous knowledge systems, or indigenous technologies. Such harm includes the following: disruption or damage to production systems, agricultural systems, reduction in yields, and damage to the economy of an areas or community…"*

Tanzania lags behind in conducting research and finally making field trials for GM crops compared to other East African countries (Judith A. Chambers, 2013). Banana is the staple food for Tanzania and currently there is a scare about destructive diseases for the crop. The Maruku Agriculture Research Institute observes that the future of Kagera Region's food system and strategic economic objectives could be at stake without a supportive legal framework on agricultural science and innovation. The situation is mainly attributed to country's strict biosafety law cited as an obstacle to modern biotechnology.

Scientists are calling for the review of the strict liability regime in Tanzania (ISAAA, 2013). The argument is that the regime opted by the legislation hinders technological progress. Notably the Swaziland Draft Biosafety Regulations are identical to Tanzania's law and the concerns about them are similar.

3.4 KENYA

Kenya is the most advanced country in East Africa in terms of embracing GM crops. The provisions of the Biosafety Act, 2009 on liability for any damage arising from GMOs is not clear on its intent in providing for channelling of liability including the standard of liability imposed once damage occurs. The approach in the legislation is contrary to Kenya's position in the Africa group during negotiations of both the Biosafety Protocol and the Supplementary Protocol.

The Act refrains from regulating aspects of damage caused by operator in the course of his activities. This means that liability and redress for any damage that occurs as a result of activities including GMOs is currently addressed by other applicable laws. One possible conclusion for this status of affairs could be the need to enact a law that will negatively affect trade on GMOs. Notably the conclusion of the Kenya Biosafety Act was protracted by lengthy public debates, including various changes in the shape of the liability clauses.

Kenya has recently adopted a series of regulations to the Biosafety Act after the adoption of the Supplementary Protocol. The expectation would be that the issue of liability would be dealt with in these regulations, with the guidance of the Supplementary Protocol, however this is not the case. In a nutshell, Kenya does not define a liability regime for activities involving GMOs.

3.5 MALAWI

Malawi has successfully conducted confined field trial of Bt Cotton planted since 2013. The Biosafety Act does not address the issue of liability. Liability is however dealt with under the Regulations to the Act. The regulations provide for operators to employ duty of care to prevent adverse effects that may arise from any trial release or contained use involving genetically modified organisms. Liability for damage caused to the environment and biodiversity by the use or release of a genetically modified organism is channelled to the operator. Operator in the Act refers to any person who conducts activities under a licence or permit issued under the Act. This means that other actors in the chain of the GMO are not liable for damage to the environment irrespective of the cause of the damage contrary to the definition of operator in the Swaziland Biosafety Act.

3.6 GENERAL OBSERVATION ON THE APPROACH

To-date only two African States are not Party to the Cartagena Protocol. African countries are also in the forefront in signing the Nagoya – Kuala Lumpur Supplementary Protocol on Liability and Redress. It can be concluded therefore that the majority of African countries are taking the Cartagena as the basis for their biosafety regulatory systems. In line with the requirements of the Protocol, most African countries have adopted the precautionary principle in their regulatory systems, with the aim to contribute to the conservation and sustainable use of their biological diversity and taking into account risks to human health whilst promoting and benefiting from the innovation brought by modern biotechnology. It is important to note that there are many African countries that are currently involved in biotechnology related research, including development of genetically modified crops suitable for their own farming systems. Swaziland will have to make a decision on which GE crops she opts cultivate taking into account her own farming system as

well as the international commitments that she subscribes to through the various international instruments.

4. SUMMARY OF STAKEHOLDER CONTRIBUTIONS

Information gathered during an *ad hoc* assessment was that there was a very low level of understanding of the Biosafety Act as well as legal terms that are often used

to design a liability regime for any country. (Annex A presents a tool that was used to sample the level of understanding of liability and redress amongst relevant stakeholders in Swaziland.

Recommendations on the liability regime preferred for the country will include a participatory process as it is the norm in legislative development process of the country. Stakeholders were organised into three contact sessions with an aim to sensitize them to on the subject as well as definitions and unpacking of terms used when dealing with liability, in particular in GMOs issues. *(See annexes D and F on the submissions by stakeholders and the list of attendants).*

A summary of contributions on the standard of liability necessary for the country is presented as follows:

4.1 FOR STRICT LIABILITY

- Swaziland is not yet capacitated in terms of the technology, adequate laboratories and financial resources to undertake the proof for negligence as well as intention and other cumbersome elements of the fault –based liability. The strict liability regime will ensure that liability is channelled to the operator with the operation of exemptions and the need to prove causation. This will be done to ensure that the damage that occurred is remedied at any given point.
- Strict liability ensures that the victims, including the environment, are ultimately compensated where damage has occurred;
- Strict liability ensures that both elements of causation, i.e factual and legal causation are ascertained, thereby eliminating the danger to hold an innocent person liable;

- Strict liability serves as a deterrent for damage to occur as operators become cautious and employ the duty of care where appropriate to avoid damage. It also ensures that good quality products are produced to avoid damage from occurring, in particular where liability traces back to the manufacturer;
- Strict based is preferred where it is warranted by scientific proof analysis of risks. The aspect of risk assessment will guarantee safe health, generate income with less costs and without negatively affecting the environment. It will further ensure protection of the vulnerable farmer;
- The GM Technology is still new to the country and the strict based liability will play as a protective tool to the innocent victims such as the environment and human beings who cannot easily adduce the necessary evidence.

4.2 FOR FAULT – BASED LIABILITY

- Fault base will ensure that those who allege damage provide full scientific proof before the transgressor is held liable. This will ensure that thorough investigation is done for every matter;
- Every problem/damage discovered must be scientifically proven and the evidence must be aligned with the matter at hand. Causation must be proved both in fact and in law;
- Compensation will be proven through scientific facts measured. Regarding the channelling of liability, it is important to prove the fault of the defendant hence the fault based is the preferred to ensure that actors are not punished without their fault in the resultant damage;

- Fault based is preferred because it does not drag everyone who is a user. Whilst acknowledging that fault-based may be costly to prove, it is, however, fair to the industry;
- Strict liability addresses hazardous substances, and there is no evidence as yet that GMOs are hazardous;
- With the fault based liability, negligence and intention to cause damage will be proven, including the operator's foresight to the damage. In this regard evidence will be scientifically proven hence all parties will agree to the verdict;
- Fault based is the preferred in order not to chase away investors.

4.3 EVALUATION OF SUBMISSIONS BY STAKEHOLDERS

Submissions by stakeholders oscillated between the two extremes of the standards of liability. This is common in legislation dealing with standards of safety. The choice of the standard of liability is mostly influenced by the constituency of the stakeholder. Thus there were stakeholders who advised that the country needs to maintain and further improve the liability regime in the current Act, including the Draft Biosafety Regulations to ensure protection to biological diversity and human health in the implementation of activities involving GMOs; whilst others encouraged that the liability regime should be in such a way as not to limit the country from benefiting in investments in the technology due to unfriendly regulation, hence opted for fault based liability to be applied. Other stakeholders were of the view that there is need to provide in the legislation, a combination of both the strict and fault-based liability regime. The rationale behind the relaxed regime was that there are very few transnational companies in the sector and they are sceptical about a deregulated environment much as they have the same concerns with a strictly regulated environment. The cotton industry explicitly submitted that it was experiencing

reluctance from potential seed suppliers resulting in a negative outcome for this crop due to the fact that the country's regulation was based on a strict liability regime.

It has been observed that amongst the stakeholders who blame the current Act and its draft regulations of being unfavourable was the business sector, particularly seed companies. According to their assessment the strict liability regime that is being proposed is too prohibitive and not business friendly. This exercise seeks to weigh the submissions by the stakeholders and their various reasons for the choices preferred. The following chapter will present recommendations flowing from the evaluation of the submission of stakeholders in the approach to enhance the legislation regarding a liability and redress regime.

5. RECOMMENDATIONS

In 2007 African leaders, in the context of the African Union (AU) conceptualized the idea of harnessing the enormous potential of biotechnology to transform the agricultural landscape in Africa. Taking into account the controversial nature of this technology, a high level African Panel on Biotechnology (APB) was established through AU and NEPAD, to advise the AU, its Member States and its various organs, on current and emerging issues associated with the development and application of modern biotechnology in agriculture and other priority areas such as human and animal health, industry, forestry and the environment. One of the recommendations of the APB was as follows:

> *"Biotechnology regulations should be based on a case-by-case approach, according to internationally-agreed rules and guidelines. They should adopt the 'co-evolutionary' approach in which the function of regulation is to promote innovation, while at the same time safeguard human health and the environment".*

It is therefore recommended that the Kingdom of Swaziland also aligns itself with this call in order to reap the benefits of modern biotechnology as well as provide for the protection of the environment and safeguard human health.

The stakeholders in the use of modern biotechnology have recommended that Swaziland should embrace as wide as possible, the ability to grow in the agriculture sector including increased crop yields both for food security and economic growth by relaxing liability provisions on GM crops.

In terms of the approach of the liability regime for the country, the following key aspects are recommended:

5.1 ADMINISTRATIVE APPROACH

The objective of an administrative approach as illustrated above, is to ensure speedy and adequate preventative, response and remedial measures where there is harm caused by GMOs. It is recommended that the proposed liability regime also provides for administrative approach and ensure the prevention of damage caused by GMOs as well as speedy response and remedial measures where damage has occurred.

5.2 DEFINITION OF DAMAGE

The Biosafety Act refers to damage without actually defining the meaning and scope of damage referred to in the context of GMOs. Absence of the definition of damage was seen as another limitation of the current Biosafety Act. Stakeholders recommended that there was need for the definition of damage in the legislation. The Supplementary Protocol provides for a detailed definition of the meaning of damage. It is therefore recommended that the Swaziland liability regime adapts the definition of damage from the Supplementary Protocol to avoid bringing any ambiguity to the term.

5.3 FINANCIAL MECHANISM

The proposed liability regime should make provision for insurance or a financial security instrument that would cover liability for environmental or other damage. It is accepted practice these days that environmental liability regimes require a financial mechanism that provides financial guarantees to cover responsibilities invoked by a liability regime. The pace is being set by various legislation in the country such as the Mining Act and the Draft Petroleum Bill. The Supplementary Protocol also requires that this issue be determined by domestic law.

It is recommended that the regime should provide for a thoroughly worked out instrument, i.e, be it compulsory insurance or security bonds or a fund to cover for

redress should there be damage by activities involving GMOs by the operator. Swaziland may need to draw on the experience of global cases in developing national compensation schemes and modalities of financial security schemes. The provision on response measures can only be practical if there is such funding set aside, in particular for the competent authority to implement its part regarding response measures.

5.4 EFFECT OF THE COMPARISONS WITH OTHER JURISDICTIONS.

It should be borne in mind that the differences in the provisions of the various Biosafety legislation for the different countries is informed by various country specific reasons. Other countries, for instance have other existing strong liability regimes in their overarching environmental laws and thus silent in the specific liability regime for damage caused by GMOs, whilst others carefully picked their regimes influenced by a number of factors. Other countries, such as, South Africa channel liability directly to the user when damage occurs. The assessment showed that in the case of Swaziland, the approach is to protect the user such as an innocent farmer and the consumer. Hence, as per the provisions of the Supplementary Protocol, the choice of how to treat this issue remains the prerogative of each Party State.

It is therefore recommended that whilst this exercise involved an analysis of the different biosafety laws for other African countries, adapting from them should be done in a cautious manner, the focus only being what can work for Swaziland in the context of her own general provisions on liability on environmental matters, socio-economic dispensation as well as the country's commitments to the Cartagena Protocol and the Supplementary Protocol. In a nutshell, there is no ideal country approach that this exercise recommends to be adopted by Swaziland in her current unique situation. However the country can draw lessons from the implementation of

each of the regimes by the different countries, including relying on the existing regimes to gain investor confidence.

5.5 CAPACITY ENHANCEMENT ON LIABILITY AND REDRESS

As pointed out above in the summary of submissions by most stakeholders for the country, the strict liability is the preferred liability regime over and above response measures. The choice amongst many is driven by the need for the country to protect the environment and human health. It was observed and taken into account that those going with this choice have also shown their scepticism with the effect of their choice to agricultural developments that is much awaited to contribute to food security and economic growth. Supporters of this regime submitted that it should be carefully applied for investor confidence.

There is need for continuous capacity enhancement for all involved, including investors, regulators and other stakeholders on the salient features of the regime. For instance, an operator would not be liable for damage even in the strict liability regime just by being in the chain of activities involving the GMO. There is still need for application of the legal and scientific proof such as both elements of causation. There are still exemptions applicable where damage resulting from activities that are beyond the control of the operator such as *force majeure*, civil unrest and intervention by third party. The elements of damage has to be satisfied. Thus the dilemma on maintaining investor confidence and the actual implications of either choice of the regime will also be overcome by enhanced awareness and knowledge on the implications of the regime.

Sensitization of Stakeholders on the interpretation of the current legislation, in particular in relation to liability issues also has to take priority for the activities of the National Competent Authority. For instance, the exercise has revealed that seed companies are concerned about being held liable even for actions, i.e, mistakes and negligence of the farmer once damage occurs. Clearly the Act provides for the

farmer who has been granted a permit in terms of the Act to be liable for damage should he fail to exercise the required duty of care. Other participants in the chain are only liable to the extent of their own wrongful conduct.

5.6 PROPOSED APPROACH ON LIABILITY REGIME

The submissions by stakeholders pointed that the country needs to uphold the environmental principle which requires that those causing adverse effects to the environment shall be required to pay the full social and environmental costs of avoiding, mitigating, and/or remedying those adverse effects whilst ensuring the maximum benefit that comes with investors in modern biotechnology. The country is currently facing a number of challenges in economic growth, drought leading to a drastic drop in agricultural yields as well as increasing need for food for its population.

The recommendation regarding shaping the biosafety legislation is therefore, to involve the concerned stakeholder in amending Section 32 (1) of the Biosafety Act to sustain investor confidence in modern biotechnology whilst guaranteeing a minimum protection of the environment and ensuring that those responsible for damage bear the full responsibility to mitigate or remedy or pay for the remediation of such damage. This approach should also be enhanced by the definition of damage in the legislation.

Currently the Draft Biosafety Regulations adopts the strict liability regime in cases of damage resulting from GMOs and their activities (Part VI , Sections 86-89). It is recommended that these provision be removed as the liability aspect would have been covered in the parent Act. The process of appropriately defining the regime is undertaken after fertile ground has been laid after implementation of the recommendations herein. This include, among other things; continuous awareness to all stakeholders on GMOs and crucial legal terms and their use, continuous research in the subject by scientists, capacity for all actors in the industry to deal

with the standard of liability and its applicability and building the investor confidence to invest in GM crops in the country.

The above mentioned recommendation does not mean that the country will operate in a vacuum in so far as determining liability is concerned. The revised provisions of the Biosafety Act and other applicable laws, including common law will be invoked should there be damage caused by GMO activity.

It is recommended further that the response measures and chapter on accidental release be maintained in the Draft Biosafety Regulation to fully implement the preventative principle.

Implementing the aforesaid recommendation means that the current status will fully rely on preventative measures by the operator(s) as well as the precautionary principle, in particular risk assessment and risk management as means to avoid damage by GMOs from occurring. This approach is informed from the participatory approach of the exercise.

5.7 CONCLUSION

Technological advancement can undoubtedly benefit society as a whole but can also produce harmful results. The law plays an important role in ensuring that we manage and mitigate risk and remedy harm when it occurs. The law should thus balance this responsibility with the potential benefits that can be derived from technology and specifically biotechnology. The Government of Swaziland acknowledged the contribution that modern biotechnology can make to meet critical needs for food and nutritional security. The Government also recognized that the development of modern biotechnology needs to go hand-in-hand with appropriate regulations in order to maximize the benefits while minimizing potential risks.

The observation from all the countries that plant GM crops is that GMOs have been identified as the best technology that helps to maximise yields. The participatory

exercise in determining the appropriate liability and redress regime led to a conclusion that the country may need to employ flexibility in its regulatory regime in order to maximise benefits that come with the technology in accordance with the national developmental goals, without compromising on the safety of the environment and human health.

REFERENCES

ANNEX A - TOOL ON THE ASSESSMENT OF UNDERSTANDING OF BIOSAFETY ISSUES AND BASIC TERMS IN THE LIABILITY AND REGIME IN SWAZILAND

The Government of Swaziland, through the Swaziland Environment Authority, intends to carry out a study on Swaziland's liability and redress issues and draft instruments in line with the Cartagena Protocol on Biosafety and the Biosafety Act,

2012 in context of existing Swaziland liability and redress regimes. This exercise will be carried out with the full participation of all stakeholders relevant in activities involving the handling and use of modern biotechnology.

As one of the key stakeholders who will be guiding the exercise, kindly attend to this set of questions below earnestly.

1. What stakeholder group/organization do you represent? ……..
2. Please your educational background? a) Science b) Law c) Social Sciences d) Economics e)Other ……..

3. How would you rate your understanding of Biosafety issues?
   a) Low b) Moderate c) High d) very High

4. Do you the existence of the Biosafety Act, 2012? *(Yes)* *(No)*

5. Do you fully understand the meaning of "damage to the environment"?
   (Yes) *(No)* *(To a limited extent)*
6. Do you fully understand the meaning of liability?
   (Yes) *(No)* *(To a limited extent)*
7. Do you fully understand the meaning of Redress?
   (Yes) *(No)* *(To a limited extent)*

8. Would you agree that Swaziland needs a specific liability and redress regime for Biosafety issues? *(Yes)* *(No)* *(I'm not sure)*
9. If your answer above is Yes or No, please briefly state your reasons.

ANNEX B - GROUPING OF STAKEHOLDERS

The Stakeholder workshop is meant to get a balanced contribution from stakeholders that: a) employs the precautionary approach in the use of GMOs in order to promote biodiversity conservation and human health on one hand, and b) promotes the use of

modern biotechnology for various reasons, including, food security aspects, economic development, scientific research as well as enhancement of agriculture in general.

The consult does not suggest that there is an “east” and “west” division in the country regarding GMOs, but previous debates and awareness initiatives has seen that there is diversity in the manner in which the general public and key stakeholders view and embrace the subject of modern biotechnology. Hence the clustering is merely meant to allow a free and conducive engagement with stakeholders with them expressing their view on the liability and redress regime that can best benefit the country. The report will, however present a consolidated version, though itemising the view of the two clusters of stakeholders.

The table below indicates a cluster of stakeholders eligible for capacity enhancement to allow full participation and contribution to the exercise without being overwhelmed by either the promoter or user of the technology.

28th - Precautionary approach (Biodiversity conservation) group	29th – Promoters of the use of modern biotechnology
1. Representatives of policy makers: Mostly Govt institutions such as SEA, SNTC, NBAC, Health Institutions	a) Rep of Policy Makers : Mostly Government institutions such as Min of Agric, Min of Information and Technology, Min responsible for Trade, SEA, NBAC
2. Consumers groups – preferably both groups led by Mr Bongani Mdluli and Mr Ntshakala	b) Cotton Board as the main stakeholder
3. Uniswa ; preferably the Biodiversity Conservation academicians and practitioners, Institute of Health Sciences	c) Private sector

Department	
4. BPIC	d) Uniswa – Research department that may need to be actively involved with the issue – such as Luyengo Agric sciences Dept
5. Youth – for their benefit and contribution in the decision to be made	e) The youth – for their benefit and contribution in the decision
	f) Rep of Farmers -

ANNEX C - GENERAL LEGAL TERMINOLOGY FOR STAKEHOLDER SENSITIZATION WORKSHOP

There are general legal terms used in the legal realm that attach specific meanings in order to sustain a legal action in the courts. These words can sometimes be modified in their original meaning through extension, though they are traditional words in the legal language. These words apply in both domestic and international law though can be modified for each context. The words are discussed in this context to enhance the base level of understanding for stakeholders in the biosafety liability and redress workshop. For ease of understanding the discussion is reduced for laymen in law and explanations include the vernacular language.

I - Liability (Kulahlwa licala)

1. This is responsibility or blameworthiness for a legal wrong, i.e the determination of whether one should be punished for breaking the law or not. Liability can either be criminal or civil. Thus in a legal sense, liability refers to the obligation of a person, be it juristic or natural person, to provide a remedy for damage caused by an action for which that person is responsible for.

2. Liability is either with or without fault. Liability with fault is one based upon the wrongdoer's intention to violate the law or his negligence in his conduct resulting in the violation of the law. Thus it is also known as 'fault-based liability".

3. Liability without fault is one solely based upon there being a causal link/connection *(nexus)* between the person's wrongful conduct and the resultant damage. It is usually referred to as "strict liability". It does not matter whether you intended the damage or not, and whether you were negligent or not.

4. It is only fair in the circumstances, to define intention as the free will of man to act the way he desires and negligence as failure to observe due care and consideration for the good of any other person's life, limb, and property. In the world of environmental activism, it is worthy of note that "property" includes the natural environment as collective public property. The said environment sustains life for both plants and animals. And life includes health.

5. It must be impressed that the causal link is an absolute requirement for both fault-based liability and strict liability. There is no liability at all unless there is nexus between the act and the result.

6. Strict liability is neither the rule nor the ideal situation, but only an exception to the rule of proving both the physical (action) and mental (intention/negligence) elements of an offence. Such an exception (i.e strict liability) is sparingly used in such cases as those of hygiene in food outlets like restaurants, defamation by mass media, and environmental protection. These are matters of public policy.

7. Since liability attaches to both the criminal law and the civil law, then there is both civil and criminal liability on separate standards of proof. To establish civil liability, the accuser must prove his case against his suspect on a balance of probabilities, which means likelihood versus mere chance. On the other hand, criminal liability requires proof beyond reasonable doubt that the accused person violated the law and caused the prohibited result. A mere likelihood is not enough.

8. The distinction between civil and criminal liability was well and clearly demonstrated in the case of O.J Simpson who was a renowned US rugby player. Simpson was found not criminally liable for his wife's death. He was acquitted and discharged. His wife's parents sued him for loss of support, society, and comfort due to the death. The court found him liable for the death and ordered him to pay compensation to her parents in the civil claim.

9. Liability can be jointly and several where there are two or more wrongdoers causing the damage. Each is liable to the extent of his contribution towards the damage. Swaziland has an Apportionment of Damages Act /1970 for this purpose. But if one pays the full judgment debt, the other(s) is/ere absolved. The one who paid bears the right to claim from the other(s) what he has paid on behalf of their contributions.

II - Redress *(Likhambi)*

10. The remedy to correct a wrong in law is called redress, i.e legal redress. This means what the law requires the wrongdoer to do or undo in order to please or console the victims of his wrongful conduct. The overall objective is to restore the harmonious condition that prevailed before the act of transgression. The wrongdoer may be ordered to restore the condition, mitigate the harm, pay compensation to his victims, pay a fine to the government, serve a jail term, stop any operation, or do any combination of these.

11. Redress is sought after the wrongful act has been done and the damage caused. The only exception in which redress can be sought beforehand is when there is reasonable foresight of imminent irreparable harm resulting from a contemplated act or operation. This is a drastic preventive measure.

III - Damage *(Umonakalo)*

12. The wrongdoer is liable to redress damage to the victim of his wrongful conduct. What is damage? This means injury or harm to life or limb or property of another. The damage is either physical such as destruction of property, or non-physical like defamation of character. It is thus quantifiable as in loss of profit or unquantifiable as in environmental degradation.

13. The damage must be substantial (significant) to warrant legal intervention. A mere trifle is not the law's business. This is expressed in the Roman Law maxim: *"De minimus non curat lex".*

IV - Causation (*Sisusa/ Imbangela)*

14. It is repeated yet more that the wrongdoer is liable to redress the damage caused by his unlawful act. This means the damage must be a natural result of his act. There must be a causal link between the person's act and the damage itself. Without this, there is no liability for redress on the wrongdoer's part. Somebody else is liable.

15. Because of the nexus requirement, causation is in two co-existent forms. These are factual causation and legal causation. They always go together. Factual causation alone is not enough. Factual causation concerns the initial act that sets in motion a series of events towards the damage. On the other hand, legal causation concerns the immediate act (the last one) before the damage, from which last act the damage directly resulted. In our vernacular, factual causation is *sisusa* while legal causation is *imbangela*.

16. Hypothetically, if A shoots at V and the bullet shoots through the left shoulder blade. He is hospitalized, treated and discharged but confined to a wheelchair. V later catches Septicaemia desease in the wheelchair and dies of this desease. Who is liable for V's death?

17. This question is answered in the South African case of S v Mokgethi. Mr Mokgethi stood charged with murder. He had shot the teller in a bank robbery. The deceased was hospitalized, treated and discharged. But the gun-inflicted injuries rendered him paraplegic. The doctor gave him stern instructions to regularly position himself and move about in the wheel chair. He defied. Six months later, he was infected with septicaemia because of the unchanged position. He was hospitalized again. He died from the illness whilst undergoing treatment. Mokgethi was acquitted on the murder charge because the deceased had died from his own septicaemia. The death had not been caused by the gun wounds.

ANNEX D - STAKEHOLDER SUBMISSIONS ON THE PREFERED STANDARD OF LIABILITY

Strict Liability	Fault – Based Liability
The country does not have the muscle to provide the often difficult proof of the damage.	Fault base will ensure that those who allege damage provide conscience scientific proof before the transgressor is held liable. This will ensure that thorough investigation is done for every matter is determined
Strict liability ensures compensation to is the preferred regime because it ensures that victims	Regards channelling of liability, it is important to prove the fault of the defendant
Strict liability is chosen because it ensures that both elements of causation, i.e factual and legal causation, thereby eliminating the danger to hold an innocent person liable	Fault based is the preferred to ensure that actors are not punished without their fault in the resultant damage
Strict liability is the preferred in order to deter damage, for instance operators will be cautious and employ the duty of care where appropriate to avoid damage. Also ensures that good quality products are produced to avoid damage from occurring	Fault based is preferred because it does not drag everyone who is a user. Though fault-based may be costly, it is, however fair to the industry. Strict liability addresses hazardous substances
The strict liability regime will ensure that liability in channelled to the operator with the operation of exemptions	Fault –based is preferred because scientific proof will be given and that the victims of damage including the environment are compensated
Every person/operator responsible for damage	fault – based is preferred because the only the

should pay or redress for any damage caused whether as a result of his negligence or unintentionally Damage should be addressed by all those in the chain	causer of damage will be liable, leaving all others in the chain free
Strict based is preferred where it is warranted by scientific proof analysis of risks The aspect of risk assessment will guarantee safe health, generate income with less costs and without affecting the environment	No person must be punished without fault being enquired
Strict liability will ensure protection of the vulnerable farmer	Every problem/damage discovered must be scientifically proven and the evidence must be aligned with the matter at hand. The complainant would not just base his problems encountered without a thorough investigation on the cause of the matter Causation must be proved both in fact and in law Compensation will be on proven through scientific facts measured
In most cases the end user of the GMO or its product do not have the required resources to undertake the scientific proof to sustain evidence as to intent or negligence on the part of the defendant.	Fault based is preferred to enhance the use of modern biotechnology in Swaziland. The strict based approach has a tendency to keep away investors
Strict based liability removes the burden of proof from the poor who are still victims of the acts of the wrongdoer. Swaziland is amongst the developing countries and its citizens do not have the required resources to undertake the required scientific proof. The regime also ensures that all those who are involved in the chain remain accountable	Swaziland should support the fault – based liability to ensure that there is no intentional damage and there is no negligence on the part of the operator(s). but only where there is scientific proof of certain risks,
The issue of GMOs is something still new to the country and the strict based liability will play as a protective tool to the innocent victims such as the environment and human beings who cannot easily adduce the necessary evidence.	Fault – based liability will ensure that persons liable for intentional or negligent acts or omissions causing damage An innocent person is not to be held responsible and do redress on damage he did not cause. The faulting operator should be made liable after

	having been proven to have been responsible
Based on the fact that the technology is still new in the country, there is need to start with the strict based liability regime. After a few lessons have been learnt, then the country may migrate to implement the fault based liability regime	With the fault based liability, negligence and intention to cause damage will be proved, including the operator's foresight to the damage. In this regard evidence will be scientifically proved hence all parties will agree to the verdict. Further, the liable individual will be given a chance to change operation to comply with standards.
The need for a claimant to establish proof of negligence and intention requires the country to be well capacitated both in terms of the technology and human capacity	Fault based is the preferred in order not to chase away investors
The rationale in the liability is that both strict and fault based liability requires causation, hence as long as there is going to be causation in fact and in law, the action will stand.	
Strict liability is preferred because it helps prevent harm from occurring and takes into consideration precautionary measures It also supports the environmental principle that says "the polluter pays"	
Swaziland is not yet capacitated in terms of the technology, adequate laboratories and financial resources to undertake the proof for negligence as well as intention	
Supports the strict liability since it will play as a deterrent for long term and unforeseen occurrences. Operators will be channelled to exercise due care to minimise prospects of damage	
The strict liability regime is supported because it will encourage the operator to implement the precautionary approach	
Strict liability and response measures should go hand in hand since it keeps the operator, the competent authority dealing with issues in their	

respective roles, in particular in addressing damage through response measures as a form of redress	
There is less burden to prove fault on the part of the offender.	
Swaziland is rich in biodiversity and has a lot to loose should damage occur, hence the stricter the rules are the better	
A strict liability regime ensures that an operator carries out risk assessment as a preventative measure from damage	
In a strict liability regime, compensation for damage is assured	
Notably the aim of the current legislation is to protect biodiversity and human health whilst maximising the benefits that come with the technology, hence the strict liability is the preferred	
Strict based is the preferred because the operator is liable for any harm under any circumstances. However for the country, there is need to find a balance for both regimes since it is dealing with some industries which are fragile; for instance the cotton industry does not invest where a strict liability regime has been adopted. Hence there is need for exceptions to such categorised industry through further consultations	

ANNEX E - AGENDA ON THE LIABILITY AND REDRESS STAKEHOLDER SENSITIZATION WORKSHOP

ANNEX F - LIST OF PARTICIPANTS

ATTENDANCE LIST-LIABILITY AND REDRESS WORKSHOP, 28 JULY 2015

NO.	NAME	ORGANIZATION	DESIGNATION	CONTACT N.	E-MAIL
1	NELSON MAVUSO	MOA	SAO (TS)	76117338	nelsonmavuso@ymail.com
2	NOMKHOSI KHOZA	SWACOF	REP	76362110	nomkhosikhoza06@gmail.com
3	MELUSI MBULI	SEA	ENV. ECON	78060241	mmbuli@sea.org.sz
4	LUCKY GCINA KUNENE	SEA-INTERN	INTERNSHIP	76999506	luckygkunene@gmail.com
5	SANDILE JELE	SEA	INTERNSHIP	76753251	Sandilejele7@gmail.com
6	MANGALISO SIHLONGONYANE	NMC	BUISNESS MANAGER	78027471	mangalisos@nmc.co.sz
7	STEPHEN ZUKE	SEA	ED		szuke@sea.org.sz
8	BONGANI NKHABINDZE	SEA	BIOSAFETY	78060237	bongani@sea.org.sz
9	CONSTANCE DLAMINI	CONSULTANT	ATTORNEY	76063626	ceezet9@gmail.com
10	SIPHO MATSEBULA	SEA	ECOLOGIST	24046960	smatsebula@sea.org.sz
11	MANDLA NTSHAKALA	SWACOF	CHAIR	76366758	mandlantshakala@yahoo.com
12	DIANA EARNSHAW	UNISWA	SENIOR LECTURER	76328754	earnshaw@uniswa.sz
13	NELISWA MKHATSHWA	SEA	INTERN	76141842	mkhatshwaneliswa@gmail.com
14	NCOBILE TSELA	SEA	INTERN	76502112	Nziyane9@gmail.com
15	NDABENHLE DLAMINI	N.G. DLAMINI ATTORNEYS	ATTORNEY	76234964	ngattorneys@swazi.net
16	ACKEL ZWANE	SWAZI OBSERVER	JOURNALIST	76143350	azazwane7@gmail.com
17	SAMSON NCONGWANE	SUNDAY OBSERVER	REPORTER	76698438	newseditor@observer.org
18	PATIENCE VILANE	SEA	ENV.ANALYST	78060232	patience@sea.org.sz
19	DELISA MAMBA	SEA	OZONE	76891484	dmamba@sea.org.sz

			OFFICER		
20	SIHLE NXUMALO	SEA	INTERN	76311608	Sihlenxumalo69@gmail.com
21	THABANI SIBANDZE	SEA	INTERN	76606005	thabsgoje@gmail.com
22	DZELISA DLAMINI	SNTC-NEEP	ENV. ED. COORD	76088159	dzelisad@gmail.com
23	DUMILE SITHOLE	SEA	BIOSAFETY	76913839	dysithole@sea.org.sz
24	MDUDUZI DLAMINI	SEA	ENV.ENG	78060240	mdudlamini@sea.org.sz
25	THANDOKUHLE MAGONGO	SEA	INTERN	76570494	tmmagongo@yahoo.com

ATTENDANCE LIST-LIABILITY AND REDRESS WORKSHOP, 29 JULY 2015

NO.	NAME	ORGANISATION	DESIGNATION	CONTACT NO.	E-MAIL
1	LIKHWA MKHATSHWA	SNAU	VICE, LUBOMBO	76534803	
2	CELMUSA SHABANGU	SNAU	MEMBER	76344698	
3	JECONIAH MSIBI	SWAZILAND COTTON BOARD	TECHNICAL MANAGER	76127191	jmsibi@realnet.co.sz
4	LUNGILE SIKHONDZE	SWADE	AGRO-BUSINESS EXT. OFFICER	76362302	lungile@swade.co.sz
5	FUTHI MAZIBUKO	SWADE	ENVIRO, OFFICER	76448676	futhi@swade.co.sz
6	JOHNSON MABUZA	SNAU	MARAU CHAIRPERSON	76136804	
7	THAMI NDZABUKELWAKO	SEEDCO	MARKETING	76396573	thamindzabukelwako@gmail.com
8	PATRICK DLAMINI	MOA (LAND USE)	SOIL SURVEYOR	76051965	dlaminipatrick@yahoo.com
9	GCINA DLADLA	SEA	DPPRI	78025941	gdladla@sea.org.sz
10	CEBSILE MAGAGULA	UNISWA	LECTURER	76058258	cebisile@uniswa.sz
11	MTHAYIPHI DLAMINI	COMMERCE	ASST. INDUSTRIAL OFFICER	76131831	Mtype444@gmail.com
12	LUCKY GCINA KUNENE	SEA-INTERN	INTERNSHIP	76999506	luckygkunene@gmail.com
13	SANDILE JELE	SEA	INTERNSHIP	76753251	Sandilejele7@gmail.com
14	GAVIN ARANKY	SAS	M.D.	76023133	gavin@ssaa.co.sz
15	SIPHO MATSEBULA	SEA	ECOLOGIST	24046960	smatsebula@sea.org.sz
16	NDABENHLE DLAMINI	N.G. DLAMINI ATTORNEYS	ATTORNEY	76234964	ngattorneys@swazi.net
17	DUMILE SITHOLE	SEA	BIOSAFETY	76913839	dysithole@sea.org.sz
18	BHAVIN PABARI	UNIFOODS	M.D.	76020011	bhavin@unifoods.co.sz
19	QINISANI ZWANE	SNAU	TREASURER	76212392	qinisanizwane@gmail.com
20	JABULANI TSABEDZE	SNAU	SEC.GENERAL	76055943	jabuemkholo@gmail.com
21	DUDU DUBE	MIN. OF HEALTHY	PRINCIPAL ENVIRON. HEALTH OFFICER	76629280	duduzilegrace63@gmail.com
22	FUNWAKO DLAMINI	MIN.OF HEALTH	PRINCIPAL ENVIRON. HEALTH OFFICER	76188908	fedlamin@yahoo.com
23	MELUSI MBULI	SEA	ENV. ECONOMIST	78060241	mmbuli@sea.org.sz
24	NHLANHLA	CAPSTONE	MATSAPHA	76056641	

	DLAMINI	SEEDS			
25	DZELISA DLAMINI	SNTC-NEEP	ENV. ED. COORD	76088159	dzelisad@gmail.com
26	CALEB MOTSA	MCIT	TOWNSHIP OVERSEER	76888959	calebmotsa@gmail.com
27	BONGANI NKHABINDZE	SEA	BIOSAFETY	78060237	bongani@sea.org.sz
28	ACKEL ZWANE	SWAZI OBSERVER	JOURNALIST	76143350	azazwane7@gmail.com