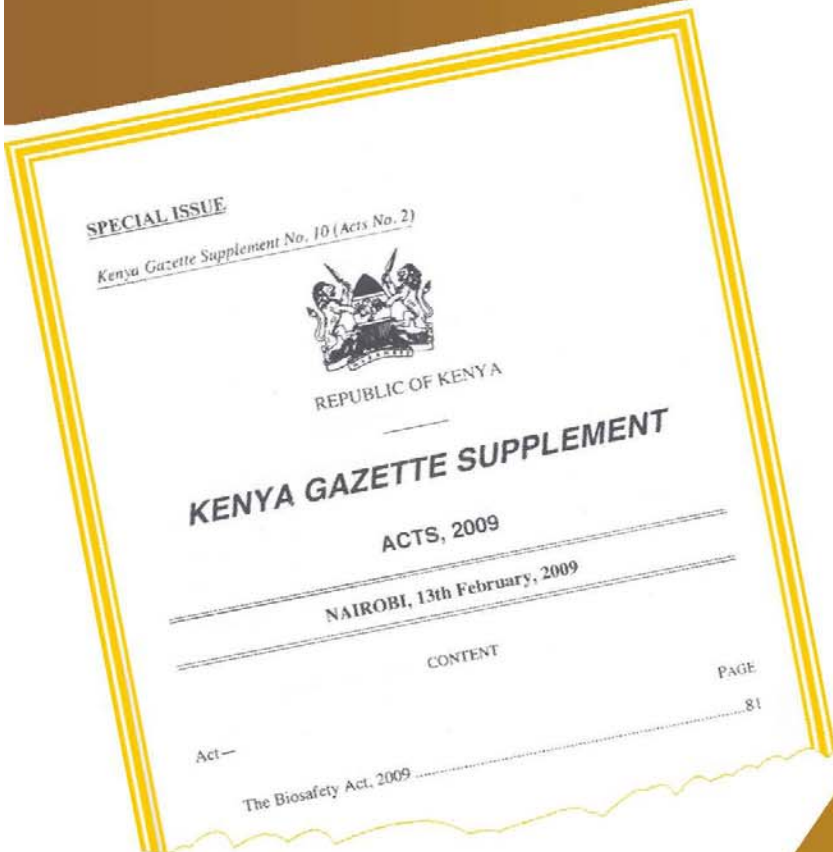


# Developing a Biosafety Law

## Lessons from the Kenyan Experience



By Karembu, M., D. Otunge, and D. Wafula





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**Publication Orders**

For your copy of this publication please contact:

ISAAA AfriCenter

PO Box 70,

ILRI Campus, Old Naivasha Rd,

Uthiru, Nairobi 00605,

Kenya.

Phone: +254 - 20-4223618

Fax: +254 - 20-4223634

Email: [africenter@isaaa.org](mailto:africenter@isaaa.org)

For more information about ISAAA, please visit [www.isaaa.org](http://www.isaaa.org) and [www.isaaa.org/kc](http://www.isaaa.org/kc) or contact the ISAAA Center near you.

**ISAAA AmeriCenter**

417 Badfield Hall,  
Cornell University,  
Ithaca NY 14853,  
United States of America.

**ISAAA AfriCenter**

PO Box 70, 00605,  
ILRI Campus,  
Uthiru, Nairobi  
Kenya.

**ISAAA SEAsiaCenter**

DAPO Box 7777,  
c/o IRRI,  
Metro Manila,  
The Philippines





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## LIST OF ACRONYMS AND ABBREVIATIONS

AATF:	African Agricultural Technology Foundation
ABSF:	African Biotechnology Stakeholders Forum
ABSPII:	Agricultural Biotechnology Support Programme (Phase Two)
AHBFI:	Africa Harvest Biotechnology Foundation International
AG:	Attorney General
ASARECA:	Association for Strengthening Agricultural Research in Eastern and Central Africa
BioAWARE:	National Biotechnology Awareness Strategy
BioEARN:	East African Regional Programme and Research Network for Biotechnology, Bio-safety and Biotechnology Policy Development
BCH:	Biosafety Clearing House
BTA:	Biotechnology Trust Africa
CBD:	Convention on Biological Diversity
CEBIB:	Center for Biotechnology and Bioinformatics (UoN)
CIMMYT:	International Wheat and Maize Improvement Center
COMESA:	Common Market for Eastern and Southern Africa
COP:	Conference of Parties
CSOs:	Civil Society Organizations
DVS:	Department of Veterinary Services
EAC:	East African Community
ECABIC:	Eastern and Central Africa Biotechnology Information Center
GEF:	Global Environment Facility
GMO:	Genetically Modified Organism
IBC:	Institutional Biosafety Committee
ICO:	International Consumer organization,
ISAAA:	International Service for the Acquisition of Agri-biotech Applications
ITDG:	Intermediate Technology Development Group
KARI:	Kenya Agricultural Research Institute
KBIC:	Kenya Biotechnology Information Center
KBioC:	Kenya Biodiversity Coalition
KC:	Global Knowledge Center on Crop Biotechnology
KEBS:	Kenya Bureau of Standards
KEGCO:	Kenya GMO Concern Group
KENFAP:	Kenya National Federation of Agricultural Producers
KEPHIS:	Kenya Plant Health Inspectorate Service
KESSFF:	Kenya Small Scale Farmers Forum
LMOs:	Living Modified Organisms
MDGs:	Millennium Development Goals
NARC:	National Alliance Rainbow Coalition Party
NBC:	National Biosafety Committee
NEMA:	National Environment Management Authority
NCST:	National Council for Science and Technology





OFAB:	Open Forum on Agricultural Biotechnology in Africa
PBS:	Programme for Biosafety Systems
PELUM:	Participatory Ecological Land-Use Management
STAK:	Seed Trade Association of Kenya
UNCED:	United Nations Conference on Environment and Development
UNECA:	United Nations Economic Commission for Africa
UNEP:	United Nations Environment Programme
UNESCO:	United Nations Educational, Scientific and Cultural Organization
USA:	United States of America





## CHAPTER ONE

### *Rationale for Biosafety Law*

#### *Introduction and Background*

On the afternoon of February 12, 2009, a palpable wave of excitement was felt in the hearts and offices of those who had been involved in the development and passage of the Biosafety Bill, 2009. News had filtered through that President Mwai Kibaki had assented to the Biosafety Law as earlier passed by Parliament, which would henceforth be described as the Biosafety Act, 2009. One would not imagine that a signature on a 43-page document would mean much without looking at the context in which the events happened. Despite Kenya being the first country in the world to sign the Cartagena Protocol on Biosafety in the year 2000, the process of domesticating the legislation as stipulated in the Protocol had proved elusive. The country had also been reliant on scattered pieces of legislation to guide research in genetically modified organisms (GMOs) but a legislative process to ensure responsible and safety of eventual mass use of the technology was lacking. Globally, the commercialization of biotech crops continues at amazing rates and Kenya risked being left behind in the revolution. The passing of the law was therefore a truly monumental event. The necessity for this law cannot be over-emphasized. In the same way, one cannot help imagining the benefits biotechnology can have for a country whose poor households spend 80 per cent of their incomes on food. The benefits would also certainly be felt by farmers who have watched helplessly as their entire crop succumbs to pests or the increasingly erratic weather. This publication seeks to document as accurately as possible the process of developing the Biosafety Law in Kenya through three parliaments and two General Elections. We also provide an analysis of the lessons learnt and how this can benefit other developing countries that are yet to have an equivalent law in place. We hope that many can learn from our experience, replicate the successes and avoid pitfalls. Looking forward, the establishment of a National Biosafety Authority is the priority, and this we hope will be accompanied with the required financial provisions to ensure it works. The stage has been set for the next agricultural revolution and action will prove it better than the law on paper.

#### *The Origins of Biosafety Laws*

The origin of Biosafety frameworks and the need to enact Biosafety Laws can be traced back to the provisions of the Convention on Biological Diversity (CBD). The CBD is an international agreement developed under the leadership of the United Nations Environment Programme (UNEP). It was adopted at the Earth Summit in Rio de Janeiro, Brazil in June 1992 and entered into force in December 1993 to achieve three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the use of genetic resources. When crafting the Convention, governments recognized that modern biotechnology has the potential to contribute to sustainable development as long as it is developed and used in a safe and responsible manner. Article 19 of the CBD addresses the handling of biotechnology and distribution of its





benefits. Paragraph three of the article states that “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 modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity”. The Article provided the basis for the development of the Biosafety protocol. Pursuant to the provisions of Article 19, paragraph 3 of the CBD, the Conference of Parties (COP) made a decision to establish an open-ended ad hoc working group to develop a draft protocol on Biosafety. The drafting process took place between 1996 and 1999 through a series of consultative meetings.<sup>1</sup>

On 29 January 2000, the Conference of the Parties to the CBD meeting in Montreal, Canada, adopted a supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety. Cartagena is a city in Colombia where the final round of negotiations that led to the adoption of the Protocol was launched. The Protocol came into force in September 2003 and by November 2009, 157 countries had ratified it. The objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of safe transfer, handling and use of living modified organisms resulting from modern biotechnology. It concentrates on those that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health, and specifically focusing on transboundary movements.

The Protocol establishes an advance informed agreement (AIA) procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory. It requires or obligates each member country to develop and implement a National Biosafety Framework (NBF). This is a combination of policy, legal, administrative and technical instruments established to address safety of the environment and human health in relation to application of modern biotechnology. In addition, the Protocol obligates Parties to institutionalize a functional Biosafety Clearing House (BCH). A BCH is a web-based mechanism to facilitate exchange of scientific, technical, environmental and legal information on, and experience with, living modified organisms; and to assist Parties to implement the Protocol, taking into account the special needs of developing countries.<sup>2</sup>

Kenya made history by becoming the first country to sign the Biosafety Protocol. The then President Daniel arap Moi signed the document on behalf of the country at a ceremony to open the 5<sup>th</sup> Conference of Parties to the CBD meeting held in May 2000 at the UNEP headquarters in Nairobi. The country ratified the document in 2003. The official ratification meant that Kenya bound itself to the provisions of the Protocol. Article 2 of the protocol states that, “Each Party shall take necessary and appropriate legal, administrative and other measures to implement its obligations

<sup>1</sup> For further details visit the CBD website –[www.cbd.int](http://www.cbd.int)

<sup>2</sup> For additional information on the Cartagena Protocol on Biosafety Visit [www.cbd.int/biosafety/](http://www.cbd.int/biosafety/)







under this Protocol.” The enactment of the Biosafety Law by Kenya in February 2009 was therefore in fulfillment of its international obligation as a party to the Protocol.

### *Domestication of International Obligations*

Article 16 of the CBD on “Access to and Transfer of Technology” recognizes biotechnology and points out that access to and transfer of the technology among Parties are essential elements for the attainment of the objectives of the Convention. Article 19 further stipulates that each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting Parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting Parties.

Besides the requirements to fulfill its international obligations under the Protocol, Kenya urgently needed a Biosafety Law mainly to guide and manage research already underway and to facilitate eventual commercialization of the products that were undergoing contained field trials. For example, whereas transgenic cotton and maize were fast approaching the commercial phase, the existing Science and Technology Act (1980) lacked substantive provisions to move the research process to the next stage of commercialization. It therefore became imperative to enact legislation to facilitate responsible and safe use of modern biotechnology in tandem with the rest of the world.

Indeed, the existing Acts and regulations that had been used to facilitate experimentation with biotech crops were enacted before the technology had become a major public policy concern. It was in the 1990s that concerns about the scientific and technological developments in the field of modern biotechnology found their way to the top of public policy agenda globally. As Wafula *et al* (2007) explains, a comprehensive biosafety legal framework strikes a balance for ensuring the development of biotechnology, protection of the environment and safeguarding the interests of consumers. Potential risks associated with the application of the technology are minimized while facilitating application of its beneficial aspects in agriculture, health, environment and industry. Appropriate legislation and a strong regulatory framework are also important in developing public confidence in biotechnology as a technological option.

Furthermore, in the National Biotechnology Development Policy of 2006, the Kenya government is clear in its intention to apply modern technologies to enhance food production as a long term strategy to make the country a food secure state. Consequently, Kenya has invested considerably in agricultural biotechnology Research and Development in public institutes such as the Kenya Agricultural Research Institute (KARI) and the public universities involved in research on the subject; the University of Nairobi, Kenyatta, Moi, Egerton and Jomo Kenyatta University of Agriculture and Technology.





Currently, confined field trials of various transgenic crops are ongoing at various KARI research stations in the country (Waturu, 2007, ISAAA AfriCenter, 2007). Genetically modified insect-resistant cotton and maize are the most advanced and likely to be the pioneer commercial biotech crops in Kenya.

### *Why Agricultural Biotechnology?*

Declining agricultural production in the developing world coupled with a rapidly increasing population poses challenges to food security and environmental conservation. Conventional methods to improve crop yields for different ecological zones and to breed pest and disease resistant plants are mostly time consuming and often lacking in precision. The same applies to the search for improved diagnosis and control of livestock diseases,

Defined as “any technique that uses living organisms or substances from these organisms to make or modify a product for practical purpose” (FAO, 2004), biotechnology has the potential to provide rapid solutions in a more precise and cost-effective manner. To illustrate one of the comparative advantages of modern biotechnology - in traditional plant breeding, all genes of the parent plants are combined, so that both desirable as well as undesirable traits are expressed in the plant offspring. Secondly, since only plants from close (genetically related) relatives, i.e., same species or closely related species, can be interbred, the sources of potential desirable traits is narrowed. On the other hand, plant biotechnology allows for the transfer of a greater variety of genetic information in a more precise manner. Using this technology, a single gene may be added to the genetic code. These genes are very specific and allow the plant (transgenic plant) to precisely express the desired trait.

Transgenic plants contain *transgenes* that have been artificially inserted instead of acquiring them through natural means. The transgenes, also referred to as inserted gene sequence, may be obtained from another unrelated organism. An example is Bt maize, which contains an endotoxin (biologically inactive) gene from a soil bacterium, *Bacillus thuringiensis*. This bacterium is pathogenic to certain insects. When insect pests that attack maize plants ingest Bt. maize, the endotoxin (protoxin) is converted to the active toxin which binds to receptors in the insect gut. This leads to a series of events that eventually proves lethal to the insect. It is very important to note that the human stomach does not have receptors for Bt toxin and cannot therefore be affected by it. Pest-protected Bt plants stop these insects from eating and destroying the plant, which improves yields and reduces the need for pesticide applications, saving the farmer time and money. The ability to introduce genetic material from other unrelated plants and organisms therefore opens up a world of possibilities to benefit food production processes. Biotechnology has also contributed to the development of crops with high nutritional content and tolerance to environmental stresses. James (2008), Makinde et al (2007), Juma et al (2005) and Thomson (2002) concur that deployment of modern biotechnology crops has enormous potential benefits for developing countries. These benefits have been





demonstrated ever since the first commercialization of biotech crops occurred in 1996. James (2008) outlines some of these benefits:

1. Contributing to food security and lowering of food prices;
2. Conserving biodiversity;
3. Reducing agriculture's environmental footprints;
4. Contributing to the alleviation of poverty and hunger;
5. Mitigating climate change impacts and reducing emissions of greenhouse gases;
6. Contributing to cost-effective production of biofuels; and,
7. Contributing to sustainable economic benefits

According to the global status of commercialized biotech crops documented by James (2008), from 1996 to 2008, the global area under transgenic crops increased exponentially (74-fold) from 1.7 million to 125 million hectares. These unprecedented rates of adoption are the highest ever for any new technology in the recent history of agriculture. It is a powerful testimony to the satisfaction and confidence farmers have in the technology. That also explains why over the short period of time, the number of countries that are currently growing biotech crops jumped from six in 1996 to 25 in 2008. Of the 25 countries planting biotech crops, 15 were developing and 10 developed. A total of 13.3 million farmers benefited from superior transgenic crops, up from 12 million in 2007. Notably, 90 per cent of the users were resource-poor, small-scale farmers from developing countries. In Africa, South Africa was the first country to start growing transgenic crops commercially in 1998. It has since 2008 been joined by Burkina Faso and Egypt. Other notable developing countries whose farmers are already growing biotech crops are Argentina, Brazil, China, India, Mexico and the Philippines, among others (James, 2008).

The cumulative global net economic benefits of GM crops to farmers are well documented by Brookes, et al (2009). For instance, they say that between 1996 and 2007, the net worth of biotech crops was \$44 Billion. This was shared equally between industrialized and industrializing countries.

Socio-economic studies of the potential benefits of biotech crops commissioned by the Common Market for Eastern and Southern Africa (COMESA) showed that farmers' incomes in Kenya would increase by \$5.9 million if they adopted transgenic crops. According to Paarlberg et al, (2006), the food security situation in Kenya would be enhanced substantially if the country adopted insect-resistant genetically modified varieties of maize compared to the conventional varieties that are prone to devastating infestation by insect pests.

It is instructive to note that agriculture is crucial to Kenya's economic and social transformation. The sector's growth and development is therefore paramount, as it directly and indirectly contributes nearly 50 per cent of the Gross Development Product. About 80 per cent of the country's population depends on agriculture (Republic of Kenya, 2004).







Consequently, agricultural biotechnology activities have received a high degree of political support in Kenya. While inaugurating a Level II Biosafety Greenhouse at KARI-Biotech Center in 2004, President Mwai Kibaki reiterated the government's support for the use of modern technologies to improve agricultural productivity. "We must embrace and apply modern science and technology in farming. Indeed, there is evidence that countries which have embraced modern agricultural technologies have improved economic performance, reduced poverty and ensured greater food security for their people," he said. Such policy directives gave impetus to the adoption of the National Biotechnology Development Policy in 2006 and subsequently to the enactment of the Biosafety Act 2009.

The first of the UN Millennium Development Goals (MDGs)- the eradication of poverty and hunger- is to halve of the proportion of people who suffer from hunger by 2015. The contribution that agricultural biotechnology can make in achieving the UN Millennium Development Goals (MDGs) in Kenya has been recognized. To meet this goal, Kenya has embraced modern agricultural biotechnology to complement conventional food production technologies (The World Bank 2005, Republic of Kenya 2008).

The Kenya National Biotechnology Development Policy (2006) states that;

*"the government will adopt productivity-enhancing agricultural biotechnologies that can substantially reverse the fast deteriorating food security and nutrition, farm incomes, spawn the agro-industry and reduce environmental degradation".*

Over the last decade, global prominence and advancements in biotechnology have coincided with concerted national efforts by various research-based institutions to build human and infrastructural capacities. Funding for research and development has been sought while institutional linkages and biotechnology governance and regulatory frameworks have been strengthened. Measures have also been put in place to increase public awareness and education on issues relating to biotechnology and biosafety and investment in research and development through public-private partnerships. Despite the seemingly obvious advantages, there have been concerns about the safety of products of biotechnology, especially to human health and the environment (Clark *et al* 2007; Nuffield Council on Bioethics, 2004). The adoption of the Cartagena Protocol was meant to address these concerns.

What exactly happened between the signing of the Protocol in the year 2000, the approval of the National Biotechnology Development Policy in 2006 and February 2009 when the Biosafety Act became law? There were two elections, two months of fighting in 2008 and two distinct systems of government and a lot of work by the men and women who were behind the new law. There were also intrigues brought about by those against it and the troops they had assembled for the battle they wanted about it. The next chapters focus on the process and the debates that shaped the Biosafety Law and often threatened to end or subvert it.







## CHAPTER TWO

### *The Process of Drafting the Biosafety Bill*

#### *Preliminary Stage*

The activities leading to the enactment of the Biosafety Act 2009 benefited from concerted efforts of various task forces under the auspices of the National Council for Science and Technology (NCST). The NCST started addressing biosafety issues in earnest in the early 1990s, with support from the government of the Netherlands. This was after it had dawned on them that Kenyan scientists were already involved in crop breeding using modern biotechnology techniques such as tissue culture and molecular markers.

In 1993, the NCST sent a delegation to Harare, Zimbabwe, to participate in a regional workshop on biosafety as part of the capacity building initiative (ABSF 2003; Thitai, 2000). The move towards the development of Biosafety Laws got a major boost in November 1996 when the Convention on Biological Diversity (CBD) created a fund under the United Nations Environment Programme-Global Environment Facility (UNEP/GEF) for biosafety capacity building in developing countries. The fund traces back to 1992, during the UN Conference on Environment and Development (UNCED), which resulted in the development of the document known as Agenda 21. Chapter 16 of this agenda was specifically dedicated to biotechnology. It recognizes the potential of modern biotechnology to offer solutions to world food crises, health challenges and the protection of the environment. The GEF was hence mandated to facilitate the development and implementation of National Biosafety Frameworks (NBFs) in over 100 developing countries. It started work with demonstration projects in 12 countries, and Kenya was one of these.

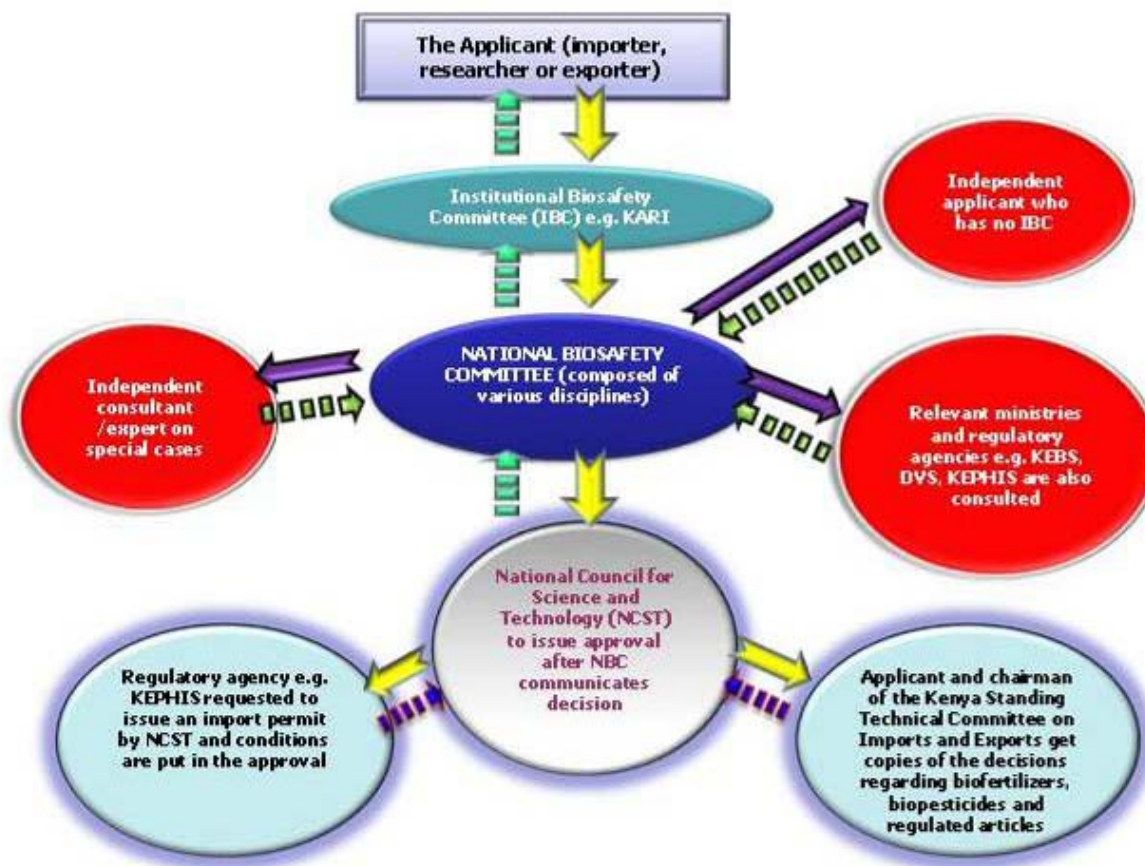
Through the UNEP/GEF pilot projects, participating African countries were linked with international experts on biosafety and biotechnology, who conducted a series of capacity-building workshops on development and implementation of NBFs. The first was a course on biosafety covering issues such as risk assessment and decision-making procedures. Participants with various academic and professional backgrounds and interests, among them scientists, researchers, religious leaders, policy-makers, farmers, lawyers, journalists and regulators were trained. As mandated by the provisions of the Protocol on Biosafety (hereinafter referred to as the Protocol), the workshops were meant to strengthen capacities of the beneficiary nations to successfully meet their obligations as Parties to the Protocol by developing and implementing biosafety frameworks to guide application of modern biotechnology and to localize the protocol (Paarlberg, 2008).

Thitai (2001) also provides an account of the early stages of the long process. To begin with, the NCST led the review and consolidation of all existing legislation related to biotechnology into a report. The report was then subjected to a thorough review by national and international experts. The edited version, dubbed *The Regulations and Guidelines for Biosafety and Biotechnology in Kenya*, was finally unveiled





by the Council in 1998. This paved the way for establishment of the National Biosafety Committee (NBC) and provided guidelines for creation of Institutional Biosafety Committees (IBC) in institutions that were conducting biotechnology research and development.



Approval process for handling of applications/requests by the NBC

Apart from depending on its own expertise, Kenya benefited immensely from the international community. The launch of phase two of the GEF project and the continued support of the World Bank and The Netherlands' Directorate-General for International Cooperation helped to speed up the process of drafting the initial guidelines and provided major impetus to the Bill drafting process (Thitai, 2000). The two institutions and the government facilitated exchange of experiences regionally and internationally through participation in workshops and international biotechnology and biosafety conferences, seminars and symposiums. A strong pool of local experts with keen interest in biotechnology and the formation of strong partnerships between the private and public sectors was developed from those exposure visits and one-on-one interactions.

These experts later took charge of the drafting and reviewing of the NBF in 1999. The drafting process was tedious, rigorous and nerve-racking as key interest groups got involved. Bridging the gap between scientists and non-scientists was required to overcome barriers of perception and building consensus among all stakeholders.

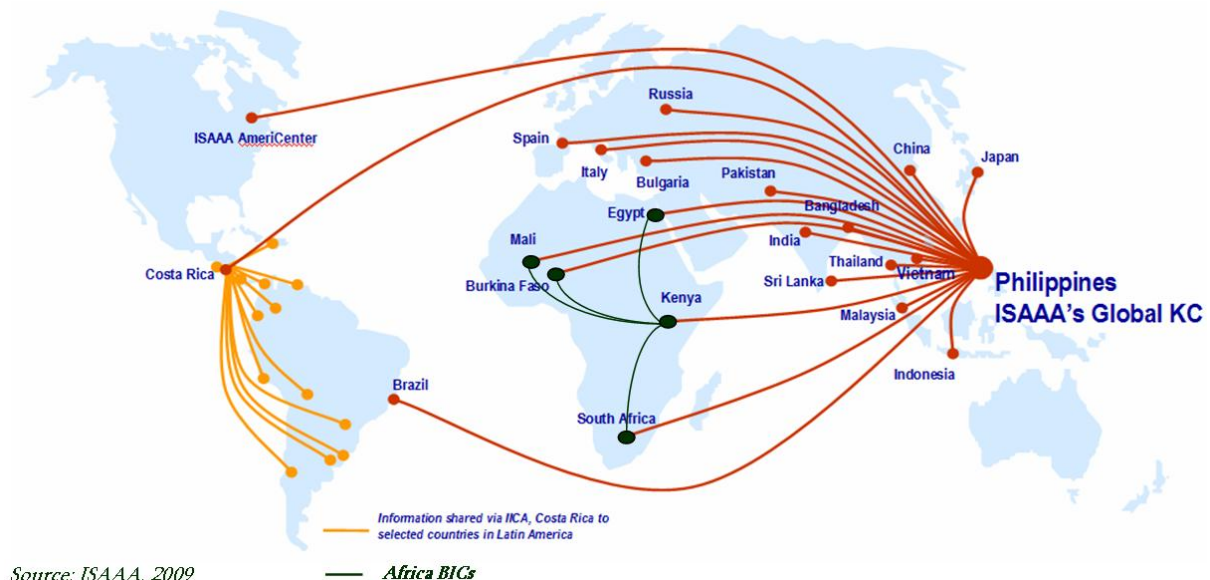






One year later, the African Biotechnology Stakeholders Forum (ABSF) was formed in 2000 to spearhead creation of public awareness on modern biotechnology and biosafety issues. Dr John Wafula, now deceased, led the nascent forum. He soon teamed up with ISAAA *AfriCenter* to increase the profile of international trends in the country’s public policy discourses as well as other African countries.

The ABSF, which was hosted by KARI, became the hub of biotechnology awareness creation and knowledge-sharing in the country by hosting the Kenya Biotechnology Information Center (KBIC). KBIC was later renamed the Eastern and Central Africa Biotechnology Information Center (ECABIC) to reflect its regional mandate. It was part of the global network of biotechnology information centers (BICs) ran by ISAAA Global Knowledge Center (KC) on crop biotechnology based in the Philippines. The BICs ([www.isaaa.org/kc](http://www.isaaa.org/kc)), which are at the heart of the KC respond to specific information needs at country level, promote and advance a broader public understanding of crop biotechnology and monitor the local agri-biotech environment. As at 2008, there were 23 fully operational national/regional nodes located in three continents. In Africa, the ECABIC covers sub-Saharan Africa, while the Egypt Biotechnology Information Center (EBIC) reaches out to the Arab-speaking North Africa and the Middle East. Another ISAAA-led BIC in Mali caters for the French-speaking Western Africa sub-region with Southern Africa being served through a formal institutional arrangement with AfricaBio.



ISAAA Knowledge Sharing Network of Biotechnology Information Centers (BICs)

The second phase of the UNEP/GEF program saw a strong push to have a comprehensive Biosafety Law by like-minded institutions, which had formed themselves into a close-knit network of biotechnology stakeholders under ABSF. To that end, a series of consultative workshops were held to draft the biotechnology policy, the Biosafety Bill, national biotechnology strategy and to develop procedures for handling GMOs applications.





### *The Draft Biosafety Bill*

The year 2001 marked the start of the actual drafting process, a highly interactive affair that involved a wide range of stakeholders. It was a transparent and participatory process, judging by the number and diversity of institutions and individuals who were involved. For instance, the initial workshops were attended by representatives from government, the Kenya National Assembly, universities, civil society organizations, media, industry, religious groups, farmer associations, development partners, UN agencies, research institutes, regulatory authorities and regional bodies such as ASARECA, BioEARN and the East African Community (ABSF, 2003).

A team of experts comprising lawyers, regulators and scientists were put together to work with the State Law Office and the NCST to produce a draft for discussions. Rachel Shibalira was identified to serve as the main drafter. As a lawyer, she however had to first go through a series of training and exposure sessions on biotechnology and biosafety to grasp the real issues. Says Rachel: “One of the training sessions I attended was a crash course on biosafety, including risk assessment and decision-making procedures. I benefited immensely from this training and considering my background, it felt like groping in the dark as it was all very scientific.” The workshop was a melting pot in that it drew participants from very diverse disciplines including scientists, researchers, policymakers, farmers, environmental groups and members of faith-based institutions.

A range of issues that needed to be addressed before the drafting could commence were identified at this workshop. Most importantly, there was a big gap between the scientists and non-scientists. Not only did the scientists speak in highly technical language that few could understand, they were unwilling to share the information with the public. There were also divergent views held by the various stakeholders that risked scuttling the law-making process. It was therefore found absolutely necessary to embrace consensus building mechanisms in the whole process.

The raging polarized debate on the merits and demerits of modern biotechnology, especially emanating from Europe, caught the attention of a faction of interest stakeholders, a situation that infiltrated into the law-making process. On the one hand were groups who were totally opposed to the Bill, arguing that it would pave way for introduction of GMOs into the country. On the other hand were pro-biotechnology stakeholders who felt that Kenya had an obligation under international law to enact a Biosafety Law to guide safe and responsible application of biotechnology.

The other issue was whether it was possible to have the Bill enacted into law without the policy. One group opined that it would not be procedural to have the Bill before the policy while the other was of the view that drafting the policy first would be a waste of precious time. A compromise was eventually reached to draft both at the







same time. Another controversy was sparked by a group that saw no need of drafting another piece of legislation just for biotechnology. To them, an amendment of the existing legislation to incorporate biosafety issues would suffice. At the end, it was left to the legal experts' advice, which was that a thorough review of the existing 77 scattered pieces of legislation with a bearing on agriculture be done immediately to identify the gaps. The review convinced the drafting team and the stakeholders of the necessity of a new stand-alone Biosafety Law.

There was also contention over which government department should be made responsible for regulating biotechnology. There was a resultant struggle between several departments over which was best suited to host the law, and spearhead the process, despite the fact that NCST had already taken charge. The dispute was finally settled during a retreat in Mombasa that brought together senior representatives of the various statutory regulatory authorities

The team of experts came up with a draft Bill in July 2002, which was widely circulated among key stakeholders for comments and inputs. This was followed by a formal meeting in March 2003, where a detailed review of the draft was conducted to produce a fine-tuned version. In April 2003, a week-long stakeholders' meeting was convened to discuss this refined draft. By August 2003, the draft was ready to be presented to Parliament upon approval by Cabinet. This would however have to wait until gaps that had been identified during stakeholder consultations could be filled and this was to be done before the ministers had had a chance to look at it.

As fate would have it, the NARC government suffered internal wrangles for most of 2004. A faction led by then Roads minister Raila Odinga threatened to pull out on the basis that a pre-election agreement between him and President Kibaki had not been adhered to. The resultant tension seriously affected government's operations and the Bill was in limbo for a full year.

Politics dominated in most public debates throughout 2004 and the biotech scene was not spared. There emerged a controversy over the country's level of preparedness and capacity to handle modern biotechnology. This almost scuttled the entire process. At this point, both the government and other players saw the need for an elaborate outreach strategy aimed at safeguarding the legislative process. It also emerged that most MPs had very little knowledge on the technology to enable informed debate even if Cabinet approved the Bill for Parliament's scrutiny.

The NCST teamed with ABSF, ISAAA *AfriCenter* through the Kenya Biotechnology Information Centre and KARI to reach out to various key target audiences. In May 2004, for example, a two-day study tour was organized for three Parliamentary committees; Health, Agriculture and that on Education, Science and Technology. About 20 MPs participated in an exposure visit to various agricultural research laboratories, KARI Biotechnology Center and contained field trial sites to familiarize themselves with the status of biotechnology in the country and the local capacities thereof. This was followed by a series of other outreach activities and one-on-one





interactions between the experts and the legislators. A lot of information was shared during those interactions, while views from stakeholders were collected and collated. These views greatly enriched the draft Bill. Information materials were also produced and widely disseminated through the mass media, scientific exhibitions, farmer field schools, conferences, workshops and electronically. These efforts were later complemented by other institutions such as the African Agricultural Technology Foundation (AATF), Africa Harvest, public Universities and the Ministry of Agriculture through a new outfit, the Biosafety consortium, which consolidated the efforts of all the groups that had a stake in the Bill.

It was decided in 2005 that a team of legal experts and scientists be assembled to review and finalize the Bill. A number of developed countries also provided technical and financial support, which was important in strengthening the draft and having the necessary resources to do that. Useful comments were given and experiences shared from countries that had gone through similar processes such as South Africa, India, Australia, The Philippines and Canada. This greatly improved the scientific, legal and regulatory qualities of the draft Bill which was now ready for presentation to Cabinet.





## CHAPTER THREE

### *Cabinet Approval of the Draft Biosafety Bill*

It is a requirement in Kenya that before a Bill is tabled in Parliament, a memorandum is prepared and presented to the Cabinet for discussion and approval. The process of having the Biosafety Bill approved would have possibly taken much longer had the stakeholders under the umbrella of the ABSF not devised innovative strategies to reach out to the Cabinet. They started by cultivating allies from various ministries, the Cabinet itself, the media and the State Law Office, also known as the Attorney General's (AG) Chambers. The timely explanation of the law-making process by attorneys from the AG's Chambers greatly helped to quicken the process because the stakeholders acquired a better understanding of the procedure. It was explained that once the draft Bill was ready, it was to be presented to the minister for Education. That made it easy for the team to start making early contacts with the then minister, Kalonzo Musyoka, to brief him on the importance of biotechnology and the need for a law to govern its application in the country. This was important as it would make it easier for the minister to explain to his colleagues the importance of the Bill and to defend it should the need arise. A series of face-to-face meetings were held with top officials of the then unified ministry of Education, among these the Permanent Secretary, the minister and assistant ministers. They were also involved in a series of biosafety and biotechnology capacity building workshops, conferences and seminars.

Although the first draft was ready by the end of 2002, it could not progress any farther because Parliament was prorogued to allow the country to go into the General Election in December. A new government led by the newly-founded National Alliance Rainbow Coalition (NARC) swept into power in 2003 with a new agenda for change. This new government and crop of MPs had a significant impact on the Biosafety Bill process. To begin with, many of the MPs that had been sensitized were defeated at the ballot. This was a setback to the pro-biotech stakeholders as they would have to acquaint themselves with the new MPs in order to cultivate new biotech champions among them before deciding on how to go about sensitizing them.

A new Parliament also meant it would be some time before the Parliamentary Select Committees were constituted, implying no substantive business could take place in the House until after May 2003. The formation of a new Cabinet meant that the Education minister would most likely be replaced and true to it, it happened. The stakeholders were once again forced to wait for the new one, Prof. George Saitoti, to settle down in his docket before they could approach him with the Biosafety Bill. Both the new minister and his Permanent Secretary needed to be fully briefed about the Bill before they could do anything on it. Even so, it was clear that the ministry's top priority was the implementation of free primary education, which was one of the promises that had featured prominently in Mwai Kibaki's campaign for the presidency.







The new President, too, had to be brought on board regarding biosafety and biotechnology matters before the Bill could be put on the agenda of a Cabinet meeting that he was to chair. The ball was again in the stakeholder's court to ensure that all who-was-who in the new order had an idea of what biotechnology was and why a law was needed to govern its utilization. The year 2004 was marked by the clamor for a new constitution. Hardly anything else could get listed in the Parliamentary calendar than the impending referendum issues and the new constitution. Getting MPs together for sensitization activities became very challenging as the change-the-constitution pressure took center stage. The NARC government was to suffer a major fall-out at the famous "Banana" or "Orange" referendum that saw the proposed constitution supported by the President rejected by Kenyans in November 2005. A landslide win went to the then Roads minister Raila Odinga, who led the camp that was popularly referred to as the "Orange Movement" who were against the new laws. The government was thrown into confusion and a wave of anxiety and panic engulfed the country. The subsequent reshuffle of the Cabinet made matters even more complicated as it blew away hopes that the Bill would be presented to yet another new team of ministers.

The single silver lining from this political cloud was the creation of a ministry of Science and Technology and the appointment of Dr Noah Wekesa, a scientist, to head it, much to the excitement of the pro-biotechnology stakeholders. Prof. Norah Olembo, renowned scientist and then Executive Director of ABSF was tasked by its members to immediately engage the minister. On his part, Dr Wekesa was quick to capture the urgency from local scientists and promised to give the Bill high priority. With this encouragement from a seasoned legislator, stakeholders were firmly back at the drawing board to strategize on how to jump-start the now familiar process of outreach, education and communication. The whole of 2005 was spent reaching out to different stakeholders and collecting their views and inputs into the already drafted National Biotechnology Development Policy and Biosafety Bill. After several consultations, the minister finally tabled the refined drafts to Cabinet and they were approved in September 2006 after intense discussion. Word on this spread fast and an aura of excitement was felt from far and wide, especially from the ABSF members and partners, save for a few dissenting voices from a consortium of civil society groups under the auspices of an outfit calling itself the Kenya GMO Concern (KEGCO).

The group held meetings and used the media to discredit the Bill, arguing that it was hurriedly drafted and inadequate to protect against multinationals, who they claimed wanted to dump GMOs in the country. In August 2007, the group held a huge demonstration in Nairobi against both the policy and the Bill, with participants drawn from Uganda, Rwanda, Zambia, Ethiopia and Madagascar. They urged the government to postpone the debate on the Bill until after the impending December 2007 General Election. This however did not deter the scientist-cum-Minister Noah Wekesa from tabling the Bill for debate.







## CHAPTER FOUR

### *Debating the Biosafety Bill 2007*

The approval of the Biosafety Bill by Cabinet paved the way for the Ministry of Science and Technology to forward it to the Attorney-General for publishing in the Kenya Gazette. This would also give the public 21 days to respond to it as stipulated in the Constitution. This however did not take place immediately due to a huge backlog of other Bills that were awaiting publishing. At the time, attempts to introduce minimum reforms ahead of the impending elections meant politically-inclined Bills took priority. The Biosafety one would then stay on the back burner for some time. The situation was made worse by a shortage of staff at the Attorney General's Office. It actually took one year after Cabinet's approval before the Attorney General's office finally published the Bill in the Kenya Gazette, in 2007. The process of debating the Bill both inside and outside Parliament was marked by all manner of intrigues and suspense as captured in the section that follows.

### *Parliamentary Discussions*

After building considerable consensus among MPs, the minister for Science and Technology felt confident to table the Bill in Parliament. For a Bill to become law, it has to go through four key stages in Parliament; First Reading, Second Reading, Committee stage and Third Reading before it is sent to the President for assent (Shibalira, 2007).

The Bill went through the formality of the First Reading without any hitch. On October 2, 2007, when Dr Wekesa rose to present it for the Second Reading, the MPs were clearly prepared for the Bill and there was a robust debate. The minister set off the debate by outlining the objectives of the Bill as:

1. to facilitate responsible research into, and minimize the risks that may be posed by, genetically modified organisms;
2. to ensure an adequate level of protection for the safe transfer, handling and use of genetically modified organisms that may have an adverse effect on the health of the people and the environment; and
3. to establish a transparent, science-based and predictable process for reviewing and making decisions on the transfer, handling and use of genetically modified organisms and related activities.

He underscored the importance of the Bill, saying it was meant to put Kenya at par with the rest of progressive countries that were already benefiting from the technology. The minister said the Biosafety Law was also necessary to domesticate the provisions of the Cartagena Protocol on Biosafety. He emphasized that the law would protect Kenyans against any unintended harmful effects of biotechnology.

Dr Wekesa said the proposed law was designed to support the country's Vision 2030, which identifies agriculture as the pillar of economic development. He urged members to support the Bill before calling on J.M. Mutinda to second it, which he gladly did (Hansard, October 2, 2007:63).





While seconding the motion, Mr. Mutinda informed the House that he was among the team that participated in several ISAAA *AfriCenter*-led capacity-building activities for MPs both inside and outside the country (Hansard, October 2, 2007:64). He said the team was shocked to discover that whereas over 22 countries worldwide, including South Africa, were already growing GM crops, Kenya did not even have a Biosafety Law. Mr. Mutinda urged the House to pass the Bill into law so that products such as Bt Maize that were already being developed by KARI could be commercialized to spare Kenya her perennial food shortages.



MPs with other stakeholders on a study tour to biotech crops fields, South Africa

Another legislator, Zaddock Syongo, called for the Bill's passing to allow the country use biotechnology to boost agricultural production in arid and semi-arid areas as well as the high potential ones (Hansard, October 4 (P), 2007). On his part, the MP for Muhoroni, Prof Ayiecho Olweny, concurred with Mr. Syongo that there was nothing to fear about biotechnology since mankind had been practicing it from time immemorial. He reminded the House that Kenya missed the Green Revolution because it was unprepared scientifically to take advantage of the available technologies.

The legislator said history would harshly judge the current legislators if they did not pass the Bill to give the local scientists a better chance of fighting some of the intractable abiotic and biotic challenges facing farming in the country. He informed the Assembly that he had eaten raw transgenic maize to prove that there was nothing to fear about the technology (Hansard October 4 (P), 2007: 25). Prof Olweny was one of the champions of the Biosafety Bill in Parliament.

Then Kabete MP Paul Muite called on his colleagues not to fear the unknown to the extent of holding the Bill hostage. He compared those opposed to the Bill to Britons' opposition to the first car when he said:







*“When the first car was manufactured, the House of Commons in England met very quickly and enacted a law. They thought that the new vehicle, which was able to move faster than a horse-drawn carriage was a very dangerous thing. So they passed a law to the effect that the vehicle must be preceded by a human being with a bell so as to warn people to get out of the way. That was because of the fear they had. They could not understand this machine.” (Hansard, October 4 (P), 2007: 41)*

The then chairman of the Education Committee, Daniel Karaba, urged the members to pass it to give Kenya its best chance of cushioning her people against hunger. He said the problems of drought, soil salinity, pests and diseases could not be solved easily through conventional breeding methods. Mr. Karaba told the House of a visit by members of his committee to South Africa to see and learn about the benefits and challenges of agricultural biotechnology. In addition, he said, the MPs had also visited various biotechnology facilities in the country and were convinced Kenya had the capacity and needed the law to move on-going research activities into the field.



Hon. Sammy Weya with farmers in a Bt cotton field, South Africa

In supporting the Bill, legislator Francis Kagwima argued that instead of talking about banning GMOs from the country, the aim should now be to strengthen regulatory agencies such as the Kenya Bureau of Standards to enable them effectively govern the application of biotechnology. He called on the Finance Minister to allocate enough funds in the next budget for operationalizing the Act after it was passed, as he hoped it would (Hansard, October 4 (P), 2007). Webuye MP Alfred Sambu added his voice by urging the members to support the Bill. He gave the example of *Ruiru 11* coffee variety that is resistant to Coffee Berry Disease, which was developed by Kenyan scientists but patented elsewhere because of the country’s lack of strong regulatory and patent structures.





Although the Bill went through the Second Reading successfully with overwhelming support by the MPs, it did not become law on that very day. The time allocated for debate lapsed before the minister could end his response and move the Bill for the Third Reading so that the legislators could vote to pass or reject it. On noticing that the minister's time was over, most MPs left the chamber, causing Orwa Ojode to immediately draw the attention of the Temporary Deputy Speaker to a lack of quorum in the House.

The temporary Deputy Speaker ordered for the quorum bell to be rung for the required eight minutes to allow MPs come back to the chambers. A quorum could however not be raised and debate was inevitably adjourned until the House Business Committee could decide on when the Bill would next be discussed. (Hansard, October 4 (P), 2007:47). Although the progress thus far had been remarkable, it had again fallen victim to time and circumstance and the President prorogued Parliament to give way for the December 2007 General Election. This meant that the Bill had to be republished to await reintroduction in Parliament as the Biosafety Bill 2008.

#### *The Biosafety Bill 2008*

January and February 2008 were very difficult months for Kenya. There was widespread violence after the results of the presidential election were declared on December 30 and it has come to be described as Kenya's darkest time. The mediation process to end the conflict was very tense and full of suspense (Mwagiru 2008). Kenyans were unsure what the future held in store for them and there was a collective sigh of relief when former UN Secretary General Koffi Annan declared on the steps of Harambee House on February 28, 2008, that the leaders of the two major parties - Mwai Kibaki and Raila Odinga - had agreed to form a coalition government.

Despite the renewed hope, the biotechnology stakeholders who had now reconstituted themselves into a grouping dubbed the Biosafety Consortium were faced with the same problem they had in 2003; a new Parliament, new Cabinet and totally unfamiliar system of government. Then there were new ministers for the two key ministries with a bearing on the Bill - Higher Education, Science and Technology, Dr Sally Kosgey, and William Ruto in Agriculture. All these, coupled with the effects of the post-election violence, meant that chances of the Bill passing that year were extremely slim. It would also be quite ambitious to restart the debate.

There were more pressing matters to tackle and the coalition government would take time to find its footing, composed as it were of men and women who had for long been on opposite sides of a seemingly vast ideological divide. Nevertheless, the momentum to have the Bill reintroduced in Parliament picked up fast, thanks to the resilience of the consortium members and the strong support from the ministers. No sooner had the country stabilized from the aftermath of political chaos, than the Biosafety consortium members met under the auspices of an initiative that was led by the Ministry of Agriculture - the National Biotechnology Awareness Creation







Strategy (BioAWARE-Kenya) to lay out plans for catalyzing reintroduction of the Bill in Parliament.

Dr Sally Kosgei and William Ruto were briefed fully about the importance of the pending Bill and they soon became very vocal in support of it. While opening a joint COMESA/ASARECA and ISAAA *AfriCenter* regional meeting under the RABESA project on regional harmonization of biotechnology policies and biosafety regulatory frameworks in Nairobi in 2008, the minister for Agriculture declared his support for the Bill emphasizing the need for evidence-based debate rather than perpetuating propaganda and innuendo. RABESA – the Regional Approach to Biotechnology and Biosafety Policies in Eastern and Southern Africa is a COMESA-led initiative. It was launched by the COMESA Ministers of Agriculture in recognition of the need for mutually acceptable regional arrangements that would facilitate trade in and commercial planting of GMOs and smooth access to GM food aid at times of emergency while carefully managing the potential risks.



Mr. Ruto’s supportive statement of the Biosafety Bill rekindled public debate on GMOs and immediately put the pending Bill into sharp focus. Both pro- and anti-biotechnology groups seized on the opportunity created by national and international media publicity accorded to the minister’s speech to re-institute activities in support and opposition to the Bill respectively.

There was a flurry of capacity-building and awareness creation activities targeting Members of Parliament. On September 16, 2008, 10 MPs, Parliamentary staff and representatives from ISAAA *AfriCenter*, NCST, ABSF, Program for Biosafety Systems (PBS) and the Seed Trade Association of Kenya (STAK) held a consultative meeting to discuss way forward with regard to enactment of the Bill in view of the rekindled polarized public debates. This meeting was also informed by the fact that about 80 per cent of the MPs who had been sensitized on the need for the Bill had lost their Parliamentary seats.





During the meeting, the MPs were briefed about the lapsing of the Biosafety Bill 2007. The Biosafety consortium members made a strong case in support of the Bill and informed the legislators that the enactment of the Biosafety Bill 2008 into law was crucial in facilitating acquisition of relevant technologies to address the food insecurity and climatic challenges that were facing the country. They told the legislators that Kenya was bound to enact a Biosafety Law by its ratification of the Cartagena Protocol. They reiterated that further delays in enacting the Biosafety Law would have the country lagging farther behind other countries like South Africa, India, China and Burkina Faso, which had commercialized biotech crops. The legislators were implored to ignore groups traipsing across the country crusading against modern biotechnology and the Biosafety Bill but instead make their decisions based on science and evidence, rather than propaganda.

The organizers seized this opportunity to share materials highlighting key issues concerning the Bill in particular and biotechnology in general. Of particular interest to MPs was a policy brief that had summarized the Bill and identified its relevance towards implementation of policy that the government had approved in 2006. The brief titled: *Applying Biotechnology in a Safe and Responsible Manner: Justification for the Biosafety Law in Kenya* and an assortment of Message Maps (see sample below) and fact sheets on agricultural biotechnology were heavily quoted in the subsequent Parliamentary debates.

A fact sheet on justification and a message map on research capacity for modern biotechnology

The new chairman of the Education, Research, Science and Technology Committee noted that it would be crucial to include members from other committees when the Bill goes into the committee stage for substantial discussion after the First Reading. He noted that it was important for the MPs to understand both the policy and the Bill. As a way of appreciating the need and importance of the Bill, the chairman said it would be necessary and important for the consortium to organize a study tour for MPs to various biotechnology and biosafety facilities in the country and a fact-finding mission to other countries that had commercialized GMOs to learn from their experiences. He particularly impressed upon the NCST through Mr Harrison







Macharia to take the lead in organizing the tour, this being a government Bill and to avoid any misinterpretation of the study tour as a lobbying activity.

The then chairman of the Parliamentary Committee on Agriculture, Lands and Natural Resources, Franklin Bett, was not a very enthusiastic supporter of modern biotechnology. But having listened keenly to the presentations and reviewed the credible literature provided, Mr Bett assured the participants of his committee's support and readiness to provide necessary inputs to improve the Bill at the Committee stage. He urged the consortium members to cast their nets wider in terms of creating awareness on the technology and ensuring public participation in the process. The other MPs in attendance were David Njuguna Mwaura, Muturi Mwangi, Vice Chairman- Education, Research, Science and Technology Committee Alfred Bwire Odhiambo, members of the Education, Research, Science and Technology Committee, members of the Agriculture, Lands and Natural Resources Committee. Others were Silas Muriuki Ruteere, Benjamin Washiali, Benson Mbai, Evans Akula and John Mututho.

In response to the recommendations made at the breakfast meeting discussed above, the NCST, KARI and ISAAA *AfriCenter* and PBS organized a study tour and workshop on the Biosafety Bill 2008 for the MPs in October 2008. The main objective of the tour was to expose the MPs to the various institutional, technical and human capacities available in the country for responsible and safe research, development and application of modern agricultural biotechnologies.



Members of Parliament at the KARI biotechnology centre

It also sought to contribute towards enhancing understanding and appreciation of modern biotechnology and the need to speed up enactment of biosafety legislation.

The tour started with a visit to KARI Biotechnology Centre, where the MPs had an opportunity to see the Level II Biosafety Greenhouse and to get updates on the status of biotech research and development in the country. While at KARI Biotech Center, the Permanent Secretary of the ministry of Higher Education, Science and Technology, in a speech read by his representative, explained that the tour was





organized to give the legislators an opportunity to interact with leading local experts so that they could debate the Biosafety Bill 2008 from an informed point of view.

The MPs then visited the Tree Biotechnology Program-Trust at Karura Forest to see how biotechnology was being applied to produce clonal tree seedlings. Next, they visited the Institute for Biotechnology Research at Jomo Kenyatta University of Agriculture and Technology to get first hand information on how tissue culture technology was being applied to produce disease free and high-yielding bananas. In Makuyu area of Central Kenya, the entourage had a chance to talk to farmers who were already benefiting from the superior tissue culture banana varieties. The legislators finished with a tour of the Bt Cotton trials site at KARI Mwea station, before traveling to Nyeri Town for a workshop the following day. The highlight of the workshop was a clause- by-clause presentation and discussion of the Bill led by then KARI's legal officer, Ms Betty Kiplagat.



Ms. Betty Kiplagat gives her presentation during the tour

Although only a handful of MPs participated in the tour, it had mixed outcomes. Speaking on behalf of the MPs, Silas Ruteere, an ardent opponent of the Bill, noted that the tour and workshop were very educative as it exposed them to the good work scientists were doing for Kenyans. Even so, he recommended that the Biosafety Bill 2008 be amended to take on board the concerns of all stakeholders. Mr. Ruteere called for two formal meetings in Nairobi within the precincts of Parliament to discuss further pertinent issues on the Biosafety Bill. He took the opportunity to talk about an alternative Bill he and the groups that were opposing the government's Bill had drafted.







Mr. Ruteere reacts to the presentation on the Biosafety Bill.

The alternative Bill caused some alarm given how far back it would take the process. However, it eventually turned out to be a blessing in disguise as their threat to introduce it in Parliament acted as a catalyst for the government to bring back the already revised and published Biosafety Bill 2008. The subsequent demand to have the two Bills merged did not bear fruit because the government side was fully prepared to defend its Bill and marshaled enough numbers to defend it on the floor of the House.



Members' of parliament and experts who went for the tour

### *Parliamentary Discussions on the Biosafety Bill 2008*

Despite the raging global debate on GMOs and widespread speculation that the Biosafety Bill 2008 would attract heated debate and formidable opposition in Parliament that was not to be. After studying the government Bill, reading authoritative literature on biotechnology and traveling locally and abroad to familiarize themselves with the technology, the MPs were convinced that modern biotechnology was good for Kenya, contrary to what groups opposed to the technology wanted them to believe.





Hence, when the Bill came up for debate, the MPs overwhelmingly supported it. Much to the chagrin of the anti-biotech groups, most MPs accused those opposed to the Bill of spreading falsehoods on the safety of biotechnology and genetic engineering out of ignorance and unfounded fears. They further told them that they were engaged in futile opposition to modern science based on foreign influence and that Kenya could not afford to lag behind the rest of the world with regard to adoption of modern biotechnology (Hansard, 2008).

It was the minister for Higher Education, Science and Technology who set the tempo for the House when she made a very strong case for the Bill. Her Assistant Minister, Dr Kilemi Mwiria, built up the case further when he said:

*“This is a Bill on safety to safeguard Kenyans against the unintended use of genetically modified organisms. In other words, it is to guard against the very same fears that a lot of us are expressing with regard to issues of biotechnology. It is important for us to appreciate that biotechnology is meant to assist us to do more using less resources. We cannot expand our land holding. The part of the country that is arable is slightly less than one third. Given those limitations, it is important to find the extent to which we can intensify use of technology to expand the resources that are available.” (Hansard, December 2, 2008 (P):26)*

As the great British orator Iain Macleod once remarked, “It is the first two minutes of a speech that decide one’s fate. One either grasps the House and commands it or dithers, and loses it, and once the House is lost it can rarely be brought to heel” (Archer 1984). The minister and her assistant grasped the House through powerful, logical and factual arguments and commanded it to the end. During the Second Reading of the Bill on December 2, 2008, Mr. Ruto, the Agriculture minister, added a powerful voice in support of the Bill. He informed the House that the Bill had been developed and reviewed by Kenyan experts.

He called on the MPs to support the Bill because his ministry needed to utilize biotechnology to boost food production in the country. The minister reminded the House that millions of Kenyans were dependent on food aid hence the country needed to use all possible means to become food secure.

*“Eighteen percent of the country is arable land under rain-fed agriculture. We can only expand so much of that land and bring it under agricultural activities. For us to develop varieties that are drought resistant, use less water, have a higher yield and are disease-resistant, we need this Biosafety Bill to give us the framework to engage research and science so that we can better the lives of mankind” (Hansard 2008:28-9)*

Legislator Silas Ruteere opposed the Bill, arguing that it had breached the Cartagena Protocol, which requires that the public be educated first before introducing GMOs into the country. He further argued that GMOs would harm the environment, human health and jeopardize Kenyan horticulture exports to Europe. But because he failed to adduce any evidence to back his claims, his colleagues dismissed his







opposition as hearsay. Prof Ayiecho Olweny, the assistant minister for Education, told the House that the Bill was “going to ensure that handling of Genetically Modified (GM) materials is done ethically, safely and legally”. Prof Olweny, a former university lecturer in genetics, seized the opportunity to lecture the House on the origins of modern biotechnology and its history of safety. The legislator, who was one of the few biotech champions to retain his seat in the 2007 General Election, concluded by appealing to the House to pass the Bill to help the country prosper (Hansard, December 2, 2008:34). It is notable that Prof Olweny was one of the MPs who went to South Africa to get first-hand experience on the impacts of biotechnology on farmers and the environment. The debate took a different twist when an assistant minister for Livestock Development, Aden Duale, claimed that studies in the USA, South Africa, Brazil and Mexico had proved that GMOs posed risks to human, animal and environmental health. However, he was ruled out of order for failing to adduce evidence to back his allegations (Hansard, December 2, 2008: 36-39).

The debate went on well and most MPs openly declared their support for the Bill on account of very powerful and convincing arguments. When Dr Kosgey, the mover of the Bill, finally rose to respond, it passed the Second Reading. There were the expected grumbles from a few disgruntled MPs but as is said in democracy, the minority had had their say but the majority had their way.

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PARLIAMENT

## Members support Bill on GMO food

Proposed law to enable country to reap benefits of biotechnology

By OWINO OPONDO

**G**enetically modified foods could soon become part of Kenya's national menu, if President Kibaki enacts a Bill whose debate Parliament began yesterday.

The proposed law provides for legal and scientific infrastructures to regulate modification of genetic organisms and to enable the country to reap from the benefits of biotechnology.

MPs who spoke during debate on the Biosafety Bill were

united in celebrating the economic benefits of science.

It was time, they said, the Government borrowed a leaf from South Africa and Burkina Faso, which are among Third World countries that are reaping from biotechnology and the scramble for seeds.

Describing the Bill as a piece of legislation whose time had come, the MPs poured cold water on some civil society organisations they claimed were hell-bent on discouraging legalisation and consumption of genetically modified organisms (GMOs), even at a time when the country was spending billions of shillings to import food.

**Modification of genetic organisms urgently required legal regime in which to operate**

Initiating debate on the Bill on Tuesday, Science and Technology minister Noah Waleka said modification of genetic organisms and products urgently required a legal regime within which to operate.

MPs heard that Kenya needed to pass the Biosafety Bill to domesticate the provisions of the Cartagena Protocol, to which the country is a signatory. The Bill was seconded by Kariakoo member Gideon Ndambuki (Kauu).

The Bill seeks to facilitate responsible research into, and minimise the risks of harm that may be posed by GMOs. It also aims at ensuring adequate level of protection for the safe transfer, handling and use of the organisms.

Among other things, the Bill proposes the establishment of the National Biosafety Authority to supervise GMO research and provide regulations to ward off profiteering at the expense of human lives.

The few suggested changes were quickly made and appended to the Bill. It was a race against time for the minister because it was only a few more days before the House was to be adjourned for December 2008. When the Minister rose again for the Third Reading, there was less debate as anticipated. The opposition seemed to have lost all hope of blocking the passage of the Bill. When the vote was finally called by the speaker, there was no need for the House to go into a division to decide the fate of the legislation as the “Ayes” had clearly carried the day. It was sweet victory for the Biosafety consortium members and for science, technology and innovation in Kenya.







## CHAPTER FIVE

### *Presidential Assent*

When Parliament gives its approval of a bill, it is then handed to the president for his assent, which marks its enactment into law. It is from that point referred to as an 'Act' of Parliament and goes into the Constitution.

Parliament's approval does not guarantee the president's assent and the Head of State has in the past referred bills back to the House for further debate. The celebrations would therefore have to wait until President Mwai Kibaki set his pen to paper and the proverbial "white smoke" rose from State House.

The anti-biotech groups continued lobbying, and wrote letters and articles in the local press calling on the President and the Prime Minister to return the Bill to Parliament for further deliberation. A day before Christmas of 2008 for example, the group organized a big demonstration and posted a full page advertisement appealing to the President to give them a hearing to present their concerns over the approved Bill. Such acrimony was however time-barred as the opportunity presented for inputs under the constitution had lapsed.

President Mwai Kibaki assented to the Bill two and a half months later, on 12<sup>th</sup> February 2009. The Bill was henceforth referred to as the Biosafety Act 2009. It was by sheer coincidence that on the same day, ISAAA Board Chair and Founder, Dr Clive James, was addressing a press conference in Nairobi to launch the 2008 report on the Global Status of Commercialized Biotech/GM Crops. Among the key features in the report were the two new entrants - Burkina Faso and Egypt to the ranks of countries that have successfully placed a biotech product in farmers' fields, bringing to three African countries after South Africa.

When news of the Presidential assent to the Bill broke out, a short email was sent to newsrooms and to the Biosafety consortium members and their supporters, who rejoiced in delight after holding their breath for close to three months. The journey that had begun almost 10 years past finally ended and the media was on hand at the ISAAA event to receive the news on behalf of their audiences. The enactment of the Biosafety Bill 2009 marked an important milestone in the quest for safe and responsible adoption of modern agricultural biotechnology in Eastern and Central Africa. With the stroke of a pen, the President untied the hands of Kenyan scientists to apply biotechnology to help alleviate some of the intractable agricultural, environmental, industrial and medical challenges facing the country. Indeed, Kenya's development strategy, the Vision 2030, underscores the fact that science, research and technical innovation are the bedrock of modern knowledge economy (Republic of Kenya 2007).

Top scientists openly welcomed the approval of the legislation, saying the Act would now allow agricultural research institutions to speed up the process of developing and deploying transgenic crops to cushion the country against perennial famine. Researchers at KARI Biotech Center, led by its coordinator Dr Simon





Gichuki, were elated. The center has been conducting contained field trials of several transgenic crops - maize, cotton, cassava and sweet potatoes, but they were unsure whether Parliament would enact the necessary legislation to move the research into the next step - deliver the products into farmers' fields, having waited for nearly a decade.

They said with the law in place, Kenya was now free to join the ranks of the 25 countries that were already reaping the benefits of modern agricultural biotechnology. Kenya is considered among the few most advanced countries in the region in matters of research and development of genetically modified crops (Juma *et al* 2007). It is hoped that eventual commercialization of ongoing biotech crops under confined trials in Kenya would give the required impetus to neighboring countries. It would also mean that all sub-regions of Africa would have a biotech crop to showcase to their neighbors and provide the necessary confidence as models for success. South Africa in Southern, Burkina Faso in Western and Egypt in Northern Africa have already commercialized GM crops (James 2008). It is now up to the ministry of Higher Education, Science and Technology to move with speed to ensure the Act and the Policy are fully operationalized by drafting of the implementation schedules and regulations as stipulated.





## CHAPTER SIX

### *Opposition to the Biosafety Bill*

#### *Opposition outside Parliament*

As already alluded to in the previous chapters, the process of enacting the Biosafety Act 2009 was an uphill task. Even at the drafting stage, the chief drafter - Rachel Shibalira from the Attorney General's Chambers had this to say "Drafting the Biosafety bill was one of the most tedious and nerve-racking, but worthy, experiences any drafter could wish for". Whereas there were pockets of resistance by various groups, it was not until late 2004 that civil society organizations under the auspices of a new outfit, the Kenya GMO Concern Group (KEGCO) launched a spirited campaign against the Bill that was still at the very initial drafting stage.

The threat to actually derail the Bill became more apparent in mid 2004 when the group hired a lawyer to critically analyze the draft Bill with a view to undermining its technical competence. The report was published in the media and widely publicized by the group of 12 KEGCO members that included Action Aid International Kenya, Bridge Africa, Ecoterra, Greenbelt Movement, INADES, Intermediate Technology Development Group (ITDG), International Consumer Organization, Kenya Small Scale Farmers Forum (KESSFF) and Participatory Ecological Land-Use Management (PELUM) among others (KEGCO, 2004). It later emerged from a documentary they produced by the title "*What You Ever Wanted To Know About GMOs*" that was aired by Citizen TV on 15<sup>th</sup> October, 2008 that the group had the blessings and financial support from leading international environmental pressure groups that promote organic farming.

DAILY NATION  
Tuesday October 14, 2008

### Shedding Light on Genetically Modified Organisms (GMOs)

What you didn't know about the food you are eating and what you need to know!

Did you know that Genetically Modified Foods are banned in the European Union and have been increasingly rejected by Americans?

Do you know why foreign multinational companies are pushing Kenyans to accept Genetically Modified Foods?

Did you know that these companies are spending hundreds of millions of shillings to finance Kenyan scientists to entice them into accepting the technology?

Do you know who will benefit once Kenyans start growing the GMO seeds?

Did you know that some of our supermarkets are already selling GMO foods?

Do you know that the Kenyan Government is pushing through parliament a Biosafety Bill 2008 that seeks to commercialise GMOs, to weaken Hon. Silas Ruteere's Bio safety and Biotechnology Bill 2008 which seeks to regulate GMOs and protect Kenyan farmers, consumers and the environment?

And why should you care anyway? Because there is ample evidence that Genetic Engineering/GMO technology has negative health effects on you, domestic animals, wildlife and the environment.

For these and many more don't miss a detailed expose on: **CITIZEN TV on Wednesday 15<sup>th</sup> October 2008 at 9.35 pm (immediately after prime time news).**

**Watch it, it will shock you!!!**

Most of the recommendations drawn from the analysis were however rejected by the government after finding them draconian and a veiled attempt to subvert biotechnology research and development in the country. Undeterred, the group continued to recruit even more members into their ranks. They pitched a recruitment







tent next to the famous “Freedom Corner” in Nairobi’s Uhuru Park. They also organized a series of seminars with farmers across the country who were mostly ignorant of the debates with the sole aim of inciting them against the Bill. With backing from Greenpeace and other European-based organizations, they bought acres of pages and volumes of air time in print and electronic media to discredit not only the Bill and the technology but also the scientists who were carrying out research into various biotechnology activities in the country.

They went further to cast aspersions on capacity of Kenya’s regulatory agencies to effectively regulate the technology. To counter these moves, the government and the biosafety consortium members organized educational activities including study tours to showcase the country’s administrative, technical, human, scientific and regulatory capacities to safely and responsibly deploy biotechnology. The result was a protracted press war, where millions of shillings were spent, mainly by the anti-biotechnology lobby groups.

Sensing defeat, the group decided to file a petition in court against the Biosafety Bill through one of their members, Africa Nature Stream, on the grounds that GMOs would cause unacceptable risks to human health and the environment. But this legal intervention too came a cropper when the court dismissed the suit as “lacking in scientific merit and therefore superfluous.” The judge also said that the courts could not stop Parliament from deliberating on Bills already presented in the House *re*: The Biosafety Bill. (See newspaper clippings below).

## THE STANDARD

### Kenya: MPs Pass Biosafety Law Amid Protest

12 October 2007

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Nairobi — The Biosafety Bill sailed through the Second Reading in Parliament amid protests by a lobby group that filed a court case against the introduction of Genetically Modified Foods.

Debate over the Bill was concluded on Tuesday when the House was hit by a quorum hitch as Science and Technology Minister, Dr Noah Wekesa, was responding to members' contributions.

...





## DAILY NATION

### Court rejects bid to stop GMO debate

Story by JILLO KADIDA  
Publication Date: 10/12/2007

Parliament can go ahead and debate a Bill that seeks to introduce genetically modified foods in Kenya, after all.

This comes after the High Court on Thursday directed that a case challenging the introduction of Genetically Modified Organisms (GMOs) be heard on merit instead of granting orders stopping the enactment of the Biosafety Bill 2007.

Mr Justice Joseph Nyamu said it was difficult to stop Parliament from thinking and formulating law.

The ruling arose out of an application filed by a group of 13 people seeking to block the passing of the Bill, which if enacted, would make (GMOs) available for sale in Kenya.

They said the public had not been involved in debate on matters of GMOs and so the publication of the Biosafety Bill 2007 was premature.

It further denies the public critical understanding in the making of a law that would have far-reaching effects on them and future generations, they argued.

The group, through lawyer Kibe Mungai, said GMOs were a health hazard to Kenyans.

And in view of risk posed by GMOs, Mr Mungai said, the legalisation of their production, consumption and trade threatened his clients' right to life and good health as protected by Section 70 and 71 of the Constitution.

The group told the court that the right to choose the foods one eats was a personal and private matter of conscience, which is necessarily interfered with by the production of food through biotechnology.

It would be a serious mockery of Kenya's sovereignty, said the group, for the Bill to be enacted on the basis of simplistic and racially demeaning arguments that hungry people — which unfortunately every African is assumed to be — have no business breaking bones over the content of the food they eat.

The group said the GMO controversy was a legitimate matter for President Kibaki to appoint a commission of inquiry to seek consensus.

Mr Mungai further said the standing orders, which allow Parliament to pass Bills with a majority of only 30 MPs or less out of the 222 was both undemocratic and unconstitutional.

The judge said that the 13 could still go to court after the enactment of the Bill if they believe it contravenes the Constitution and have it nullified. The case is scheduled for hearing on November 15.

This did not deter the opposition, and they soon began reaching out to their kindred across the continent with claims that the Bill had excluded more pertinent transboundary biosafety issues such as pharmaceutical drugs and bio-piracy. Regardless of the entire charade, it dawned on the government that the real intention of the group was to have GMOs banned from Kenya. It was also not lost on observers that their interpretation of the Bill was deliberately misleading. A statement on the Greenpeace website, which states that the organization campaigns for sustainable agriculture by rejecting genetically engineered organisms, protecting biodiversity and encouraging socially responsible farming, had betrayed that intention. Greenpeace is an international environmental organization founded in British Columbia, Canada, in 1971 with a main focus on environmental issues. It is believed to be one of the heavily funded, wealthiest and largest membership groups in the environment movement. It has national and regional offices in 42 countries worldwide, all of which are affiliated to the Amsterdam-based Greenpeace International.

Greenpeace mainly promotes labor intensive and low productivity organic farming at the expense of modern technological developments that enhance agricultural productivity per unit area of land. Organically produced products attract a premium price mainly in the exclusive and tiny European-based markets. Only the affluent can afford them. It may be recalled that Greenpeace frantically fought the Green Revolution yet the technology revolutionised the Asian agricultural sector through increased productivity and an abundance of food. African countries missed the Green Revolution, with the subsequent evident consequences.

The demonstrations were extended to Kitale region, the area often referred to as Kenya's breadbasket for being the major maize-producing zone. There, farmers were recruited to join a protest march against GMOs and demanded that MPs reject the Biosafety Bill 2007 on the basis that it would jeopardize the livelihoods of poor farmers and consumers. They claimed Kenyans were growing too old too fast and that their children were developing strange diseases because of consuming GMOs.







The group also alleged that transgenic seed maize was being grown in Kenya illegally (See newspaper article below). The Kenya Biodiversity Coalition (KBioC), an affiliate of KEGCO, went as far as appealing to President Mwai Kibaki to halt the debate on the Bill in Parliament and commission an all inclusive public participatory process. The group complained in an open letter that the drafting process of the Bill lacked public participation. They claimed the Bill did not abide by the precautionary principles, relied on experience in other countries and had proposed a flawed regulatory structure. They said:

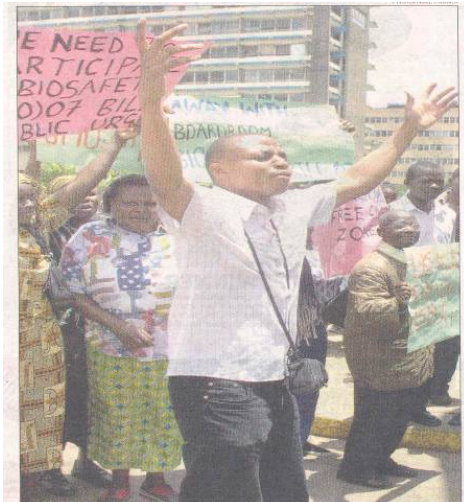
*"We the undersigned groups representing a broad range of constituencies from around the world are writing to urge you to oppose the adoption of the Biosafety Bill 2008, which is similar to the lapsed Biosafety Bill 2007," the letter dated October 7, 2008 dated stated.*

Fear mongering was used in producing and airing of over-hyped documentaries through local TV channels. The authors widely advertised the airing of those films, which ended up being mere attacks on institutions and multinational companies that were perceived to be behind the Biosafety Bill instead of providing facts to support their claims.

A host of unverifiable allegations against the Bill and the technology continued to flood both print and electronic media. At the Kitale demonstration, they alleged that the use of GMOs was threatening their farm animals, wildlife and increased the potential for contamination of their traditional crops. This was despite the fact there were no commercially grown GM crops in the country. These unsubstantiated claims were vigorously challenged by evidence provided by the scientific community led by KARI, the public universities, and KEPHIS. That prompted the anti-biotech activists to resort to discrediting the two key institutions, KARI and KEPHIS, who operate on a national mandate for research and phytosanitary issues respectively. It was therefore a well-calculated move when the activists alleged that farmers in Kitale, North Rift Valley, were unknowingly growing transgenic maize.







**DOWN WITH GMOs**  
A crowd demonstrates outside Parliament buildings yesterday against the Biosafety Bill. As the world celebrates World Food Day, biodiversity experts have urged President Kibaki not to assent to the Bill, which is still being debated by Parliament. They fear if the Bill is passed, it would make the country a dumping ground for foods and crops containing Genetically Modified Organisms.



Large volumes of newspaper space were filled with unsubstantiated claims, especially in *The EastAfrican*, *Daily Nation* and *The Sunday Nation*. Although the articles broke the principles of professional journalism of accuracy, impartiality, fairness, objectivity and balance, they were surprisingly given a lot of space by editors. When the KEPHIS director tried to respond to the allegations, he was denied the right to be heard in a commensurate way. His rejoinder was given shabby treatment by the papers and curiously placed on the letters-to-the-editor's pages. KEPHIS was forced to buy space in the newspapers to refute the claims and to give an assurance to the public that no transgenic crops had been commercialized in the country.

In response to numerous damaging and misleading propaganda in the mass media, PBS, ISAAA and BioAWARE prepared a supplement on facts about safety of modern biotechnology. The article appeared in the *Daily Nation* of October 16, 2008. A content analysis of the coverage of biotechnology by the local dailies revealed that most of the biotech articles published by the Nation Media Group newspapers were predominantly biased and that they were mostly written by a well known anti-biotech correspondent. It could be deduced therefore that his negative attitudes towards modern biotechnology may have influenced his writings. His experience as a writer on environmental issues doubtless clouded the judgment of his editors and the articles therefore enjoyed pride of place on the papers.

Other media outlets such as the *Standard*, *Kenya Times*, *People Daily* and the *Nairobi Star* (later renamed the *National Star*) showed a higher level of professionalism on the subject. Perhaps the benefits of the media trainings facilitated by the organizations aligned to the Biosafety consortium were best felt at *The Standard*, which started a column committed to biotechnology. The column ran weekly in the *BizBytes* section of *The Standard on Sunday*. They also introduced a special pullout on science and technology, which came to be known as *Panorama* and runs every Thursday.





The clipping includes several sections:
 

- FACTS ABOUT SAFETY OF MODERN BIOTECHNOLOGY**: A main headline with sub-headers like 'The safety of agricultural biotechnology products', 'What is biotechnology?', and 'Are modern biotech products safe?'. It discusses the safety of GM crops and the role of regulatory bodies like the WHO and FAO.
- Biotech crops approved worldwide**: A section with a bar chart showing the number of countries growing biotech crops globally from 1996 to 2005. The chart shows a steady increase from 6 countries in 1996 to 29 countries in 2005.
- WHAT IT TAKES TO DEVELOP A NEW BIOTECH (GM) CROP**: A diagram showing the process from laboratory to field testing, including steps like 'Genetic engineering', 'Field testing', and 'Regulatory approval'.

Despite all the spirited opposition, the Biosafety Bill 2007 only failed to become law because the Parliament was prorogued to give way for the General Election before it could vote on the Bill after completing debate. The President also kept his good counsel and relied on the local expert advice provided by KARI and the national regulatory authorities through the NCST, Kenya Plant Health Inspectorate Service (KEPHIS), and the Department of Public Health.

*Opposition in Parliament*

The opposition to the Bill was as strong in Parliament as it was outside. In 2006, then Saboti MP Davies Nakitare unsuccessfully presented a private members’ motion aimed at placing a ban on GMOs in Kenya. His motion asserted that

*“Taking into consideration that most developed countries have banned genetically modified (GM) foods due to their dangers to human beings and the environment; further aware that the Government has not put in place any policy guidelines to guard against the introduction of such foods; this House urges the Government to ban all genetically modified products in Kenya”.*

Mr. Nakitare claimed that most multinational companies were out to force Kenyans to open doors for GMOs. He also mentioned that developed countries were using Third World countries as guinea pigs. This view was also supported by then Laikipia West MP G.G Kariuki, who said the companies were merely out to boost their sales at the expense of Kenyans. When he rose to second the motion, then Subukia MP Koigi Wamwere alleged that GM foods could contribute to lower life expectancy compared to traditional foods. Without adducing any evidence to back his allegations, he went on to heap blame on GMOs for causing all sorts illnesses, including various forms of cancer.

The debate on the motion was reduced to criticizing Monsanto, a United States-based multinational agricultural biotechnology corporation. The private member’s motion was poorly informed and bore all the hallmarks of the Kenya Biodiversity







Coalition group. It was very clear that the MP had been misinformed about modern biotechnology issues and the reasons behind the Biosafety Bill.

When the group issued a press statement denouncing GMOs and voicing support for the motion, it became obvious to many informed observers that the motion was doomed to fail. The statement was based on anything but science. The materials they distributed in Parliament only helped to cement the resolve of the more discerning legislators to throw out the motion for lack of evidence. For instance, contrary to facts on the ground, Mr. Nakitare and his counterparts claimed that countries like South Africa, India, China and USA, among others, had banned GMOs. Nevertheless, these preposterous claims could have passed as facts had ISAAA AfriCenter and ABSF not provided the legislators with accurate information on the status of biotechnology globally and nationally. The motion was dismissed by MPs as speculative and full of hearsay. It also later emerged that Nakitare was an organic farmer, produce of which were exported to markets in Europe.

This divisive debate and the misinformation in the House exposed the lack of knowledge of and low exposure to biotechnology of most MPs. This prompted KARI and ISAAA AfriCenter to conduct a content analysis of the Hansard reports to identify major knowledge gaps. The analysis raised 74 questions, which were summarized into five major thematic areas: Human health concerns; Environmental safety concerns; Hype and misinformation; Trade issues; Research capacity; Policy and legal issues. Using the report, intervention strategies were designed to improve the capacity of the legislators to deliberate on the Biosafety Bill from informed perspectives. A series of workshops were conducted, where the issues were discussed and misinformation corrected mainly by local experts. One of the key outcomes of the meetings was an agreement to form a core team of MPs (champions) to whip their colleagues to support the Bill. ISAAA AfriCenter was mandated by the Biosafety Consortium members to coordinate support for the team that was led by Alfred Nderitu and Mutinda Mutiso. Targeted IEC materials and message maps were produced and distributed to the MPs and other policy makers whose opinions on the Bill mattered.

#### *The Alternative Biotechnology and Biosafety Bill 2008*

The resounding defeat of the Nakitare Motion did not deter the CSOs opposed to the biosafety legislation from drafting a Private Members' Bill to rival the government-led one. Mr. Nakitare lost his Saboti seat in the 2007 elections and his crusading role was taken over by Silas Ruteere, who won the Imenti North seat on the ticket of Mazingira-Green Party, a close ally of KBioC.

Mr. Ruteere was given the onerous task of presenting and defending the private members' Alternative Biotechnology and Biosafety Bill in Parliament. This Bill differed from the Government sponsored Bill in a variety of ways. As far as regulating GMOs and complying with Biosafety Protocol is concerned – the scope of the two Bills was very different. According to PBS, one of the Consortium members, the Government-sponsored Bill proposed to regulate GMOs produced using modern







biotechnology techniques and complied with all of Kenya's obligations under the Biosafety Protocol. It adopted the same definition for a GMO as the Biosafety Protocol and was (and is) similar in scope to what can be found in many other countries around the world (both developed and developing). Since the protocol addresses potential risks associated with transboundary movement of GMOs, this is the appropriate scope for a biosafety, regulatory system.

The alternative Bill, however, had a much broader scope in two ways. First, it had a definition of "artificially modified" that included not just organisms with genes from different species but all ways in which genes are altered that is not natural mating. Thus, this definition would include as a regulated article, virtually all commercial seeds, as many of them have been made using techniques such as chemical mutagenesis, irradiation, and other laboratory processes that are not "natural recombination." Most of these methods have been used around the world for years without any biosafety risks (to the environment or humans). Requiring biosafety licenses was therefore inefficient, a waste of resources, and would not lead to better biosafety. Second, the alternative Bill was meant to regulate "materials, products, processes and organisms" from modern biotechnology.

Thus, in addition to regulating GMOs, it also proposed regulation of products made from GMOs. If China has GM trees for example, then under the alternative bill, an importer of furniture from China made from those trees would need a biosafety license, as would an importer of paper made from those trees. Imported cotton shirts made from Bt cotton say from India would also be subjected to the same requirements. Furniture, paper or cotton shirts however, have no environmental or human health risks and cannot reproduce since they are not living organisms. Similarly, many highly processed imported food products would require biosafety licenses if they contained ingredients made from GMOs, such as high fructose corn syrup. Thus, under the alternative Bill Kenya would be issuing licenses to importers of Coca-cola, Corn flakes cereal, salad dressing with soybean oil, and so forth, none of which poses any environmental or human health risks.

Therefore, the Rutere-sponsored Bill had too broad a scope, which would result in the National Biosafety Authority (NBA) being overworked with licenses on products that do not pose risks. This would lead to an inefficient and very expensive regulatory system that would take away resources meant to regulate GMOs.

In the area of risk assessment, the Government-sponsored Bill clearly spelt out different regulatory pathways for different activities with GMOs. For example, contained use experiments are not as risky as releases into the environment and they have different requirements. On the other hand, the alternative Bill was designed to be excessively stringent and therefore exceeding minimum requirements of the Biosafety Protocol. Section 22 for example required that all "modern biotechnology materials, products, processes and organisms" should have risk assessment and management measures. This is contrary to the fact that many products of GMOs are not living and have no risk to the environment. Similarly, when making a decision,





the Government-sponsored Bill rightly addressed socio-economic considerations when a commercial product is available to farmers. The alternative Bill required the NBA to consider socio-economic issues at all stages, yet for a contained laboratory, it is too early to determine and assess potential socio-economic impacts. Thus, this provision would be used to delay research experiments for risks that would never occur if the GMO did not reach commercialization (Jaffe, 2008).

These weaknesses undermined the chances that the bill would help much. In Parliament, Mr. Ruteere's backers betrayed their ignorance of the facts about biotechnology and the fight against the Biosafety Bill fizzled out as fast as it had started.





## CHAPTER SEVEN

### *Outreach Strategies for the Biosafety Bill*

#### *Introduction*

This chapter discusses some of the outreach activities carried out to create awareness on all aspects of biotechnology with the aim of facilitating constructive debate over the Biosafety Bill. From the onset, it was clear to the pro-biotechnology stakeholders that having a functional science-based Biosafety Law enacted was not going to be easy. Global experiences, debates and lessons from countries that had enacted or tried to enact similar legislation cautioned of strong opposition to the process.

Between 2002 and 2006, several institutions – governmental, non-governmental and international- and development partners had worked towards addressing various issues of concern relating to low knowledge-levels and appreciation of modern biotechnology in the country. Key among them were ABSF, ISAAA AfriCenter, Africa Harvest, Biotechnology Trust Africa, the National Council for Science and Technology and KARI. The ultimate objective was to support the enactment of functional biosafety legislation and create an enabling policy environment.

The centrality of MPs in enacting any law needs no emphasis and this aspect was appreciated a little later into the Biosafety Bill development process. During previous interactions at the Bill drafting stage, Kenyan legislators had expressed a need for exposure visits to countries that had commercialized transgenic products (ABSF 2003). This, the legislators said, would help them contextualize better how transgenic plants looked like and give them an opportunity to get first-hand accounts of the benefits and challenges of embracing biotechnology. Consequently, a series of fact-finding missions were organized for various stakeholders, especially MPs, journalists and farmers with local scientists providing the necessary expertise.

The first of such visits was in April 2006, where seven MPs representing various Parliamentary committees joined other stakeholders for a tour of biotechnology facilities in the country. The tour included a visit to KARI Biotech Center, Tree Biotechnology Programme-Trust and Jomo Kenyatta University of Agriculture and Technology's Biotechnology institute. The climax of the tour was a visit to the Bt Cotton contained field trial site at KARI-Mwea research station.

This was a precursor to a “seeing-is-believing” educational tour to Makhatini Flats in South Africa the following month. It was envisaged that this visit would add value by putting into context the process of deploying a transgenic crop from research to farmers' field and the market. Makhatini Flats is a semi-arid area occupied mainly by small-scale farmers of African descent whose economic mainstay is cotton farming. When the South African government passed the GMO Act in 1997, the Makhatini Flats farmers became the first to grow Bt Cotton. The rapid adoption of the technology by the resource-challenged farmers due to its agronomic, environmental and economic benefits led many stakeholders from other African







countries visit the pioneer farmers to learn from their success story (ISAAA 2002).

Although the workshop was intended to concentrate on general biotechnology awareness and the visual demonstration of the benefits of the technology, issues pertaining to food security, policy and the regulation of the technology took center stage. A strong recommendation from the workshop was the need for increased interactions among researchers, regulators, legislators, farmers and the media in order to enhance their understanding of biotechnology and its relevance to national development.

The aim of the trip was to foster discussion and create awareness on modern biotechnology and also to expose the MPs to the biosafety regulatory regime in South Africa, which already had a commercial crop. The tour enabled the policy makers to discuss and share valuable information about agricultural biotechnology with South African MPs, policy-makers, regulators and farmers during the visit to Makhatini Flats Bt. Cotton Fields.



MPs, policy-makers, regulators and farmers during the visit to Makhatini Flats Bt. Cotton Fields

The MPs' visit was cut short when news broke that seven MPs had died in a plane crash while on a peace mission in Marsabit in Northern Kenya. This was a big loss to the country and also to the biotechnology stakeholders since some of the deceased MPs were very strong supporters of science and technology development. Despite this drawback, this visit was a turning point for many of the MPs and other stakeholders who voiced support for the Bill. The then chairperson of the Agriculture Committee and the head of that delegation, Julius Arunga, said what they had learnt "would enable them to have factual and evidence-based debate on the Biosafety Bill."

Among MPs in the delegation were; Prof Ayiecho Olweny, Sammy Weya, Mutiso Mutinda, Moffat Maitha, Nderitu Gachagua, Alfred Nderitu, and the Chair of Education, Science and Research Committee Daniel Karaba.





Members Parliament and experts during the Mwea trip

The MPs represented constituencies with interests in cotton, maize and cassava that were already under confined field trials in Kenya. Led by Mr. Alfred Nderitu, they became the biotechnology champions in Parliament.

So successful was the mission that when they came back, the Kenyan legislators vowed to have the Biosafety Bill passed in the shortest time possible. The MPs were very impressed and promised to work towards fast tracking the Bill through Parliament. They complained that the government was taking too long to have the necessary laws passed to facilitate commercialization of GM products. They also resolved to do everything within their powers to fast-track the process.

As a way forward, the MPs promised to share the experiences with their colleagues in order to garner more support. In October the same year, the NCST, ISAAA *AfriCenter*, ABSF and AfricaBio organized a follow-up meeting in Nairobi to provide a platform for those who participated in the first traveling workshop to share their experience with others. The objectives of the workshop were;

1. To give the MPs an opportunity to share their experiences in South Africa and interact with a wider stakeholder group
2. To expand understanding of on-going biotech Research and Development activities in the country
3. To get more insights on how best to fast-track the Biosafety Bill

The workshop was attended by MPs Alfred Nderitu, Sammy Weya, Lucas Chepkitony, Isaac Ruto, Arch-Bishop Ondiek, Jimmy Angwenyi, Ochola Ogur, Dr Julius Arunga and Sospeter Ojaamong. The legislators extensively shared their experiences on the benefits of and concerns about biotech crops as learnt from the South Africa visit.







A Member of Parliament making a contribution at the workshop

Once again, the legislators vowed to support the Bill in Parliament. They challenged biotechnology experts to work closely with Parliament and the Executive if they wanted their issues to be given top priority. Towards this end, they called on the ministries of Science and Technology and Agriculture to convene an urgent meeting with MPs to build consensus on the Bill before it could be tabled in Parliament.

They welcomed the idea of holding more consultative forums before introducing the Bill to Parliament. They pointed out that frequent interactions with farmers, researchers, the media and legislators would help to demystify modern biotechnology issues. The MPs also called on the scientists and the government to fully engage farmers in the development of biotechnology and more so, in the Biosafety Bill enactment process (ISAAA *AfriCenter* 2006). The most important outcome of the study tours was the formation of Parliamentary champions for the Bill led by Alfred Nderitu and John Mutinda, then representing constituencies with interest on cotton and maize respectively.

In addition to study tours, there were mass media outreach activities, round-table discussions, production and dissemination of information, education and communication (IEC) materials and one-on-one meetings with policy makers. These efforts however were loosely coordinated and sometimes counterproductive.

#### *Formation of the Biosafety Consortium*

The approval of the National Biotechnology Development Policy in September 2006 also saw the Biosafety Bill forwarded to Parliament for debate. At this point, the pro-biotechnology stakeholders underscored the need for a stronger, coordinated catalytic process to build a critical mass of MPs to ensure its quick enactment in view of the General Election the following year. The urgency to catalyze the law enactment process before Parliament's proroguing was important due to political priorities that were likely to shift the attention span of most of the MPs. A series of consultative meetings facilitated by ABSF and ISAAA *AfriCenter* brought together







the African Agricultural Technology Foundation (AATF), Africa Harvest, and the Center for Biotechnology and Bioinformatics (CEBIB) of the University of Nairobi, PBS, KARI, the private sector under the Seed Trade Association of Kenya (STAK), regulatory agencies under the aegis of NCST and the Ministry of Agriculture. The group noted that it would be unfortunate if Parliament prorogued before the Bill became functional given the large amounts of public resources and valuable time that had already gone into the process. There were also the products that were already undergoing confined field trials. These were: Bt maize and cotton, cassava and sweet potato, all very important food security crops. It was then that the organizations constituted themselves into one entity – the Biosafety consortium-to spearhead the outreach process.

The consortium members were a multi-disciplinary, multi-sectoral and inter-institutional mix and were later joined by several farmer associations and development partners. ISAAA *AfriCenter* was mandated to coordinate the activities of the consortium whose objectives were:

1. To enlighten legislators and high level policy makers about the newly approved Biotechnology Policy and Biosafety Bill for informed debate in Parliament.
2. To fast-track the tabling of the draft Bill in view of long-list of pending Bills, heightened political environment and uncertainty of the current Parliament to complete debate on all the Bills
3. To familiarize decision-makers with issues of managing concerns and conflicts related to commercialization of modern biotechnology
4. To garner public support for the Bill by training the mass media on accurate reporting and establishing a rapid response service to clarify issues of concern timely and factually.

The consortium adopted a variety of outreach strategies. While lawmakers were ranked highest in priority, there were also one-on-one meetings with several interest groups and opinion leaders. A stakeholder mapping was undertaken. This involved identifying key actors and assessing their knowledge, interests, needs, and the positive or negative influence they held towards biotechnology and the Biosafety Bill. Such data was crucial in informing the development and implementation of stakeholder engagement strategies that would take advantage of the positive influence to achieve the desired outcome or mitigate the negative influence that could jeopardize the Bill enactment process.

A long list of stakeholders was drawn and analyzed to determine “clusters” with similar and different levels of interest and influence over the Biosafety Bill. Appropriate strategies and approaches were then developed, with assignments allocated on who would reach out to who and how, what messages to be communicated and how the follow-up and monitoring would be done to sustain momentum. This approach finally led to more balanced and informed debates about the Bill’s attributes. The Consortium members also contributed technical and





logistical support, financial resources and media liaison. Most importantly, engaging the MPs and other senior government officials in education, sensitization and awareness campaigns about the contents of the Bill led to the highly informed debates that characterized the discussions in Parliament. While lobbying is the order of the day for any Bill to make it through in Parliament, the Consortium employed an educational approach that provided the needed information and facts to moderate the debate. Training of journalists to report factually and in an unbiased way was another wise decision while bridging the gap between the politicians, the media and scientists cemented the outreach plan as regular interactions were provided through the Consortium.

#### *The Open Forum on Agricultural Biotechnology in Africa (OFAB)*

As the consortium members engaged with the stakeholders, other initiatives that complemented the process were born. The Open Forum on Agricultural Biotechnology (OFAB) was launched in September 2006 in Nairobi as a platform for scientists and other stakeholders to exchange information and experiences on biotechnology. The Forum provided the much-needed platform not only for creating awareness on biotechnology but also for outreach on issues revolving around the Biosafety Bill to scientists, legislators, farmers, policy makers, industry and the media. OFAB offered three specific opportunities for stakeholders to understand the contents of the Bill and debate it. In April 2008, Rachel Shibalira, who had drafted the Biosafety Bill, spoke to the Forum on the process of enacting a law through Parliament. Her intervention was quite useful in making the consortium members understand what they had to do to get the Bill passed. Stakeholders had a chance to interact with her and get first-hand information on the law-making process.

In July 2007, OFAB was dedicated to a debate on the Biosafety Bill. The meeting organized by the ministries of Science and Technology and Agriculture brought together over 150 stakeholders representing the government, scientists, civil society, industry, farmer organizations, organic groups, the media, MPs, donors and regulators. The meeting started on a rather tense note.





A member of anti-GMO lobby group articulates his concerns during the debate.

While moderating the discussions, Prof. Miriam Kinyua, a lecturer at Moi University reminded the participants that the Green Revolution bypassed Kenya and that the country now had another chance through modern biotechnology to catch-up. Agriculture Secretary at the ministry Dr Wilson Songa emphasized the need for researchers to collect and share data on risk management, terming it as the main concern of stakeholders.



Agriculture Secretary, Dr Wilson Songa gives his remarks

The Permanent Secretary of the ministry of Science and Technology, outlined the objectives of the Bill and the need to enact it sooner rather than later. The PS highlighted the importance of modern biotechnology in national development as envisaged in the *National Biotechnology Development Policy 2006*. He noted that Kenya could not afford to ignore biotechnology if it hoped to realize the United Nations Millennium Development Goals (MDGs) by the year 2015 and those of the Vision 2030 for which it had committed to achieving.







A key note speech by the PS, Ministry of Science and Technology Prof. Crispus Kiamba

The then KARI Legal Officer Betty Kiplagat took the participants through the Bill clause-by-clause; article-by-article (Otadoh, J. *et al*, 2007). The Chief Science Secretary Mr. Harrison Macharia, in whose docket the Biosafety Bill leadership lay, also made a presentation on the background and origins of the Biosafety Law. He highlighted the provisions and obligations of the Cartagena Protocol on Biosafety, which is the foundation of national Biosafety Laws. He noted that Kenya had signed and ratified the international instrument thereby making her a party to its provisions.

This elicited a very vibrant debate on the Bill and the future of biotechnology in Kenya. One member of the civil society, a Dr. Otieno, rubbished the Bill, saying it was substandard. However, he was vigorously challenged by a team of university professors led by Prof James Ochanda of the Centre for Biotechnology and Bioinformatics (CEBIB), and the late Prof George Siboe.

The forum exposed serious knowledge gaps. Some of the participants claimed that transgenic foods had turned men impotent despite having no evidence to support this. A participant who identified himself as a village elder amused the meeting participants when he claimed that *“these GMOs we have been eating have made us to sire only girls, and we are very worried that we no longer give birth to boys”*.

The concern about loss of trade with Europe was also expressed, but was quickly responded to with factual data from a COMESA study that had indicated negligible trade risks (Wafula et al 2005). For majority of the COMESA countries, the proportion of exports at risk of rejection would be less than 1% of the total value of agricultural food and feed products exported. At the meeting, some civil society groups waving ISAAA materials accused ISAAA *AfriCenter* of being behind the whole Biosafety Bill agenda. In response, Dr. Margaret Karembu, *AfriCenter*'s Director extended an open invitation to the critics and asked them to contact ISAAA to learn more about the technology and the organization, which doubtless surprised the campaigners. They never used the opportunity offered.





ISAAA AfriCenter Director Dr. Margaret Karembu responds to emerging issues

The workshop concluded that the absence of a Biosafety Law exposed the country to regulatory gaps. This could also be a major weakness that could undermine the legitimacy and the future of the on-going biotechnology research and development. It was agreed that the enactment of a Biosafety Law was necessary and crucial for effective governance of biotechnology applications in the country. At the end of the meeting, participants from very diverse interest groups could be seen exchanging business cards and contacts.

OFAB also offered excellent opportunities to key biotech consortium members to reach out to the public with information on the Biosafety Bill. The Kenyan chapter of OFAB was the first to be launched in Africa in September 2006 by Dr. Noah Wekesa, who was the Minister for Science and Technology.

It is a platform that provides opportunities for biotechnology stakeholders to:

- Network with one another, opinion leaders and policy makers
- Share knowledge, information and experiences
- Explore new avenues for bringing biotechnology benefits to end-users
- Present views and participate in discussions on biotechnology and related issues

In one of the OFAB forums, the Executive Secretary of the NCST was invited to make a presentation which linked the Biosafety Law and the quest for mainstreaming of science, technology and innovation in realizing the country's Vision 2030 agenda.



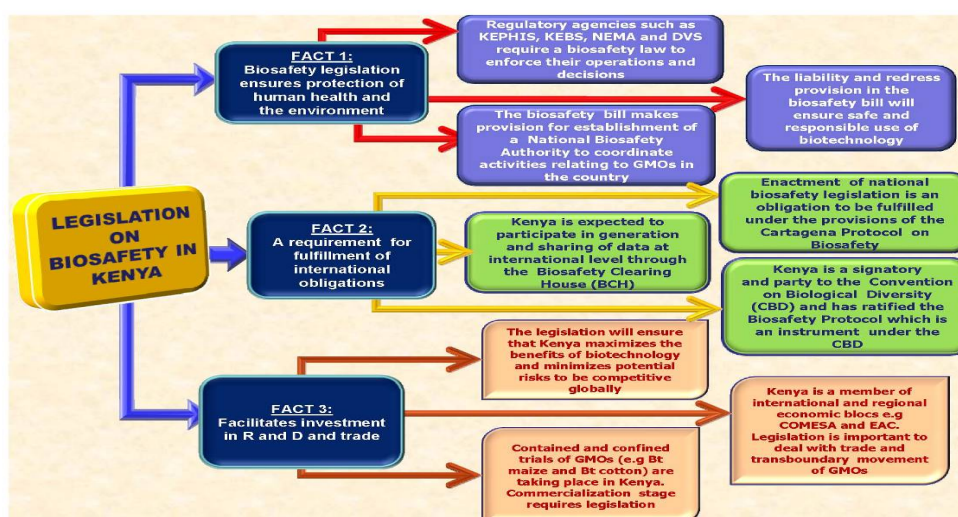




### Production and Dissemination of IEC Materials

Information, Education and Communication materials were developed and distributed by the biosafety consortium partner institutions to back up the advocacy campaign. The materials were developed after thorough baseline surveys to establish the specific needs of the various audiences through the stakeholder mapping process. The first Hansard report, where the Nakitare motion was debated, also provided more guidance on the information gaps and knowledge needs. ISAAA AfriCenter produced Message Maps responding to the identified gaps mainly aimed at educating the legislators and policy makers.

A Message Map is a simple, easy to use information sheet that explains a particular issue by giving all the facts about it and the supporting evidence at a glance. Policy briefs developed by PBS and ISAAA on topical issues such as GMOs and Exports, Rationale for Biosafety Law and newspaper supplements and fact sheets on Safety of Biotechnology Products were important outreach tools. Video documentaries to showcase Kenya's capacity to handle modern biotechnology were developed and shown extensively to MPs and policy makers.



A message map on biosafety legislation

For instance, ISAAA AfriCenter, PBS and NCST produced a documentary titled “*Biotechnology: We have the Capacity*”. The video was shown to the Parliamentary committee on Education, Science and Technology at County Hall where they had assembled to listen to stakeholders’ views on the Bill. Other institutions that produced materials for outreach include ABSF, KARI, AATF, CIMMYT and Africa Harvest.

### The Role of Public Universities in Capacity Building

Public universities played a key role in reaching out to and building capacities of various audiences on biotechnology. Apart from providing a pool of experts that were instrumental in demystifying modern biotechnology for policy makers, the public and the media, they also organized public debates that were very instrumental in building confidence on local capacities for modern biotechnology.







The universities also started courses in biotechnology and biosafety that greatly helped in building a critical mass of experts in the country.

A public debate organized by University of Nairobi's School of Agriculture on November 21 and 22 in 2008 was particularly instrumental in shaping the debate in Parliament. It was also influential in convincing the public of the safety and benefits of biotech products. The debate concluded with some assuring notes to the public thus:

*"The gene revolution is expected to be greater and surpass the Green revolution of the seventies and eighties. Developing countries should utilize it to meet the technological and social challenges facing them. Researchers should concentrate more on the implication of the new gene technology on natural resources, on how societies can utilize GMOs to improve livelihoods and the need to educate the public on GM foods, labeling and IPR issues etc. Although the quality of GMO products can indeed be evaluated using current food safety standards, there is a great need to develop and legislate for more thorough regulations but which should aim at facilitation of use rather than stalling the exploitation, development and consumption of GMOs"*



*The National Biotechnology Awareness Strategy*

Another major development that strengthened public participation in the Biosafety Bill debate was the establishment of the BioAWARE – Kenya under the Agriculture Sector Coordinating Unit (ASCU). BioAWARE was launched by the Government in 2008 with the mission of employing a participatory awareness creation process that will provide the public with accurate and balanced information on the use of biotechnology and its products for informed decision making.





Agriculture Minister. William Ruto launching the BioAWARE Strategy

BioAWARE-Kenya became the umbrella under which the Biosafety Bill outreach activities were sheltered and the Biosafety Consortium used this opportunity to expand participation of Farmer Associations and more local universities, notably Kenyatta University. Farmers were represented by two organizations – the Kenya Federation of Agricultural Producers (KENFAP) and the Cereal Growers Association of Kenya.

The first step was to produce a poster summary of the status of biotechnology in Kenya for dissemination, primarily to MPs and to other key target audiences such as the Cabinet, the media, farmers and regulators. The emphasis on creating public awareness during the Bill debate as alluded earlier stemmed from the realization that most Kenyans were unfamiliar with modern biotechnology and biosafety issues, a situation that was causing confusion and anxiety.

Raising public awareness and knowledge of biosafety issues from a national perspective was therefore necessary to reach out to the grassroots and encourage informed debate and rational decision-making about the Bill. During the official launch, the minister for Agriculture, William Ruto, said BioAWARE-Kenya was aimed at offering Kenyans accurate and reliable information and knowledge about the broader fields of biotechnology, including tissue culture, molecular breeding and genetic modification. "This will enable Kenyans to make informed decisions and be involved in determining the pace of adoption of biotechnology in the country," said the Minister.

### *The Role of the Mass Media*

Kenya's press has been cited as among the most free in Africa and it has been established in surveys that it plays a key role in setting the agenda for the country. Indeed, an editorial in one of the leading dailies on a topical issue is invariably taken to be an expression of what the country wants. The strategic role of the media in





public awareness and education on biotechnology is also well documented (Navarro 2008, Clark *et al* 2007, 2005, Navarro, *et al* 2006 and Thomson 2002).

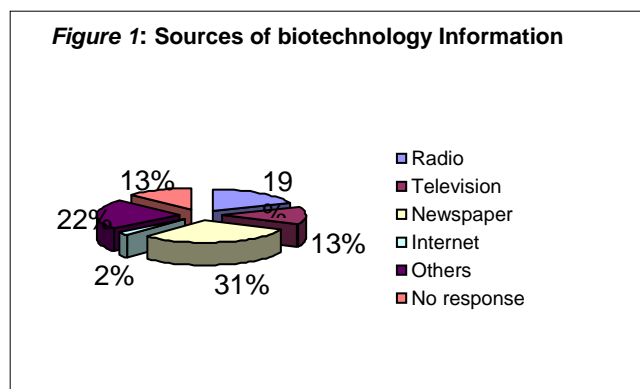
Navarro (2008) for example states categorically that the media is the most effective means of reaching consumers with biotech information. It became clear that if the Bill was to pass, the media had to be prepared to report accurately and objectively.

There were already divergent and extremely polarized views being circulated through the press and it cannot be forgotten that the anti-biotech campaigners were already well aware of the influence an article in the paper or a documentary or feature on television would have. The first concern was that the journalists and scientists had issues with each other, each with a list of accusations against the other. The scientists were accused of being unavailable, full of technical jargon and generally being unhelpful while the journalists were said to be biased, sensational and even when they got hold of the facts ended up misrepresenting them.

Scientists said the media was inaccurate in reporting biotechnology issues while the media said the scientists were withholding the information from them. The fact was that they both needed each other.

The media had a social responsibility to inform the audiences about the new technology while the scientists badly required the law to legitimize the research and development they were already engaged in.

As shown in Fig. 1 below, a study conducted in Kenya in 2004 to gauge levels of awareness had found that over 60 per cent of the respondents including policy makers, got biotechnology and biosafety information from the mass media (ISAAA/ABSF, 2004).



Source: ISAAA AfriCenter/ABSF Survey Report 2004

Surveys conducted in countries where products of biotechnology have been commercialized, such as South Africa, concurred with these findings. They also indicated that reaching out to the media with biotechnology information produced very positive impacts, especially in influencing informed decision-making regarding legislation (AfricaBio, 2004). Rogers (1985) also supports the view that a strong, well-informed mass media are essential elements of a diffusion process of innovation.







The Biosafety consortium therefore rolled out a series of activities aimed at strengthening journalists' capacity to effectively and authoritatively cover modern biotechnology and biosafety. At the same time, no effort was spared to bridge the relationship between journalists and scientists. A critical mass of active journalists working with mainstream media was trained on biosafety and biotechnology reporting. The capacity building initiatives involved training journalists on basics of biotechnology and biosafety and exposure visits to biotechnology sites across the country and overseas to provide real experiences in the field of biotechnology. The scientists were trained on effective communication skills and media relations.

The media initiative had huge impacts on journalists' attitudes on biotechnology and the way they reported it. For instance, Wandera Ojanji attributes his better understanding and reporting on biotechnology to the various capacity building activities organized by ISAAA AfriCenter he participated in (Navarro, 2009).

His views on biosafety and biotechnology were shaped by the training on "Improving Media Coverage of Biotechnology" for Eastern and Central Africa journalists held in Addis Ababa, Ethiopia in 2006. The workshop was organized jointly by ISAAA AfriCenter, United Nations Educational, Scientific and Cultural Organization (UNESCO) and UN Economic Commission for Africa (UNECA). Mr. Ojanji said the media training in Addis Ababa greatly changed the way he wrote on biotechnology issues – both in style and content.



Training course participants in Addis Ababa

Mr. Ojanji was also part of the delegation that toured South Africa on a biotechnology fact-finding mission in 2006. This tour made all the difference for him. *"I had read and written about biotechnology for several years, but I had never come face-to-face with genetically engineered crops. That changed with my visit to South Africa. Listening to explanations by South African authorities about how they managed to develop and commercialize biotech crops and the benefits the country was reaping from the technology was indeed very reassuring to me. The farmers' personal testimonies helped to strengthen my convictions about the benefits of the technology,"* he said in an interview for this book.





Ms. Anne Mikia, a veteran radio journalist who also benefited from ISAAA *AfriCenter* biotech media training initiatives, confesses that before coming into contact with ISAAA, she had a very negative attitude towards biotechnology. This was based on the predominantly negative media reports. “My perception of biotechnology, especially GMOs, was that it was a very dangerous technology that was meant to harm poor African farmers and consumers,” she says. But after attending a regional media training on effective reporting of biotechnology and biosafety in Addis Ababa, Ethiopia, Anne’s views of the technology changed positively. “I started reporting frequently on tissue culture bananas based on interviews with farmers in Mworoto, near Nairobi and others from Central Kenya,” says Anne, who worked with the Kenya Broadcasting Corporation (KBC- radio) for over 20 years as a reporter and producer. Anne, who moved to Internews Service in Nairobi as a Radio Trainer, says she supported the enactment of the Biosafety Act because she was convinced it was necessary to ensure safe and responsible application of modern agricultural biotechnology in Kenya. Anne believes strongly that African agricultural productivity will decline drastically without adoption and application of modern technologies, such as transgenic crops, to fend off intractable abiotic and biotic challenges facing the sector.

Other journalists who went through similar trainings and shared their perception changes included veteran TV journalist Ms. Pamela Asigi, Peter Wachai of the *GMO Africa* blog among many others. Another media strategy that proved vital was the sharing of cutting-edge biosafety and biotechnology information with the journalists through hands-on training workshops and exposure visits.

The trained scientists also became readily available for interviews and to respond in a timely manner to media queries. Materials developed by the consortium members and from the Global Knowledge Center (KC) became very popular with the journalists. They provided them with the much-needed background information for stories.

ABSF and Africa Harvest were also very instrumental in building capacity of journalists for effective reporting on biotechnology and biosafety. ABSF, for example, organized a series of hands-on media training, which benefited a number of journalists as they became conversant with biotech issues. During the debate on Biosafety Bill 2007, it organized a media training session led by Otula Owuor, a science editor with *Science Africa magazine*, which greatly enhanced the quality of debates both in and outside Parliament. In addition to media trainings, both ISAAA *AfriCenter* and Africa Harvest also participated in several radio interviews in local vernacular where the wider public was able to listen to experts in a language they could understand.





## CHAPTER EIGHT

### *Lessons Learnt*

This document is an attempt to document major milestones on the road to the enactment of the Kenya Biosafety Act 2009. It is by no means an exhaustive account of all the events and activities that contributed to that success but we believe it could provide tips and strategies that could benefit similar efforts in Africa and indeed any developing country that is in the process of developing Biosafety Law. This chapter therefore synthesizes what we consider critical steps and strategies based on our hands-on experiences.

### *Build Consensus among Key Government Institutions*

The government should make it clear from the outset which ministry or department is to be responsible for biotechnology and biosafety. In the Kenyan case, this responsibility was handed to the ministry of Higher Education, Science and Technology. The Ministry then designated the National Council of Science and Technology to be in charge of driving the process. The process could still run into hurdles if the leaders of the various regulatory authorities do not cooperate. The Biosafety Act 2009 would not have been passed into law had leaders of the regulatory authorities not agreed to share responsibilities.

Apart from the NCST, the other key drivers of the biosafety process from the public sector were KEPHIS, Department of Veterinary Services (DVS), Public Health, Kenya Bureau of Standards (KEBS), National Environment Management Authority (NEMA), National Biosafety Committee (NBC), the State Law Office, KARI and public Universities.

### *Determine What Needs to be Achieved through Advocacy*

Priority setting is central to any successful advocacy campaign. From the onset, both the government and other stakeholders must agree on the type of biosafety legislation required based on the country's priority biotech needs. It is helpful to note that an effective advocacy strategy should focus on a single issue.

At the beginning, Kenyan stakeholders were divided on whether to go for a new complete set of Biosafety Law or to rely on existing bits and pieces of legislation in different statutes to govern biotechnology applications in the country.

They were also divided over whether to advocate for both the biotechnology policy and the Biosafety Law. These coupled with other factors led to some very costly delays in the process. The lesson to learn here is that in most government systems, policy always precedes law, so it is better to advocate for the two concurrently.

### *Build Alliances and Champions for Support*

Establishing a coalition of interested individuals and organizations is another key step. Identify allies in the government, the community, the media, donors, private sector and farmers as well as potential opponents. In the Kenyan case, the Biosafety







consortium started by calling for consultative meetings to map out organizations and individuals who were interested in the issues of biotechnology and biosafety and invited them for a partnership. With contributions and commitment to support the process, funding from themselves, the government of Kenya, UNEP-GEF, USAID and several other development partners from both public and private sector, they formed a closely knit biosafety consortium that successfully coordinated the development of the Biosafety Act 2009 through sharing of synergies. Working with alliances can be an important way of complementing effort and increasing the resource base.. Partners are helpful in getting access to otherwise “unreachable” high-ranking decision makers through their social networks. In Kenya, the heads of the organizations that made up the Consortium were charged with the responsibility of reaching out to persons with power, influence and credibility such as the President, Prime Minister, Vice President, AG, The Speaker, The Clerk, Ministers, MPs, Permanent Secretaries and leaders of farmers’ associations.

Prior to this project, none of the groups had realized the extent of their mutual goals. Adopting a consultative process is considered indispensable.

#### *Build Internal Capacity to Handle the Issue*

To succeed in achieving the set objectives, one needs to be fully conversant with the global, regional and national issues surrounding the broad field of biotechnology and biosafety. Issue management dictates that stakeholders are able to anticipate them, prepare and practice the responses. The consortium was composed of experts in biotechnology, governance, socio-economics, biosafety, the legislation process, science communication and journalism. The team undertook to thoroughly acquaint themselves with the twin issues of biotechnology and biosafety. An analysis of the target groups’ level of knowledge and understanding of biotechnology and biosafety enabled the consortium members to prepare and respond to what the audiences wanted to know against what they thought they needed to know. They were also able to devise ways of communicating the desired changes clearly, simply and effectively in accord with the desired outcome. In defining the desired outcome, one should also discuss potential trade-off areas and outline issues that are not negotiable re: scientific evidence. For example, the biosafety consortium was ready to stall the process if Parliament would have given in to the demands of anti-biotech groups to make the Bill prohibitive rather than facilitative and science-based.

#### *Develop and Articulate a Comprehensive Communication Strategy*

The need to develop a comprehensive communication strategy was recognized at the initial stage. The components of the strategy included the situational analysis, goal, objectives, the target audiences, the messages and activities, the channels, the implementation plan, responsibility matrix, timelines, budgets and a monitoring and evaluation plan. Given the general framework of biotechnology and biosafety, an efficient and effective advocacy strategy must combine a number of activities over a period of time. For example, the Kenyan one combined capacity building workshops, media liaison, seeing-is-believing study tours, production and

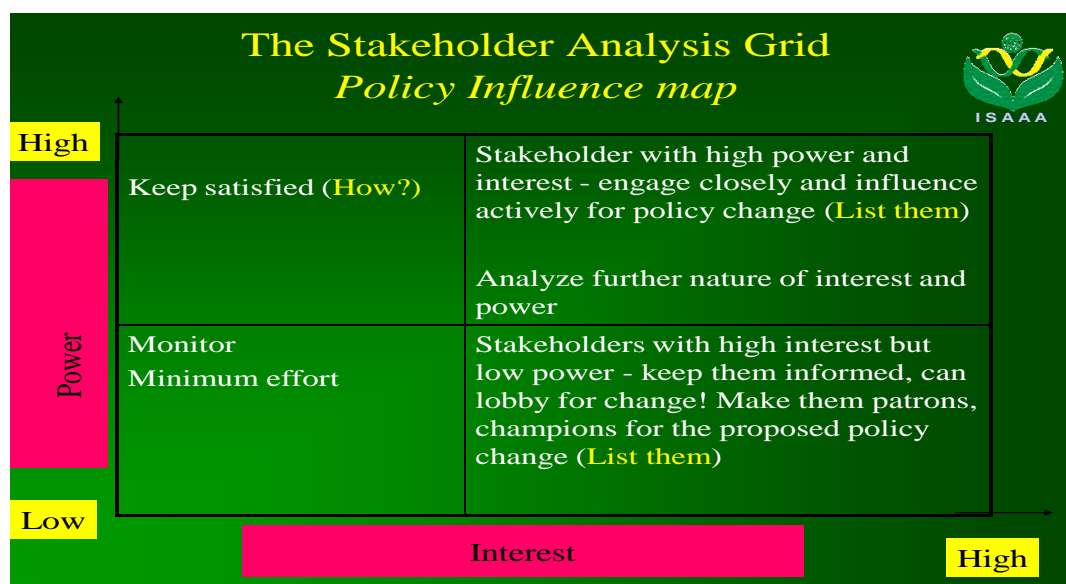




dissemination of IEC materials, expert speaker programs, internet communication, outreach to policy makers, exhibitions and awareness creation. Responsiveness to cultural differences across different communities was addressed through adoption of multi-media approach to communication where local vernacular became handy.

### *Stakeholder Mapping for Effective Engagement*

Stakeholder mapping is a useful tool for identifying key actors and assessing their knowledge, interests, needs, and the positive or negative influence they hold towards an issue of high public interest. Such data is crucial in informing the development and implementation of stakeholder engagement strategies that would take advantage of the positive influence to achieve the desired outcome or mitigate the negative influence that can jeopardize the process. It is also advisable to conduct an analysis of the nature of influence different stakeholders have on the issue. This will help clarify and focus the engagement on who to target as the primary and secondary audiences and why. For Kenya the key stakeholders were drawn from government, Parliament, commodity farmer groups, regulators, scientists, the mass media, civil society, industry and development partners. Only people whose decisions were crucial to the success or failure of the Bill were selected using the matrix shown below.



### *Involvement of MPs in the Process*

A country's law makers are perhaps the most important cog in the process of developing Biosafety Law. They should be made part and parcel of the bill's development right from the drafting stage and need to own the process in order to support it on the floor on the House and lobby for its approval. It is vital, as the Kenyan experience proved, to establish a team of dependable Parliamentary champions comprising the legislators and officials from the office of the Clerk to work with. They should be drawn from the relevant Parliamentary committees, key





among these: Education, Science and Research, Agriculture and Natural Resources, Health, Trade and Finance.

The clerks conveyed the necessary information to the legislators. Their knowledge of House rules and of the Parliamentary calendar of events, schedules and priorities makes them an important source of information and intelligence-gathering.

### *Media Strategy*

The mass media by their nature have the power to shape public opinion and the biotech and biosafety campaign can be won or lost on this platform. Hence, it is imperative for the advocates or stakeholders to enlist media support right from the beginning. In Kenya, although the process of enacting biosafety legislation started in the 1990s, it was not until 2002 that serious engagement of journalists in the process was started with the formation of ABSF and the Kenya Biotechnology Information Center managed by ISAAA AfriCenter. A content analysis of mass media coverage of biotechnology and biosafety issues would assist in revealing gaps and inadequacies within the media fraternity. It took several interventions, such as training, linking journalists with scientists, educational tours and sharing of information materials to change perceptions of journalists before they could begin to report on biotechnology and the Biosafety Bill accurately and in a balanced manner.

The stakeholders would also benefit from knowledge of how the media in their country operates. This can be gleaned easily from engaging experienced and credible journalists to train the stakeholders on how the media works. Such journalists would provide insights on what strategies would work best and the approaches necessary to provide accurate information and different story angles that would interest Editors. The Kenyan process suffered negative coverage because those opposed to the Biosafety Bill had mastered media strategy and developed their own champions in the press. Reaching out to the media at every stage is therefore the more important of lessons learnt from the development of the Biosafety Law in Kenya.

### *Public Involvement*

Public awareness creation is a fundamental requirement of the Cartagena Protocol on Biosafety. Article 23 Section 1 (a) states: "Parties shall promote and facilitate public awareness, education and participation concerning the safe transfer, handling and use of biological diversity, taking also into account risks to human health. In doing so, the Parties shall cooperate, as appropriate, with other States and international bodies." Therefore, the public must be fully educated and made aware of the issues surrounding the technology so that they can make informed choices.

An example is provided here by the role played by the Biosafety Consortium, BioAWARE-Kenya and OFAB and their efforts to reach out to both biotech proponents and opponents. The public should be involved right from drafting of the Bill through to implementation of the Act.







### *Resource Mobilization Strategy*

The nature of biotechnology and biosafety issues and the low levels of knowledge on the benefits and potential risks by the public as well as those in the law-making process make advocacy an expensive undertaking. It is thus crucial to have a resource mobilization strategy to run a successful outreach and educational campaign. The Kenyan biotechnology stakeholders were almost overrun by groups that were opposed to the passage of the Biosafety Bill because they had more financial resources. Governments should be encouraged to allocate funds for national biotechnology awareness creation and consistent stakeholder engagement.

### *Conclusion*

The enactment of the Biosafety Act 2009 fulfills Kenya's international obligations under the Cartagena Protocol, meaning that the country has a regulatory mechanism for handling modern biotechnology activities. The eventual commercialization of biotech crops will also be possible, subject to the requirements stated in the Act and the regulations. Since Kenya had earlier promulgated a National Biotechnology Development Policy, the Act provides the necessary mechanism to implement. Even so, the regulatory bodies and the AG Chambers must work together to develop the required implementing regulations for the Act itself to be operationalized.

The Biosafety Act also establishes the National Biosafety Authority, a one-stop biosafety and biotechnology regulatory body. It is now upon the ministry of Higher Education, Science and Technology and the NCST to see how fast they are going to move towards establishing the Authority. At the time of publishing this book, the structure of the Authority had been prepared and interim staff deployed. A budgetary allocation from the government had been made and there were indications that it would be in place by mid 2010.

We believe that advocacy for the enactment of science-based biosafety legislation should be guided by facts, education, collective action and the inclusion of all interested parties. We hope that these lessons will help other countries with similar conditions shorten the process by avoiding some of the pitfalls experienced in Kenya.

The operating policy environment will most likely vary from one region to another but we believe the lessons presented in this document would still be found relevant and useful, albeit with minor adjustments and adaptations. The need for sustained political support to the whole process of deploying biotech products from research to commercialization cannot be overstated.





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For more information contact

ISAAA *Afri*Center  
PO Box 70  
ILRI Campus, Old Naivasha Rd.  
Uthiru, Nairobi 00605  
Phone: +254-20-4223618  
Fax: +254-20-4223634  
Email: [africenter@isaaa.org](mailto:africenter@isaaa.org)