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The Role of Trust-Building in the Development of Biosafety Regulations in Kenya.

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THE ROLE OF TRUST BUILDING IN THE DEVELOPMENT OF BIOSAFETY REGULATIONS IN KENYA

Justin Mabeya, Peter A. Singer and Obidimma C. Ezezika

COMMENT



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COMMENT

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Justin Mabeya*, Peter A. Singer and Obidimma C. Ezezika**

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1

INTRODUCTION

Agricultural biotechnology has the potential to address environmental challenges such as drought and pests¹ and to contribute towards the reduction of malnutrition, hunger, and poverty in Africa. This potential may not be fully harnessed in the absence of biosafety legislation. For biotechnology to reach its potential there is need for African governments to put in place necessary regulatory regimes.²

A total of 45 countries in Africa have ratified the Cartagena Protocol on Biosafety,³ which obligates them to develop legislation to regulate the safe handling and use of living modified organisms (LMO) and their trans-boundary movement. African countries that have enacted biosafety laws include Cameroon, Tanzania, Malawi, Mauritius, South Africa, Burkina Faso, Namibia, Mali, Zimbabwe, and most recently Kenya.⁴ The need for African countries to develop biosafety regulations stems from the fact that such regulations can facilitate free trade and contribute to improved food security and improved farmers' livelihoods, borrowing from legal initiatives aimed at facilitating free trade of biotechnology products. As such, the African Union (AU) has developed an African Strategy on Biosafety⁵ and the African Model Law for Biosafety.⁶

According to International Food Policy Research Institute (IFPRI), there is need for agrobiotechnology stakeholders in Africa to engage in dialogue in order to arrive at a consensus among them over any existing uncertainties and controversies about biotechnology and biosafety issues.⁷ Kenya's recent experience of developing and implementing new regulations relied upon consensus building among stakeholders and as such may be of interest and value to other African countries currently developing biosafety regulations.

In Kenya, the Environment Management and Coordination Act (EMCA) of 1999 provides for public participation for the protection of the environment through assessment of the environmental impact assessment (EIA) reports.⁸ This is in the understanding that the public suffers the brunt of environmental degradation as a result of new technologies and developments. The Rio Declaration on Environment and Development of the United Nations to which Kenya is a signatory states that 'states shall facilitate and encourage public awareness and participation by making information widely available'.⁹ Stakeholders' engagement in the development of the Biosafety legislation in Kenya is a structured way of public participation. Stakeholder participation strategy in Kenya is encouraged through the government development policies including Kenya Vision 2030, which is one of the country's long-term national planning strategies.¹⁰

The emphasis on consensus building among stakeholders employed by the government of Kenya helped to build trust among the various stakeholders

1 C. Ramjoué, 'A Review of Regulatory Issues Raised by Genetically Modified Organisms in Agriculture', 96 *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 3 (2008).
2 J. A. Singh and S.A. Daar, 'The 20-year African Biotech Plan', 26/3 *Nature Biotechnology* 272-274 (2008).
3 Cartagena Protocol on Biosafety, Montreal, 29 January 2000, 39 *Int'l Leg. Mat.* 1027 (2000).
4 D. Wafula, 'Kenya Approves Biosafety Law', Biovision Newsletter, February 2009, available at http://www.biovisioneastfrica.com/publications/issue_11.pdf.
5 D. Wafula, Harmonizing Biosafety Regulations within Africa, Science and Development Network, 12 June 2007, available at <http://www.scidev.net/en/opinions/harmonising-biosafety-regulations-within-africa.html>.
6 *African Union*, Revised African Model Law on Biosafety, January 2008, available at http://www.africa-union.org/root/au/auc/departments/hrst/biosafety/AU_Biosafety_2b.htm.

7 International Food Policy Research Institute (IFPRI), *Governing Biotechnology in Africa: Toward Consensus on Key Issues in Biosafety* (A 'living paper' prepared for the second session of the African Policy Dialogues on Biotechnology – Southern Africa, Meikles Hotel, Harare Zimbabwe 20-21 September 2004), available at <http://www.ifpri.org/sites/default/files/pubs/africadialogue/pdf/biosafetypaper.pdf>.
8 Republic of Kenya. The Environmental Management and Co-ordination Act, No. 8 of 1999.
9 Rio Declaration on Environment and Development, Rio, 13 June 1992, 31 *Int'l Leg. Mat.* 874 (1992).
10 Republic of Kenya, The Kenya Vision 2030, the Popular Version' available at www.planning.go.ke.

and could provide insightful lessons for other countries. The stakeholder groups included farmers, farmers associations, non-governmental and civil society organisations, academia, industry (seed companies), students, the government, legal fraternity, media and consumer organisations. The stakeholder engagement in the development of biosafety regulation provided the basis for this paper. The stakeholders as citizens of Kenya have an interest in the development and outcome of the legislation.

In this article, using the lens of trust and stakeholder engagement, we describe specific aspects of trust building in the recent development of the biosafety regulations in Kenya and provide a set of guidelines that could help other African countries develop stakeholder trust during the development and implementation of biosafety regulations.

To undertake this study, we reviewed relevant literature and consulted key professionals who were involved in the process of developing the bill. The literature consisted of stakeholder meeting reports, opinion pieces, speeches and publications on biosafety legislation in Kenya and Africa. Two key professionals were interviewed to provide their views and to complement the literature review: Mr Harrison Macharia, the Senior Science Secretary at National Council for Science and Technology (NCST) who was instrumental throughout the development of the bill, and Professor Patricia Kameri-Mbote, a law professor at the Strathmore University, Nairobi, Kenya who has wide experience in research and teaching in intellectual property law and biotechnology and who participated in the development of the biosafety legislation. In conducting this study, we acknowledge that the two participants interviewed may not be fully representative of the diversity of stakeholders, however they provided valuable insight for this study. The paper also draws a lot from observations by one of the authors, Justin Mabeya, resident in Kenya and who participated partly in the stakeholders' workshops leading up to the enactment of the Act.

2 HISTORY OF BIOSAFETY REGULATION IN KENYA

Modern agro-biotechnology was introduced in Kenya in 1991 as a collaborative effort between the Kenya Agriculture Research Institute (KARI) and the private American company Monsanto to develop a sweet potato variety resistant to feathery mottle virus (FMV). This introduction took place at the time that Kenya's Biosafety Guidelines were being established.¹¹ The guidelines, which were finalised in 1998,¹² were developed to harmonise the country's national laws with the international biosafety framework as articulated by the Convention of Biological Diversity (CBD).¹³ These guidelines were implemented by the National Biosafety Committee (NBC) of the National Council of Science and Technology (NCST)¹⁴ with financial support from donor organisations including the Kenya Agricultural Biotechnology Platform¹⁵ and the United Nations Environmental Program-Global Environment Facility (UNEP-GEF).¹⁶ The membership of the NBC consists of eminent

11 H. Odame, P. Kameri-Mbote and D. Wafula, 'Innovation and Policy Process: The Case of Transgenic Sweet Potato in Kenya', 37/27 *Economic and Political Weekly* 2770-2777 (2002), available at <http://epw.in/epw/uploads/articles/9706.pdf>.

12 Republic of Kenya, A Proposed Coordination Structure for Biosafety Regulatory Agencies in Kenya, (Nairobi: The National Council for Science and Technology (NCST), 2009), available at <http://www.biosafetykenya.co.ke/documents/Coordination%20structure%20revised%20June%202009%20NBO.pdf>.

13 Republic of Kenya, 'National guidelines for the release of genetically modified organisms (GMOS) into the environment': National Council for Science and Technology (NCST), 1998), available at <http://www.biosafetykenya.co.ke/documents/ChecklistforInspectionRELEASEOFGMOSinKenya.pdf>

14 J. Wekundah, Internal Report on Capacity Building (Nairobi: Kenya Agricultural Biotechnology Platform (KABP), 2000).

15 P. Kameri-Mbote, 'The Development of Biosafety Regulation in Africa in the Context of Cartagena Protocol: Legal and Administrative Issues', 11/1 *RECIEL* 62 (2002).

16 See Odame, Kameri-Mbote and Wafula, note 11 above.

scientists, permanent secretaries from key government ministries within Kenya, the NCST Secretary, directors from biosafety regulatory agencies, representatives of farmers, consumers, and members of the private sector.¹⁷

The government found the 1998 biosafety guidelines inadequate because of the lack of legal capacity to approve applications and enforce compliance.¹⁸ The guidelines allowed international trade only with prior approval of the NBC without which it would be an offence. However, for the Minister for Science and Technology under whom the NBC fell to enforce compliance he needed powers conferred to him by an Act of Parliament.¹⁹ In 2002, the government through the NCST started the process of developing a new Biosafety Bill²⁰ to rectify this inadequacy of the guidelines (lack of legal capacity to enforce compliance).

The development of the biosafety guidelines was primarily done by the NBC²¹ with no apparent involvement of key stakeholders, besides the funding organisations. Critics of this process accused NCST of being influenced by external pressure in formulating the National Biosafety Guidelines.²² This was a sign of mistrust in the process of developing the guidelines. Subsequently, during the development of the Biosafety Bill, the government engaged stakeholders in a series of meetings and workshops for development of the Bill. Between 2004 and 2008, there were a total of 58 joint public and private sector stakeholder meetings held.²³ After a period of at least six years, the Biosafety Act 2009²⁴ was signed into law in February 2009.²⁵ The key

objectives of the Biosafety Act were to regulate activities related to genetically modified organisms (GMOs), apply the Cartagena Protocol, and establish the necessary infrastructure to govern and ensure biosafety measures are implemented,²⁶ ensure responsible research, safe handling and protection from GMOs that have adverse effects on health and environment and safe handling during transfer of GMOs.²⁷

3

THE NEED FOR TRUST IN THE DEVELOPMENT OF THE BIOSAFETY LEGISLATION

By the time the development of the Biosafety Bill started in Kenya, modern biotechnology research had been going on in the country for over a decade.²⁸ For example, research on transgenic sweet potato started in 1991²⁹ while the Insect Resistant Maize for Africa (IRMA) project was launched in 1999.³⁰ The development of biotechnology in Kenya generated debate over a number of issues related to the safety of the technology and its ethics. In the absence of clear biosafety regulations this debate degenerated into mistrust and finger pointing among various stakeholders. There were several categories of stakeholders on the scene. These included the government, both the active proponents and

17 See Republic of Kenya, note 12 above.

18 See Kameri-Mbote, note 15 above.

19 *Id.*

20 National Council for Science and Technology, Proceedings of Stakeholders Half-day Workshop on Biosafety Bill 2007, held on 26 July 2007 at the Jacaranda Hotel, Nairobi, Kenya.

21 See Odame, Kameri-Mbote and Wafula, note 11 above.

22 *Id.*

23 African Biotechnology Stakeholders Forum, Stakeholder Meetings Leading to the Biosafety Act 2009. Unpublished Report, 2009.

24 Biosafety Act, 2009, Act No. 2 of 2009. The Republic of Kenya *The Government Printer*, Nairobi, Kenya (2009).

25 See Wafula, note 4 above.

26 Personal communication, Harrison K. Macharia, Chief Science Secretary, National Council for Science and Technology, Nairobi, Kenya, (2009). C. Kiamba, Opening speech by Professor Crispus Kiamba, Permanent Secretary, Ministry of Science and Technology, in proceedings of stakeholders half-day workshop on Biosafety Bill 2007, held on 26 July 2007 at the Jacaranda Hotel, Nairobi, Kenya (2007).

27 See Biosafety Act, note 24 above.

28 M. Harsh, *Living Technology and Development: Agricultural Biotechnology and Civil Society in Kenya* (Edinburgh: University of Edinburgh, Doctor of Philosophy Science and Technology Studies Thesis, 2008).

29 See Odame, note 11 above.

30 KARI and CIMMYT, 'Insect Resistant Maize for Africa Annual Report 2006. KARI/CIMMYT IRMA Project', *IRMA Project Document No. 27 (Mexico D.F.: KARI and CIMMYT, 2007)*.

opponents of biotechnology, and the general consumers of the technology who are mainly unconcerned about the events and were perceived to be passive in the process. These categories leaned on two dimensions - one dimension of relatively well-informed stakeholders - the other to relatively un-informed stakeholders.³¹ Nonetheless, all had a stake in the development process and implementation of the law.

The government recognised its legitimate role of facilitating the development of the biosafety law and initiated the process in 2002.³² This was informed by the fact that there was biotechnology research in the country that needed appropriate regulation. There was also the need to manage information available to the public on matters of biotechnology in order to avoid confusion and disabuse myths.³³ During this period, governance of biotechnology was informal and strategic decisions were made outside any state mechanism.³⁴ Therefore in the absence of appropriate regulation spearheaded by government, a condition was created that decreased the likelihood of trust in biotechnology and its safety.

Active proponents of biotechnology, mostly scientists, were in some cases perceived to be overzealous in research despite the absence of regulatory framework. They were also thought to be bowing to pressure from multinational donors³⁵ keen on commercialising their agrobiotechnology in Africa.³⁶ The opponents of the biosafety law argued that the bill was an avenue to introduce biotechnology products and projects that were

known to have negative environmental effects.³⁷ These fears were later expressed by opponents of the bill in stakeholder workshops.³⁸ This state of affairs signalled the importance and need for trust to be built among the stakeholders throughout the process of development and eventual implementation of the law. As a result, the events and activities leading up to the enactment of the Biosafety Act would best be interpreted through the lens of trust.

4

PUBLIC PARTICIPATION IN THE DEVELOPMENT OF THE BIOSAFETY BILL

In the development of the biosafety bill, the government through the NCST engaged the public through representative stakeholders in a consultative process³⁹ that took several years and culminated with the publication of a Biosafety Bill on 22 June 2007.⁴⁰ Time was spent in educating the stakeholders on biotechnology and biosafety for purposes of making informed decisions.⁴¹ This was in line with

31 See IFPRI, note 7 above.

32 See National Council for Science and Technology, note 20 above.

33 *Id.*

34 See Harsh, note 28 above.

35 P. Kameri-Mbote, Will Kenya's Biosafety Bill of 2005 Ever Become Law?, Science and Development Network, 12 June 2007, available at www.scidev.net/en/opinions/will-kenyas-biosafety-bill-of-2005-ever-become-la.html.

36 Kenya Biodiversity Coalition, Salient Key Concerns Regarding the Biosafety Bill, 2007, available at <http://www.villagevolunteers.org/PDFs/Travel%20Documents/Projects%20Library/Agriculture/Key%20Concerns%20of%20the%20Biosafety%20Bill.pdf>.

37 M. A. Altieri, The Case Against Agricultural Biotechnology: Why Are Transgenic Crops Incompatible with Sustainable Agriculture in the Third World?, 2002, available at <http://www.mindfully.org/GE/GE4/Case-Against-Biotech-Altieri22aug02.htm>; ERA, Genetically Modified Crops: The African Challenge (Nigeria: Environmental Rights Action (Friends of the Earth), 2005), available at <http://www.eraaction.org/publications/eragmoreport.pdf>.

38 See National Council for Science and Technology, note 20 above.

39 R. O. Shibalira, 'Drafting a Biosafety Law: My Experience', 2/2 *Biosafety Protocol News* 6 (2007), available at <http://www.cbd.int/doc/newsletters/bpn/bpn-issue02.pdf>.

40 See National Council for Science and Technology, note 20 above.

41 National Council for Science and Technology, A summary Report of Biotechnology and Biosafety Framework Workshop for Kenya, ABSF-NCST workshop, 31 Oct - 1 Nov 2003, Whitesands Hotel, Mombasa, Kenya, (2003); R. Shibalira, Drawn Out Law Making Gave Kenya A Room to Breathe, Science and Development Network, 28 June 2007, available at <http://www.scidev.net/en/editor-letters/drawn-out-lawmaking-gave-kenya-room-to-breathe.html>.

the guiding government policies of stakeholder participation, which allows the stakeholders access to information for informed decision making. The time taken also helped to define and coordinate the roles of various stakeholders and thus created better understanding⁴² that facilitated stakeholder trust. In addition, the scientists (from regulatory authorities and research institutions like KARI) had the opportunity to undertake training on risk management and assessment and to improve on the documents necessary for implementation of the law.⁴³ This process was essential in minimising scepticism and building trust with the end users and the public. Otherwise, the new regulations were thought to potentially result in conflict with religious and cultural beliefs of the society,⁴⁴ and further heighten mistrust.

The invited stakeholders gave their comments on the bill in a number of forums, which were incorporated into the Bill.⁴⁵ Some of these stakeholders included the Kenya Biodiversity Coalition (KBioC), Participatory Ecological Land Use Management (PELUM), Kenya Plant Health Inspectorate Services (KEPHIS), KARI, and Seed Traders Association of Kenya (STAK). Others included farmer associations, private sector players, researchers, and academicians.⁴⁶ The inclusion of stakeholders reflected the recognition by NCST that all these institutions would be beneficiaries of the new legislation and of new biotechnology products. The stakeholders also played some role in monitoring and hence ensured that the views of the public were incorporated into the new Bill. As a result, the NCST created a sense of ownership and buy-in for the end product among stakeholders and the public. Subsequently, the stakeholders would also ensure compliance to the new regulations at the time of implementation,⁴⁷ a sign of acceptance of the process and the product. Despite these efforts, some stakeholders such as the legal profession felt that they were left out in the process of developing

the law which may present a challenge, when the Act is finally implemented.⁴⁸

As a way of engaging the stakeholders, in one of the workshops⁴⁹ the government urged the stakeholders to consider the following: 1) that Africa faces the challenge of food security; 2) that Kenya is a signatory to the Cartagena Protocol and therefore obligated to establish a suitable legal and administrative framework to govern biosafety; 3) that biotechnology has the potential to contribute positively towards improving food security in the country; 4) that Kenya has the capacity to manage biotechnology, evidenced by the successful farm inputs regulation, and that similar stringent measures will be applied in biotechnology research, handling and deployment of its products; 5) that the stakeholders are acting in trust and on behalf of 30 million Kenyans and therefore should act responsibly and be accountable to the public and; 6) that biotechnology is not new in Africa and has been used in vaccine development for several years without any safety problems or challenges. As a result, the government sought to have the stakeholders focus on the merits of the legislation despite their different interests and build trust in the process.

Prior to the development and enactment of the Biosafety Bill into law, the government engaged in key efforts to manage biotechnology.⁵⁰ These included; 1) establishment of the National Biosafety Committee (NBC) under the NCST, with diverse membership from government, private sector, research and regulatory authorities, the farmer associations and consumer organisations; 2) establishment of the Biosafety Policy Document; 3) establishment of the National Biotechnology Awareness Creation Strategy (BioAware Kenya), to coordinate and improve access to balanced findings and to remove myths on biotechnology. The NBC implemented the National Biosafety Guidelines

42 See Shibalira, note 39 above.

43 *Id.*

44 See Kameri-Mbote, note 15 above.

45 See National Council for Science and Technology, note 20 above.

46 *Id.*

47 See Kameri-Mbote, note 15 above.

48 Personal communication with Professor Patricia Kameri-Mbote, Law Professor, Strathmore University, Nairobi, Kenya, (2009).

49 See National Council for Science and Technology, note 20 above.

50 Welcome Remarks by Dr Wilson Songa, the Agriculture Secretary, Ministry of Agriculture, *in* proceedings of Stakeholders half-day workshop on Biosafety Bill 2007, held on 26 July 2007 at the Jacaranda Hotel, Nairobi, Kenya, (2007). See Kiamba, note 26 above.

which preceded the Biosafety Act, 2008 and currently acts as a technical regulatory body for biosafety. Following the enactment of the Act, the NBC is expected to transition to the National Biosafety Authority (NBA).⁵¹ Its membership embraces broad stakeholder engagement⁵² for trust-building and sustainability. The National Biotechnology Policy institutionalises scientific risk assessment and management as a basis for approval of GMOs for research, field trials and commercialisation.⁵³ The policy is also a tool to enhance human welfare in matters related to health-care, food-security and poverty alleviation.⁵⁴ BioAware Kenya launched in 2006 is a five year strategy by the government aimed at improving public understanding and awareness of biotechnology through dissemination of accurate, timely and balanced information.⁵⁵ All these efforts were meant to build and maintain public trust in the government's stewardship.

5 CHALLENGES ENCOUNTERED IN THE PROCESS OF ENGAGEMENT

In its efforts of stakeholder engagement during the development of Biosafety Act, the government encountered challenges that underlined the importance of trust and stakeholder confidence. Some of the key challenges which are described below included: 1) the perceptions that the government was under external influence to develop and enact the law, 2) desire by some sectors of government to engage in biotechnology work

despite lack of legal, infrastructural and personnel capacity on the part of government to ensure biosafety, 3) poor communication of scientific facts about biotechnology by researchers and 4) sometimes ignorance and deliberate distortion of facts about biotechnology in the media.

The NCST was accused by a section of civil society of being influenced by external pressure in formulating the Biosafety Bill, and therefore pushing forward the agenda of multinational genetic engineering companies and developed countries.⁵⁶ In approving GMO technologies for field trials despite its lack of capacity and legal instrument to assess risks and enforce compliance, the NCST was seen to be exposing people to risks.⁵⁷ This influence was believed to be due to the financial strength of external donors of agrobiotechnology. Some civil society organisations were openly opposed to the development of Biosafety law. For example, Kenya GMO Concern Coalition (KEGCO) was openly opposed to the Bill,⁵⁸ and they found support among some members of parliament (MP) who argued against the bill in the floor of the House. For example, on 7 December 2004, Mr David Nakitare MP for Saboti presented a private member's motion in Parliament that called for a moratorium on all GMO research in the country.⁵⁹

There is evidence that the source of funding, technology transfer, and human resources can have a direct influence on the state of agrobiotechnology in developing countries.⁶⁰ Agrobiotechnology research in Kenya draws some of its funding from the international community, with some coming from fees charged on services offered by the research institutes. The donor funding is drawn from private

51 National Biosafety Office, Guide to Biosafety Act and the Proposed Regulations: Overview of the Kenya Biosafety Act, 2009 (Kenya: National Biosafety Office, 2009), available at <http://www.biosafetykenya.co.ke/bio-act.php>.

52 See Republic of Kenya, note 13 above.

53 G. M. Siboe, The Biotechnology Policy and Biosafety Mechanisms for GMOs in Kenya (Proceedings of Stakeholders Half-day Workshop on Biosafety Bill 2007, organised by Ministry of Science and Technology in collaboration with the Ministry of Agriculture, Nairobi, Kenya, 26 July 2007).

54 See Kiamba, note 26 above.

55 See Wafula, note 4 above.

56 H. Neondo, 'Kenya Finally Approves Biosafety Law', available at <http://www.fanrpan.org/documents/d00625/>.

57 See Republic of Kenya, note 12 above.

58 See Kiamba, note 26 above.

59 Konchora Guracha, Farmers Oppose Genetically Modified Foods Bill, 21 December 2004, available at http://greenbio.checkbiotech.org/news/farmers_oppose_genetically_modified_foods_bill.

60 P. Kameri-Mbote and D. Wafula, Alternative Options and Policy Measures for Financing Biotechnology R and D in Africa (Paper Presented at the Regional Workshop on Building National Biotechnology Innovation Systems: New Forms of Institutional Arrangements and Financial Mechanisms; organised by ACTS, Nairobi, Kenya 6-8 December 2000).

companies such as Monsanto and international donor organisations like the United States Agency for International Development (USAID) and the United Kingdom Department for International Development (DFID).⁶¹ Kenya is also home to several international agriculture research organisations that spend substantial financial resources in biotechnology research. Examples are International Livestock Research Institute (ILRI), International Centre for Insect Physiology and Ecology (ICIPE), and International Centre for Research in Agro-Forestry (ICRAF). This funding is often accompanied by transfer of specific agrobiotechnologies from the donor organisations or countries. In such an arrangement, the local research institutes are left to undertake adaptive research of these technologies, with capacity building support from the donor organisations. Such a strong role of external or foreign groups on national agrobiotechnology appears to have led some stakeholders to doubt the autonomy of the government in developing the biosafety law.

In June 2007 the Science and Development Network (SCIDEV) reported that in August 2005 the government of Kenya ordered the destruction of all *Bacillus thuringiensis* (Bt) maize crops undergoing field trials at one of the KARI research stations.⁶² The government cited lack of full information regarding environmental impact and lack of legal framework to support the process. It was further stated that 'there is a tendency by scientists of yielding to pressure from international collaborators pushing to secure approvals for their research projects faster, side-stepping procedures'.⁶³ This action which came midway through the process of developing the Biosafety Bill exposed the lack of coherence and coordination between various government departments. These statements echoed the concerns raised above that the government or proponents of modern agro-biotechnology were pushing a foreign agenda. The apparent inadequacies alluded to by the government became the impetus in the development of a more comprehensive legislation to ensure

compliance on biosafety issues and facilitate capacity development in the regulatory and research institutions and hence encourage transparency and trust.

When it comes to public information and awareness of agro-biotechnology, Africa lags far behind other regions of the world.⁶⁴ The primary challenge in the process of developing the biosafety law was how to reach all stakeholders and the general public in Kenya with accurate, non-polarised, and consistent information to close the knowledge gaps on biotechnology.⁶⁵ According to International Institute of Tropical Agriculture (IITA) there is difficulty in getting biotechnology and science-based information from local African scientists to publish in the media.⁶⁶ Unavailability of such information when needed may create gaps that may be filled by erroneous information.⁶⁷

Debate and disagreement among scientists is not new and there are some vocal scientists who oppose genetically modified crops. Disagreements among experts, has been identified as a constraint to risk communication in agricultural biotechnology in East Africa.⁶⁸ The resulting mistrust and scepticism on the technology may be aggravated by the level of literacy, access of information or extension services, misconceptions or fears and lack of time and funds.⁶⁹ Modern agrobiotechnology is relatively new in Africa and such disagreements may erode the public trust and confidence on expert opinion from scientists on biotechnology.⁷⁰

64 KARI and CIMMYT, 'Insect Resistant Maize for Africa (IRMA) Hosts Meeting Aimed at Better Biotech Communication'. *Insect Resistant Maize for Africa Updates, June, 2001 Vol. 2, Issue 2* (2001).

65 *Id.*

66 W. S. Alhassan, 'Agrobiotechnology Application in West and Central Africa - 2002 Survey Outcome' (Ibadan, Nigeria: International Institute of Tropical Agriculture (IITA), 2003), available at <http://www.iita.org/cms/details/Agrobiotech.pdf>.

67 T. Sengooba et al., 'Biosafety Education Relevant to Genetically Engineered Crops for Academic and Non-academic Stakeholders in East Africa', 12/1 *Electronic Journal of Biotechnology* (2009).

68 *Id.*

69 *Id.*

70 A. B. Gidamis and B. E. Chove, 'Biotechnology and Biosafety: Exploring the Debate and Public Perception in Developing Countries', 2/1 *Journal of Knowledge Globalization* (2009).

61 Aid Effectiveness Kenya, Harmonisation, Alignment and Coordination (HAC) High Level Pre-Retreat Meeting Norfolk Hotel, Nairobi, Wednesday, August 26, 2009.

62 See Kameri-Mbote, note 35 above.

63 *Id.*

6

LESSONS FROM THE BIOSAFETY DEVELOPMENT PROCESS

The implementation of the Biosafety Act 2008 will affect biotechnology development and adoption in Kenya.⁷¹ By analysing the development process of the Biosafety Bill in Kenya and studying the challenges encountered, we observed four key lessons (Box 1) that are important for building trust and could be transferable to other African countries that are in the process or about to start development of biosafety laws.

Box 1: Lessons from the biosafety development process

i) Stewardship of development of new regulations is the government's responsibility

The government is coordinator of a consensus building process among several stakeholders.

ii) Time is an important consideration

Time is needed to explain biotechnology and biosafety issues and remove any myths about them and hence build trust and confidence on biotechnology and the biosafety legislation

iii) Consensus-building process should be based on facts

Proven scientific facts on biotechnology and biosafety, relevant expertise, and experience from policy makers, technical experts, and stakeholders of all walks of life is necessary in the process of developing biosafety legislation.

iv) Sustained stakeholder involvement is required beyond the enactment of the law. Long term engagement will ensure that trust and goodwill of stakeholders is maintained as the legislation is implemented

6.1 Stewardship of development of new regulations is the government's responsibility

The process of development of biosafety law should involve several stakeholders as pertinent players in a consensus building process for successful development of the law. In this process, the government plays the coordination role. Through their key agencies, governments should coordinate the consultations and consensus building efforts, with several stakeholders representing different opinions, leading to the enactment of the biosafety law. The stakeholder categories should be varied, covering farmers, academicians, researchers, members of the community, consumer groups, the media, funders, regulators, and private sector players.

6.2 Time is an important consideration

To reach consensus on a variety of opinions and views about biotechnology arising from various stakeholders, it takes time. And therefore the process of developing the biosafety law should be allowed sufficient time. This is necessary to explain biotechnology and biosafety issues and remove any myths about them and hence build trust and confidence on biotechnology and the biosafety legislation. The time will also allow people from diverse institutions and interests to get to know each other's positions and motives and thereby build trust among themselves. A hurried process will confirm the fears and scepticisms about biotechnology and the biosafety legislations under development. On the other hand, care should be taken to avoid a protracted process in order to maintain interest of the stakeholders and trust on the process and product.

6.3 Consensus-building process should be based on facts

The development of the biosafety regulations requires consultation, negotiation, and consensus building on all contentious issues with all stakeholders. These efforts should be based on proven scientific facts on biotechnology and biosafety, relevant expertise, and experience. Policy

71 I. Virgin et al., 'Agricultural Biotechnology and Small-scale Farmers in Eastern and Southern Africa', (Stockholm: Stockholm Environment Institute, 2007).

makers, technical experts, and stakeholders from all walks of life should be invited to participate in the process. Although technical and scientific views may sometimes differ their open contributions serves to augment the trust building efforts.

6.4 Sustained stakeholder involvement is required beyond the enactment of the law

After enactment of the law, efforts should be made to bring on board those who may have been left out during the process of developing the law for purposes of capacity building and implementation. Signing of the biosafety bill to law should not be seen as an end in itself. Implementation of the law will require sustained stakeholder engagement. This long term engagement will ensure that trust and goodwill of stakeholders and therefore the public is maintained. Without this, compliance will be hard to achieve.

7

IMPORTANCE OF TRUST AND NEXT STEPS FOR THE BIOSAFETY ACT IN KENYA

Although our analysis of the development of the Biosafety Act in Kenya did not identify trust explicitly as a key challenge, the lens of trust helps to explain what happened and why, and using this lens may be important for other countries as they follow a similar path. The stakeholder engagement activities in Kenya included workshops, consensus building activities, and awareness creation about the value of biotechnology through the media. These efforts appear to have reduced scepticism and misconceptions among the stakeholders and allowed stakeholders to contribute to the Bill. In Kenya, these efforts need to be sustained in the implementation of the law. Stakeholder participation through consensus building, negotiation, trade-offs, conflict

resolution and holistic thinking⁷² would enhance transparency, improve information flow and communication. In the absence of these there may be resistance to the process and the end product.

Following the enactment of the Biosafety Bill in Kenya, stakeholder engagement slowed down. The National Biosafety Committee (a department of the National Council of Science and Technology) is meant to transition to the National Biosafety Authority (NBA) (an independent body to implement the Act), as set out in the Biosafety Act.⁷³ At the time of writing this article, the office of the Attorney General was in the process of developing regulations to facilitate the implementation of the Act.⁷⁴ So far, five out of the eight regulations stipulated by the Act have been drafted⁷⁵ which is a clear sign of commitment by the Government to implement the Act as passed by the stakeholders. Some sections of the civil society reckon that a great deal of work is still required in the drafting of regulations to fill in gaps, close some loopholes and bring about greater legal certainty.⁷⁶ They urge their members to be part of this process, which is a positive sign as regards trust building in the period before and after the enactment of the Act.

The NBA will be responsible for public awareness and education as provided for in section 54 of the Act.⁷⁷ The Act also makes a provision for the appointment to the Board of Management of the NBA the following: a representative of consumer interests, a representative of farmers' interest and representative of the biotechnology industry. These appointments will serve to strengthen trust between the stakeholders and the Government.

72 R. Giordano et. al., Integrating Conflict Analysis and Consensus Reaching in a Decision Support System for Water Resource Management, 84/2 *Journal of Environmental Management* 213-228 (2007).

73 See Biosafety Act, note 24 above. See also Personal communication, note 26 above.

74 See Wafula, note 4 above.

75 See Personal communication, note 26 above.

76 M. Mayet, Comments on the Biosafety Bill, 2008, of Kenya (Melville: African Centre for Biosafety, ACB Briefing Paper No. 7, 2009), available at <http://www.biosafetyafrica.net/index.html/images/stories/dmdocuments/Kenya%20Biosafety%20brief.pdf>.

77 See Biosafety Act, note 24 above.

There is no doubt that Kenya has made progress in developing a biosafety regime and that stakeholder engagement has built some measure of trust among stakeholders during the development of new biosafety regulations. However, issues of transparency and information disclosure were challenges during this development. As other countries in Sub-Saharan Africa strive to build Biosafety regimes, we suggest that open stewardship, time, consensus building and sustained stakeholder engagement should be important elements in building trust among stakeholders in the development of national biosafety regimes.

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