African Centre for Biosafety

Comments on:
COMESA's Draft Policy on Commercial Planting, Trade and Emergency Food Aid Involving Genetically Modified Organisms (GMOs)
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Endorsed by:

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Introduction

In July 2010 the African Centre for Biosafety (ACB) submitted comments on the COMESA 'Draft Policy Statements and Guidelines for commercial planting of GMOs, Trade in GMOs and Emergency Food aid with GMO content. We called on member governments to reject the policy outright and to focus rather on building national capacity on biosafety, guided by the African Model Law on Biosafety. We have perused the latest revised draft on "Commercial Planting, Trade and Emergency Food Aid Involving Genetically Modified Organisms (GMOs)", and still hold strongly to this position.

While the majority African countries are party to the Cartagena Protocol on Biosafety (CPB), it is widely acknowledged that African governments lack the legal, scientific and infrastructural capacity to domesticate biosafety law and effectively deal with modern biotechnology. Over the past decade the United States government has offered many African governments capacity building[i] and has also been a key driver behind this COMESA initiative. The United States is not a party to the CPB, in fact it is fundamentally opposed to it. It is no surprise then that the resultant draft COMESA policy does not implement the CPB, rather it is a mechanism to flood the region with proprietary technology while undermining a decade of work on biosafety at a national, regional and international level. Ironically, in light of COMESA member's lack of capacity on GMOs, it would be wise to take the most precautionary stance possible rather than create an enabling environment for their rapid proliferation.

The Biosafety Protocol is globally accepted as the principle international treaty to regulate the cross border movement of GMOs. It establishes minimum international standards to protect the environment and society from the risks posed by GMOs. African governments have played a crucial role in the development of this instrument and have crafted the African Union (AU) Model Law on Biosafety through an open, transparent and inclusive process over the past ten years. They have also developed their own national biosafety policies and laws. Harmonisation at the regional level cannot replace national regulation and can only function when effective national laws, procedures and competencies are in place.

Some of our concerns include that risk assessment on a case-by-case basis will be done away with, that public participation and access to information will be undermined and that national sovereignty will be trampled. This poses a threat to human, environmental and socio-economic wellbeing, not just to the citizens of the COMESA member states, but to the people of the African continent as the very nature of seed is to multiply and disperse.

The objective of Biosafety law is to protect the environment and health from potential harm, not to create an enabling environment for the trade of GMOs. We still contend that Regional Economic Communities (RECs) are not the appropriate bodies to administer biosafety.

STRUCTURE OF DOCUMENT

This document gives a brief background on the work that the ACB has carried out on biosafety on the continent to date. It then looks at the genesis of the COMESA policy on GMOs, the major players and drivers behind the process, how this will undermine sovereign decision making in COMESA member states, and the conspicuous lack of any public participation envisioned in the policy. This is

followed by a critique of the provisions of the draft policy, and concerns about unprecedented and unclear terminology that is being used. We also offer recent news from South Africa that highlight the reality of the adoption of GMOs into the agricultural system and national food chain, before concluding.

BACKGROUND

The ACB is committed to rigorous biosafety regulations of GMOs on the African continent, based on the precautionary principle. We have actively participated in biosafety policy development at international, regional and national levels. The ACB has provided pro-bono comments on numerous African biosafety laws in an effort to guide civil society; improving such laws, specifically through bringing these laws in line with the AU Model Law on Biosafety and the adoption of stringent biosafety measures. In the course of such work, the ACB has exposed instances where such laws appeared to have been unduly influenced by industry interests and pro-GM governments such as the USA, particularly through USAID. This work is well documented.

ACB has provided comments on draft biosafety legislation over the past seven years to the following African countries: Nigeria, Uganda, Kenya, Zimbabwe, Swaziland, Lesotho, Ghana, Zambia, Malawi,Mauritius and Cameroon. In some cases e.g. Kenya, Uganda and Nigeria, comments were made on more than one draft[ii].

Our work has been further enriched by playing an active watchdog role at a national level in South Africa, which has become the GMO gateway to Africa. The South African government has granted an alarming number of permits since 1999, in just the period from January 2008 and the end of February 2012, a total of 1458 permits were granted for commercial growing, field trials, imports and exports[iii]. We have identified a number of shortcomings with South Africa's biosafety regulatory system, including the lack of transparency in decision-making and information sharing. There is also an over-reliance on safety data prepared by industry. Indeed, the biotech industry enjoys a high degree of self-regulation in South Africa. The lack of capacity for monitoring and administering the large volume of permits granted continues to be of grave concern for us.

General Critique on the Draft COMESA policy and process

VESTED INTERESTS

It is our view that this policy has been crafted to suit the agenda of vested interests. It is particularly disturbing that the United States government, primary producers of the technology and not party to the Cartagena Biosafety Protocol, are major sponsors of this process. The ACB has written extensively on the role USAID has played on the continent in weakening biosafety policy and practice[iv]. We have noted with dismay over the years how the strong precautionary stance of African leaders has been eroded as they struggle to deal with the very real problem of lack of capacity and infrastructure to deal with this foreign technology. In return for capacity building they have been asked to craft permissive and enabling policies that suit the agenda of their sponsors rather than the interests of their citizens. Lack of capacity should oblige our leaders to develop more strenuous biosafety procedures, not weaker ones; the precautionary principle must remain the bedrock of African biosafety.

It is our contention that the initiative for the COMESA draft policy did not arise from the national regulatory authorities responsible for biosafety in the COMESA countries. In fact it would seem that they have been actively sidelined by the Regional Approach to Biotechnology and Biosafety Policy in Eastern and Southern Africa (RABESA), a US funded initiative that seeks to reposition biosafety into a trade agenda. Clear evidence of this is that the regional meeting held to review the Draft Policy in Nairobi in June 2010 failed to reach consensus due to an "inadequate representation of regulatory authorities and therefore a need for further consultation"[v]. Their lack of participation in the process to date is plain. The participant list of the latest meeting held on 8-9 May 2012 shows greater participation of the appropriate national regulatory authorities; however the dominance of US trained biosafety experts and the ominous and utter lack of representation from civil society and farmer groups is objectionable.

We reiterate our concern that RECs are not appropriate organs for the administration of biosafety as they do not have the required biosafety competency and historical involvement in negotiations and their mandate is the promotion of trade rather than the protection of environment and health.

Major players in the COMESA biosafety initiative

RABESA

RABESA is "part of a long-term USAID supported agenda aimed at assisting the ASARECA/COMESA countries to come up with a regional biosafety approach and feasible policy options for addressing the challenges and opportunities posed by GMOs on trade and food security"[vi]. We ask, how can a process funded by the USA result in the implementation of the CPB when the USA is not a Party and has historically attempted to undermine and weaken the Protocol? One of the stated expected outcomes of the RABESA project is to "remove trade barriers" [vii] of GMOs in the region, i.e. create an enabling environment for the wholesale introduction of proprietary technology developed principally in the United States. ASARECA's Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA), the Program for Biosafety Systems (PBS) and the African Centre for Technology Studies (ACTS) are technically supporting COMESA in the implementation of the RABESA project[viii].

Programme for Biosafety Systems (PBS)

Technical assistance for RABESA is being provided by the PBS, again a USAID funded project that 'supports partner countries in Africa and Asia in the responsible development and use of biotechnology'. The PBS is 'facilitated' by the International Food Policy Research Institute (IFPRI), which is one of the 15 bodies falling under the Consultative Group on International Agricultural Research (CGIAR).[ix] Biosafety expertise from the PBS and those trained through this process dominate the COMESA process and advocate the strong trade agenda of the USA.

African Biosafety Network of Expertise (ABNE)

ABNE was established by the African Union and NEPAD in 2008. Its primary goal is 'to build functional biosafety systems in Africa.' Though it is described as an 'Africa-led initiative', ABNE's experts have close ties to the biotechnology industry, such as USAID and the South African based GMO lobby group, AfricaBio.[x] Again, this network of expertise focuses on a trade agenda while undermining genuine biosafety development.

International Service for the Acquisition of Agri-biotech Applications (ISAAA)

The ISAAA has, since its inception in 1991, lobbied vigorously for the implementation of GM crops around the world, proclaiming biotechnologies potential to alleviate both global poverty and environmental degradation. Its annual status reports on GM crops are released to great fanfare, and frequently quoted by the biotechnology industry in its public relations exercises. Though ostensibly a 'non-profit' organisation, its financial supporters include: Bayer Cropscience, Croplife International (who lobby on behalf of the global pesticide industry), Monsanto, the United States Department of Agriculture (USDA), USAID and the US soybean export council.[xi]

USURPING NATIONAL SOVEREIGNTY

One of our deepest concerns with the COMESA policy is that it will undermine national sovereignty and compel national regulators to rely upon the "opinion" of the COMESA Panel of Experts (PoE). (See our analysis of the text in the following section.) The policy lacks transparency and clarity in risk assessment and decision making procedures and is geared toward removing trade barriers rather than the protection human and environmental health. This makes our concerns even more grave. It is our opinion that capacity needs to be built at national level and effective procedures be put in place to ensure the safe use of GMOs. Regional harmonisation cannot replace this vital step and cannot work in the absence of it.

PUBLIC PARTICIPATION

Civil society has been largely left out of this process and the complete absence of civil society groups in the 8-9 May 2012 meeting held in Lusaka is indicative of this problem. The issue of public participation in the actual Draft Policy in the regional decision making process is also problematic; the policy does not do enough to ensure that the public have access to all the information necessary for meaningful participation, or indeed ensure that they have access to the decision making processes at national and regional levels at all. It does not give clarity on who will sit on the PoE and GRASCOM and how the public will access that information. Public awareness and participation is a requirement of the CPB as set out in Article 23.

CRITIQUE OF THE PROVISIONS OF THE POLICY

This section highlights problematic provisions section by section.

1. BACKGROUND

Under (1.6) COMESA member states hope to address physical, human and financial constraints associated with biosafety by entering into "bilateral, regional and multilateral agreements and arrangements to manage trans-boundary movement of GMOs", as provided for by Article 14 of the CPB.

However, Article 14 continues, "consistent with the objective of this Protocol and provided that such

agreements and arrangements do not result in a lower level of protection than that provided for by Protocol." In our analysis the policy will indeed result in a lower level of protection than the minimum requirements of the CPB. The COMESA policy cannot be adopted without a legal comment by its member states and needs to be tested against Article 14 by independent and governmental legal experts.

2. OBJECTIVES OF THIS POLICY

(9) To provide COMESA Member States with a mechanism for scientific regional risk assessment of GMOs intended for commercial planting, trade and food aid in the COMESA region.

The policy does not set out procedures for conducting risk assessments, laying open the possibility for risk assessment to happen behind closed doors. Risk assessment procedures must be explicitly based on Article 15 of the CPB and Annex III. In addition, the draft policy will need to incorporate the Risk Assessment Roadmap decisions, expected to be passed at the sixth meeting of the parties to the CPB (MOP 6), to be held in Hyderabad, India, in October this year.

The objectives imply that regional assessments will be made for commercial planting of GM crops in all COMESA countries. This is completely unworkable and unscientific. Note that the CPB requires that the receiving environment of all COMESA countries be considered (Annex III).

3. EXEMPTIONS OF THIS POLICY

(14) Socio-economic, cultural, liability and redress, labelling, and other country-specific considerations regarding GMOs will be handled at the national level in accordance with national laws and biosafety frameworks.

There is no reason to exempt liability and redress, especially in light of the recently concluded Nagoya -Kuala Lumpur Supplementary Protocol on Liability and Redress, adopted on 16 October 2010. At the African Regional Workshop on the Supplementary Protocol, held in Addis Ababa in July 2011, delegates "accepted the African Union Commission's suggestion for experts to seek submissions from their Governments at the African Union Summit for the Commission to formulate, in collaboration with Regional Economic Communities, guidelines and strategies that support African countries in their efforts to put in place national biosafety laws in general, and liability and redress rules for damage resulting from living modified organisms in particular".[xii]

4. GENERAL PROVISIONS ON STRUCTURE AND PROCEDURES TO IMPLEMENT THIS POLICY

(22) The COMESA Panel of Experts on Biotechnology and Biosafety (PoE) will be the main guiding body to formulate a risk assessment "Opinion" on applications submitted and advice sought by Member States.

This process lacks transparency as the policy does not clearly lay out the risk assessment procedures. Who will be on this Panel of Experts and how will we access that information should we want it? How will the public engage with this decision-making process?

(24) *The decision to approve or reject a GMO for commercial planting, based on the "Opinion" from the PoE rests on the sovereign decision of the individual COMESA Member State.*

This is a highly unworkable provision that leaves many questions unanswered. Can the PoE only make blanket approvals or rejections for ALL COMESA members? Is it able to make approvals only for certain countries? What happens if is there is clear reason not to approve a GM crop in one specific country? Will PoE approve the crop based on a majority decision?

5. GENERAL PROCEDURES FOR SPECIFIC ACTIVITIES INVOLVING GMOs

5.3 Trade in GMOs

5.3.1 Seed

(45) For a GM seed approved in a COMESA Member State and which is traded to another COMESA Member State where the originating and receiving environments are similar, approval should be granted without the need for another PoE risk assessment and opinion.

This goes against biosafety best practice, which currently dictates that open field trial data should be included in any application for a general / commercial release. How will the panel determine whether 'originating and receiving environments are similar'? Will a minimum set of parameters be used; local pest-population characteristics, or geological and hydrological models, for example? One of the stated objectives of the policy is to 'provide COMESA states with a mechanism for scientific regional risk assessment of GMOS', yet this section that addresses commercial planting applications uses language that is vague and highly un-scientific.

(46) Criteria for determining whether an environment is similar to another receiving environment will be established by the PoE using GRASCOM and referencing national seed policies and variety release procedures

(46) The mechanisms for determining the appropriate similarities of environments again are obscure. Will the Panel of Experts or GRASCOM undertake any site specific analysis, or rely solely on reference material? National seed policies do not expound on specific environments and COMESA needs to show that these documents can indeed be useful in determining the similarity of environments.

'In the event of a dispute regarding the similarity of environments, an opinion will be sought from an ad hoc committee constituted by the COMESA secretariat.' Will this opinion be binding on the receiving country? Will the public have opportunities to engage in this process?

Some examples from recent open field trial and full commercialisation applications in South Africa are indicative of the location specific nature of biosafety risk assessment. In an application for trial release of TC1507 x MON810 x NK603, Pioneer Hi-Bred stated the need to test their traits using germplasm of different backgrounds, and in different pedo-climatic conditions.

In its field trial application dossier for 59122, an additional reason stated for the trial is that Pioneer proposes to add two more locations, thus the regulations require a new application to be filed. Thus, the biotechnology producers' need for vigorous testing, over a wide variety of environmental conditions, is of tremendous importance for assessing potential problems. The fact that the South African biosafety regulations require each new trial to be applied for separately is a tacit acknowledgment of the heterogeneous nature of biosafety risk assessment and risk management.[xiii]

In 2010 Syngenta applied for a commercial release of its stacked GM maize variety GA21 x Bt 11. One of the principle concerns raised by the ACB in our review of their application was the threat of gene-flow from GM to non-GM and wild populations. In some cases, maize pollen has been known to disperse and remain viable up to a range of 400 meters. Further, pollen can remain viable for a period ranging from 3 hours up to 9 days, depending on environmental variables.[xiv] These environmental variables, which could encompass anything from local insect and local wild weed population characteristics, to climatic or topographical features, are location specific.

5.3.2 Commodities for Food, Feed and Processing (FFP)

Without a doubt, seed intended for food, feed and processing will sometimes be planted as seed, farmers are known for their interest in experimenting with new seed. Whose responsibility is it to ensure that this does not happen and who will be liable for any damages that may arise? That there are no provisions on liability and redress in this policy is highly problematic.

(50) *For a GMO approved in a COMESA Member State which is traded to another COMESA Member State intended for food, feed or for processing (FFP), approval should be given upon application and sharing of risk assessment reports or approval decision documents, unless tangible evidence of food safety or nutritional changes is raised in the receiving country.*

This places a heavy burden on the receiving country to provide 'tangible evidence', and appears to exonerate both the sending country and the applicant of any obligation to do this. As one of the aims of the policy is to enhance scientific capacity around biosafety, the implication is that this is sorely lacking amongst COMESA members. Yet, if a member state wishes to maintain any notion of sovereignty over which commodities it chooses to import, this scientific capacity is a pre-requisite

5.3.4 Low-level presence of GM

(57) Where a consignment of a non-GMO intended for food, feed or for processing has possible (albeit not definitively known to be present) GM event approved in a non-COMESA country, the consignment will be accompanied by a statement to the effect that "it may contain LMO-FFPS" which have been approved in the exporting country.

This clause opens a space for illegal trade of unapproved GMOs. The use of the term 'low level presence' is inappropriate, and should be replaced with the accepted biosafety term of 'adventitious presence'. A specific level should be included in this policy. COMESA should have a zero-tolerance policy on the import of GMOs not approved by its' member -states (as is common practice, in the European Union and South Africa, for example). Therefore, it is unacceptable to merely label non-

GM consignments that contain non-approved GMOs as 'may contain LMO-FFPs'. Any reference to 'may contain' should be removed.

HANDLING EMERGENCY FOOD AID WITH GM CONTENT SELECTED GLOSSARY

(60) 'When transferring food aid with GM content from one COMESA member state to another, and the GM food had already been released for public consumption in a COMESA member state, a signed statement by the applicant that the GM food had already been released for public consumption in a COMESA member state will be sufficient for approval.'

This makes no reference to the fact that under Article 11 of the Cartagena Protocol on Biosafety, any party that approves a GMO for domestic consumption that may be exported for use as FFP (including for food aid) must inform other parties of that decision through the Biosafety Clearing House.

FLAWED TERMINOLOGY

We note that certain language is being used that is not commensurate with the spirit and the provisions of the CPB and note them below.

In the selected glossary of the Draft Policy it states*: "Genetically Modified Organism (GMO) for the purposes of this document means an organism such as a plant or animal that has been transformed by the insertion of one or more genes by modern biotechnology. For purposes of this document, the terms "GMOs" and "LMOs" are used interchangeably".*

This definition is not compliant with the CPB, which says " (g) "Living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology;"

In the selected glossary of the Draft Policy it states ***: Low-level presence (LLP)*** *is the incidental mixing of a non-GM product with low level amounts of a GM product approved in the export market but not in the importing market.*

The accepted biosafety term is "adventitious presence". Note also that this can include unapproved GMOs, for which there should be a zero tolerance.

Substantial Equivalence and Familiarity

These are controversial concepts that arise from USA risk assessment formulations. Familiarity is a concept that has been rejected in the CPB negotiations and is in fact the exact opposite of what is prescribed in the CPB. The concept of familiarity implies that one can compare, for example, GM maize with all other maize in the world and in history and forego a risk assessment if the differences do not exceed the values found for maize in history. This is not acceptable biosafety practice and the CPB has a clear definition that must be acknowledged: comparison of a GMO with unchanged parents. The risk assessment can then provide useful biosafety data, uncover the gaps in knowledge

and point to areas that need further research to ensure safety. Recently emerging issues on substantial equivalence in South Africa are discussed further in the section on South Africa below.

Confined and contained field trials

This is unprecedented terminology in the CPB and is misleading in that it implies that field trials are somehow contained from impacting on the environment and health.

Emerging issues in South Africa

Food security and farmer livelihoods

The very premise of the COMESA policy is that GMOs will contribute to alleviating the food security problems that the region faces. This has not been the case in South Africa after nearly 15 years of cultivating GM maize, soya and cotton and is not likely to be the case in the future.

South Africa is the only country on the African continent that grows GM food crops in any significant quantities, and is still the only country in the world to grow a GM variant of its staple food. Therefore, we would urge COMESA countries to take heed of our experiences before opening themselves up to a deluge of GM commercial planting, commodity and food aid applications. Between 2008 and 2012 the proportion of commercially sold maize seed that is GM has risen from 42% to 72%, and South Africa's maize farmers have consistently produced surpluses of over 3.5 million tons (this has been attributed to amongst other things, excellent growing conditions, breeding and new crop technology). However, over the same period, the price of a 5kg bag of maize meal increased by 83%. Statistics SA in its annual household survey for 2009/10, revealed that nearly 24% of people in South Africa were food insecure. Ironically, food insecurity levels were even higher than the national average in South Africa's two largest maize producing provinces: 35.7% in the North West and 25.3% in the Free State. Surveys conducted in three large urban areas in South Africa in 2009, found food insecurity levels at a staggering 70% amongst the urban poor. This compared with levels across 11 cities in the SADC region (where no GM crops are commercially grown) of 77%.[xv]

As for famers who have used GM seeds, the results have been mixed at best. Two of the major initiatives to supply small scale farmers with GM seeds in South Africa both ended in unmitigated failure. In KwaZulu Natal, the extension of agricultural credit to small scale farmers encouraged the rapid adoption of GM cotton between 1998 and 2002. However, by the end of this period cumulative farm debts in the region topped R22 million, forcing the credit provider (the Land Bank) to cease lending. Farmer numbers continued to oscillate from season to season, depending on the availability of credit. Moreover, the business model employed was dependent upon economies of scale, thus more and more farmers became incorporate into contract farming type relationships, and came to rely upon centrally provided irrigation. The farmers' effectively became contracted 'out-growers', with little say in their own production decisions, and their positions of relative weakness in relation to cotton purchasers remained unchanged. Similar experiences were reported from the Eastern Cape, where GM maize and soybean seeds were also supplied. [xvi]

Commercial farmers too are starting to experience some of the pitfalls inherent in GM seed. Aside from the ever increasing cases of insect resistance to Bt maize, the price of GM maize seed has increased rapidly, both in relative and absolute terms, in recent years. For example, from 2008 to 2011 the average price increases for white and yellow GM maize seeds were 30% and 35% respectively. The price increases for single trait Bt maize were even higher: 42% for white maize and 43% for yellow. This is consistent with practices in the USA, where seed companies increase the prices of their older seeds at a faster rate, to 'encourage' farmers to purchase their latest varieties (which are more expensive in absolute terms). This helps explain why seed now accounts for roughly 13% of a maize producers total production costs, up from 6% in 2005.[xvii]

First study on post-harvest environmental impacts

In 2008, the South African body mandated with post-harvest monitoring of GMOs, the South African National Biodiversity Institute (SANBI), in conjunction with the GENOK biosafety centre in Norway, undertook a three-year study to monitor the environmental impacts of the insect resistant maize variety MON810. The results, published in January 2011, flagged a number of areas of concern[xviii].

At the molecular level, it was found that the level of expression of the Bt gene (which infers the insect resistance in the plant) varied according to whether it was produced in a maize plant or a bacterial host. This is significant as the majority of risk assessment data provided is generated using a bacterial host rather than from the plant itself. In the field, GM and non-GM counterpart maize plants were found to react differently to similar environmental conditions. This throws serious doubt on the concept of substantial equivalence, which underlies South African risk assessment procedure.

Most worryingly from a farmer's point of view, insect pest populations have been identified that have developed resistance to the MON810. The study concluded that where resistance had already been reported, existing refuge requirements were unlikely to be adequate to stem this.

Though welcoming these long overdue biosafety developments, the published report left several key questions unanswered, including: how different role players are expected to liaise, how government departments will share information, and who will have access to information generated by future studies.[xix] SANBI, admitting the MON810 study came 'a little late'[xx], has begun consultations to establish a post-release monitoring study for glyphosate tolerant crops, which have started to spread at an alarming rate in South Africa. A preliminary workshop was held at the University of the North West, Potchefstroom, in March 2012. Many of the researchers involved in the MON810 project were present, and will contribute towards the projects design and implementation, which can only be beneficial both in terms of the expertise they will bring and for purposes of consistency. It was also clear from the workshop that industry is vehemently opposed to yet more 'onerous' regulation and monitoring of GMOs, and presented a largely united front in their opinion.

Conclusion

The ACB's position on this document has not changed; we condemn the COMESA policy in its totality and requests that its member states reject it out of hand, and dedicate themselves to stringent biosafety on the continent, at the national level.

We strongly support the report by the International Assessment of Agricultural Science and Technology for Development (IAASTD), which highlights the many scientific uncertainties and potential negative socio-economic and environmental impacts of GMOs. The IAASTD suggests rather, that the road to food security, sovereignty and sound environmental practices for current and future generations, lies in adopting and enhancing ecological agricultural systems, often based on local knowledge[xxi].

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[i] For example PBS and USAID Regional Biotechnology and Biosafety Programme in East/Central Africa and The Agricultural Biotechnology Support Program (ABSPII)

[ii] See www.acbio.org.za

[iii] ACB (2012). Hazardous Harvest: Genetically Modified Crops in South Africa, 2008 – 2012.

[iv] See www.acbio.org.za

[v] Zambezi, P. (2012) Draft Report : Regional Workshop to Validate Feedback from National Consultations on the Draft COMESA Policy on Commercial Planting, Trade and Emergency Food Aid Involving Genetically Modified Organisms (GMOs)

[vi] African Centre for Technology Studies (ACTS) http://www.acts.or.ke/index.php?option=com_content&view=article&id=16 RABESA Initiative accessed 27 June 2012

[vii] ASARECA (2010) Policy coherence and the status of biotechnology policy-making, regulations and development: The experience of COMESA under RABESA Project. Guadalajara, Mexico, 1 - 4 March 2010. http://www.fao.org/fileadmin/templates/abdc/documents/comesa.pdf accessed 27 June 2012

[viii] African Centre for Technology Studies (ACTS) http://www.acts.or.ke/index.php?option=com_content&view=article&id=16 RABESA Initiative accessed 27 June 2012

[ix] http://pbs.ifpri.info/about/ (accessed 27/06/2012)

[x] http://www.nepadbiosafety.net/about/abne-team

[xi] http://isaaa.org/

[xii] UNEP/CBD/BS/L&R/RW-AFR/1/3 1 September 2011 Workshop Report - African regional workshop on the Nagoya – Kuala Lumpur supplementary protocol on liability and redress to the Cartagena Protocol on Biosafety Addis Ababa, Ethiopia, 21-22 july 2011 http://www.cbd.int/doc/meetings/bs/bslrrw-afr-01/official/bslrrw-afr-01-03-en.pdf accessed 27 June2012

[xiii] http://acbio.org.za/images/stories/dmdocuments/Pioneer_objections_16_04_2012.pdf (accessed 26/06/2012)

[xiv] http://acbio.org.za/images/stories/dmdocuments/ACB_objection_gen_release_GA21_x_Bt11_May_2010.pdf (accessed 26/06/2012)

[xv] Ibid

[xvi] Ibid.

[xvii] Ibid

[xviii] Environmental Affairs, Republic of South Africa. Monitoring the environmental impact of GM maize in South Africa. The outcomes of the South Africa-Norway Biosafety Cooperation Project (2008-2010)

[xix] ACB (2011). Critique of SANBI's studies on Monsanto's MON810. GMOs in African Agriculture Series. http://acbio.org.za/images/stories/dmdocuments/GMO-SANBI-Study.pdf (accessed 09/03/2012)

[xx] Dr. Lukeshni Chetty, Deputy Director: GMO monitoring and Research. SANBI. Personal correspondence. 11/04/2011

[xxi] . Abate, T. et al. 2008. Executive Summary of the Synthesis report of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)