SOVEREIGNTY OVER GENETIC RESOURCES: RIGHT TO REGULATE ACCESS IN A BALANCE. THE CASE OF KENYA[1]

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ABSTRACT: States have the sovereign right to regulate access to genetic resources on their territories. Users of genetic resources are obliged to share benefits from utilized resources with source countries. In order to facilitate access and benefit sharing, appropriate legislative, administrative and policy measures have to be taken by both resource and user countries. In Kenya, existing legal framework suffers from numerous shortcomings and is unable to achieve the access and benefit sharing (A&BS) objectives of the Convention on Biological Diversity (CBD). There have been efforts to implement the provisions of the CBD, but these have not been concretized in a manner that clearly and smoothly regulate A&BS. Until this is done, research is likely to be seriously hampered and illegal access of genetic resources and TK to continue unabated.

Keywords: Genetic resources. Benefit sharing. Biological diversity. Biopiracy. Environmental management.

RESUMO: os Estados têm o direito soberano de regular o acesso aos recursos genéticos em seus territórios. Os utilizadores dos recursos genéticos são obrigados a compartilhar

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beneficios de recursos utilizados com os países provedores. A fim de facilitar o acesso e repartição de benefícios, políticas e medidas legislativas e administrativas têm de ser tomadas tanto por países utilizadores como os provedores de recursos. No Quênia, o quadro legal existente padece de numerosas carências e é incapaz de atingir os objetivos da Convenção sobre Diversidade Biológica (CBD) sobre o acesso e repartição de benefícios (A&BS). Houveram esforços para implementar as previsões da CBD, mas estas não foram concretizadas numa maneira que clara e consistentemente regule A&BS. Até que isso seja feito, pesquisas provavelmente serão seriamente dificultadas e o acesso ilegal a recursos genéticos e TK não serão abalados.

Palavras-chave: Recursos genéticos. Repartição de benefícios. Diversidade biológica. Biopirataria. Ecogestão.

1. Introduction

Article 15 of the Convention on Biological Resources recognizes the sovereign rights of states over their natural resources, as well as their authority to determine access to genetic resources subject to their national legislations. It, however, warns against such regulation that comprises a restriction to access. In actual fact, the language of Article 15 tries to engage both providers and users to collaborate in order to achieve mutual benefits for both parties, as well as benefits for the environment. This, unfortunately, has not been the case. In most cases, provider regimes have created so many constraints making access to genetic resources extremely strenuous. In some instances, users have opted for synthetic raw materials in place of biological ones. The constraints are the result of a number of factors among them the providers' enthusiasm to extract excessive benefits and lack of legislative capacity. Users have also contributed to the stalemate. Until now, no user country has implemented Article 15.7 obligation by putting in place '(…) legislative, administrative or policy measures with the aim of sharing in a fair and equitable way the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the Contracting Party providing such resources (…).' As a result, appropriate user measures to assist provider measures achieve the objectives of the CBD lack. This leaves the providers with no choice other than trying to reach their goals one-sidedly and as a result the status quo is maintained.

This paper investigates the regulation of access to genetic resources and benefit sharing in Kenya in two historical periods: before 1999 and from hence until the present. It looks at existing provisions in this area and why they failed to control 'biopiracy', as well as guarantee benefits to the local communities from utilized genetic resources. It then examines Kenya's response to this situation, i.e., what Kenya is doing in order to alleviate A&BS impediments and to curb biopiracy. Hence, it looks at the implementation of the CBD A&BS provisions into national legislation and examines how successful this implementation has been in light with Arts 15.1, 15.2 and 15.7 of the CBD. Finally, it looks at the prevailing shortcomings of the legislative and implementation process upon suggestions for improvement.

2. Sovereignty over genetic resources: The right and the obligation

Prior to the Convention on Biological Diversity (CBD)[3], genetic resources (GR) were regarded as a common good (Sampath 2005: 127). In other words, they were believed to be an inheritance of all mankind. The CBD made it clear that they fell under the territorial sovereignty of individual countries where they are found (Preamble; Art. 15(1)). Some authors (Ruiz 2003) argue that the CBD did not bring any significant change. Muller, for example, says

[3] The Convention on Biological Diversity entered into force on June 5 1992. Kenya is a signatory of CBD since June11 1992.

that the CBD just reaffirmed and expressed "(…) in an unambiguous manner, a right that, theoretically, the States had always had and had never lost." According to him, the *quasi*-erroneous international customary notion that genetic resources were *res nullius* bred the impression that genetic resources were "(…) something over which everybody and, at the same time, nobody had rights" (Ruiz 2003: 4f.). Ruiz's statement, however, seem to confirm that the CBD actually brought about a significant change. If the international customary notion gave everybody and nobody specifically the right to access and use genetic resources, then the States' right could only be understood within the context of everybody's right. That would imply that States in whose territories the genetic resources are found have the right to use the genetic resources, but not to regulate any genetic resources connected activities of other States in their territories. If the *res nullius* doctrine did not clearly delineate the rights of States over genetic resources, at least the CBD endorsed the sovereign right of countries possessing GR (Kate & Laird 1999: 15) to determine the rules of access and other conditions attached thereto (Art. 15.1), a right they never had before.

The right the CBD gives States to regulate access to genetic resources is not meant to be a tool against access (Mugabe et al. 1997: 8). Any restrictions that illegitimately hinder access are contrary to the objectives of the Convention (Mugabe et al. 1997: 8; Kate/Laird 1999: 15f.; Kamau 2004: 195ff.). Contracting parties to the Convention are expected to institute measures that facilitate access and sustainable use of genetic resources (Art. 15.2), as well as promote benefit sharing from utilized genetic resources (Mugabe et al. 1997: 8). Therefore, users of GR, mostly industrialized countries, are also expected to remunerate suppliers of the same for appropriation of these resources either in monetary or non-monetary form (Art. 15.7) as well as guarantee access to biological technology used in processing GR (Art. 16.2, 16.3; Rosendal 2000: 156; Scholze 2002: 80). This requires appropriate legislative, administrative and policy measures (Art. 15.7). Hence, sovereignty over genetic resources hangs on this trio **right–obligation–right** A&BS balance foreseen by Arts 15.1, 15.2 and 15.7 of the CBD.

Most countries of the South are still trying to look for the best way to regulate A & BS such that research is sustained and encouraged, and benefits are at the same time guaranteed. There are agreements on access and benefit sharing (A&BS) within regional framework *viz*. in Africa,[4] South America[5] and Asia[6], which could be used as vital guiding orientations. Many, however, have not yet entered into force (Tewolde 1999; Carbuccia 2000) and therefore, have not been tested. Until now, regulation of A & BS is currently comparatively envisaged in the national laws of a few countries.[7] Those that have adopted the CBD into their national legislations suffer criticisms about their laws' strictness[8] (GDI, 2002; COP, 10th Session of the Global Biodiversity Forum: May 1998) and failure to (fairly) represent all interest groups (Santilli 1998; Bödeker 2003: 807). Santilli, for example, criticizes Art. 17 of the Brazilian A & BS legislation, the Medida Provisória No. 2.186-16 of August 2001, which reverts the right of local communities to prior informed consent (Art. 16 § 9) in case of "relevant public interest." According to Santilli, this clause contradicts the Constitution, which guarantees the indigenous communities considerable rights over their territories and their cultural inheritance.

Although it's extremely difficult to avoid or eliminate 'biopiracy', as well as secure benefits without effective laws, stringent access laws tend to disadvantage research (Erdos 1999: 20) and the economy. Before the MP 2.186-16, for

[4] The Model Law of the Organization of African Unity.
[5] Andean Pact, Decision 391.
[6] ASEAN Framework Agreement on Access to Biological and Genetic Resources, 2000 (draft).
[7] Among them India, the Philippines, Bolivia, Peru, Costa Rica, Panama, Brazil and Guyana, www.biodiv.org; www.grain.org.
[8] The Philippines was the first country to adopt a A & BS legislation into its national law. The law of 1996 was critically evaluated: Foreign researchers and entrepreneurs were expected to pay high transaction costs. There was a threat that they could move their activities to countries with less stricter laws.

example, the access procedure in Brazil was less bureaucratic and formal (Santos/Sampaio 1998: 3). Due to the stringent provisions of the new law, foreign research is currently almost paralyzed. According to a Brazilian interviewee, this has prompted the CGEN (*"Conselho de Gestão do Patrimônio Genético"*), an interministerial council that regulates access to genetic resources within Brazilian territory, to work on a draft law in order to rectify the situation. When an access regime restricts access to genetic resources, it runs counter to one of the major objectives of the CBD (Mugabe 1997: 8; Kate/Laird 1999: 15f.), as mentioned above. Many provider forerunner countries experienced the same difficulties because their initial approach was more reactive than proactive. The legislative process was also not well informed. Now many regimes are being revised in order to rectify the situation to draw back foreign research and cooperation. The CGEN draft law, for example, proposes to shorten the procedure for PIC of TK commonly owned by various communities.[9] An applicant will need only one certificate of PIC from one of the communities concerned. Benefits from the utilization of the knowledge will go to a common fund (*"podem ser feitos contratos com CTA com uma unica comunidade, mesmo que outras detenham o mesmo conhecimento. Demais comunidades receberiam recompenses via Fundo*"). It also discards the requirement that foreign institutions get a local collaborating institution before a licence to carry out research is granted (*"Instituições estrangeiras podem pesquisar os RG sem intermediação de pessoas jurídicas brasileiras"*). The latter development, however, would be in contradiction with the objective of creating the opportunity for knowledge transfer (Kate/Laird 1999: 15). This is an example of the kind of challenges that many ABS regimes face, especially those which were enacted in a hurry. An attempt to revise them later so as to repair damage that has already occurred might produce new complications. It's, therefore, clear that a well-balanced A&BS regime would require ample time and diligence and not a hit-and-run approach.

There are divergent opinions concerning what an optimal access regime should contain and what not (Sampath 2005: 127ff.; Mugabe et al. 1997; Kata/Laird 1999: 17ff.). Simply said, a successful A & BS law should integrate measures offering easy access with those that guarantee benefit sharing. However, with each option, there are at times also numerous practical hardships associated with it. This makes it hard to arrive at solution-based approaches capable of bringing consensus (Khor 2002). As a result, the law formulation process still suffers uncertainty. At the same time, it seems each country is in a competition to make the best offer of genetic resources (Brand/Görg 2001). There is a lack of uniformity between the various national legislations (Kaushik 2003: 262). Although this might be associated with the distinct requirements, lifestyles etc. of each country (Kaushik 2003: 255), it deprives the genetic resources rich countries, which share a similar fate, the opportunity to learn from one another's experiences. It's also likely to discourage researchers from initiating projects in various countries, but rather choose the country with softer regulations.

It's quite vital for Kenya to have a regime that is capable of effectively regulating access to GR and benefit sharing. The country is classified as one of the most important biodiversity rich countries, the so-called '*megadiverse*' countries (Caillaux/Ruiz 2002: n 2), with an estimated 35,000 known species of animals, plants and microorganisms (Manek 2001). Her *in-situ* conservation includes 26 national parks, 30 national reserves and 2 game sanctuaries (Manek 2001). *Ex-situ* conservation consists of arboreta/botanical gardens, animal orphanages and animal parks (Manek 2001). In the past, Kenya had a bad experience with the large losses of her rare plants due to false permits (Mbaria 2004). This was worsened by a lack of knowledge on the importance of genetic resources (The Daily Nation, July 16 1999;

[9] Kleba and Kishi, pers. comms.

Zehle 2001). From 1987 alone, over 18,000 species have been smuggled out of the country by bioprospectors (Ibid; Kwayera 1999). These include species of coffee, barley, parsley, various fruits and vegetables (Ibid; Kamau 2004: 168f.). Although bioprospectors are required to leave a duplicate of species collected with a reputable research institution[10], both the locals and foreigners have ignored this requirement.[11]

With the growth of biotechnology, the booming of products from genetic resources, and harmonisation of patent laws through the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement, Kenya, like any other developing country, is faced with numerous challenges that include how to impede 'biopiracy', improve and ease bio-prospecting (access), acquire gain for the country being the source and provider of the genetic resources and ensure sustainable use of these resources. Additionally, the country will have to retain, maintain and protect traditional (indigenous) methods of husbandry, as well as breeds, seeds and other products (e.g. medicines).

3. Regulation of access and benefit sharing in Kenya until 1999

Biodiversity policy in Kenya lacks a constitutional base. The current Constitution of Kenya is void of provisions that give guidance for regulation of A&BS issues or heralds the importance of these resources to Kenya. It's hoped that if the undergoing Constitutional Review Process in Kenya successfully deliberates (delivers), a biodiversity policy in Kenya will finally possess a stronger backing and make a greater impact than it has until now (Kamau, Forthcoming in *Revista de Direito Ambiental*).

Historically, the biodiversity policy in Kenya has been coordinated by the National Environment Secretariat (NES) through the presidential directive. However, the NES has never been provided with statutory legal status and, hence, lacks direct influence on the activities of the various lead agencies. As a result, the interests of the major lead agencies mainly shape the existing legislation on biodiversity. Consequently, biodiversity issues in Kenya were never regulated in a single Act. This has given rise to fragmented legislation and sectoral approach to questions at stake. Most genetic resources in Kenya are land-based and include agricultural ones. This paper will, however, only look at the major legal instruments regulating wild biological diversity; plants and animals found on land.[12]

3.1 Major Legislations

The main legislations in the area of genetic resources are the Wildlife Conservation and Management Act (Cap 376, last amended in 1989) and the Forests Act of 1982 (Cap 385, revised edition 1992).

[a] Wildlife Conservation and Management Act

The Wildlife Conservation and Management Act (Cap 376) is the principal legislation dealing with the management of wildlife resources in Kenya. It was established to "consolidate and amend the law relating to the protection, conservation and management of wildlife in Kenya and for purposes connected therewith and incidental thereto" (Cap 376, Preamble). The main objective of the Act was to ensure that wildlife is managed and conserved in order to yield to the nation in general and to individual areas in particular. Furthermore, the Act was to ensure optimum returns in terms of cultural, aesthetic and scientific gains, as well as economic gains that are incidental to proper wildlife management and conservation and which may be secured without compromising proper management and conservation.

[10] Interviewee, National Council for Science & Technology (April 2007).
[11] The Nation: quoting Mrs G. Thitai (of the Genetic Resources Expert Working Group) during an environmental workshop held on July 15 1999 at the National Museums of Kenya.
[12] For other instruments see Angwenyi in: Evanson Chege Kamau and Gerd Winter (eds).

The Wildlife Act established the Kenya Wildlife Service (KWS). It's the administrative agency charged with carrying out the abovementioned objectives; it's responsible for the general control and management of national parks and wildlife. The KWS has many functions, among them: the formulation of policies regarding the conservation, management and utilization of all types of fauna and flora; advising the government on the establishment of national parks, national reserves and other protected wildlife sanctuaries; management of national parks and national reserves; sustenance of wildlife to meet conservation and management goals; conduct and coordinate research activities in the fields of wildlife conservation and management; provision of advice to the government, local authorities and landowners on the best methods of wildlife conservation and management, and to act as the principal instrument of the government in pursuit of such ecological appraisals or controls outside urban areas as are necessary for human survival; and the administration and co-ordination of international protocols, conventions and treaties regarding wildlife in all its aspects.

The WCMA restricts access to and exploitation of wildlife resources (Mugabe/Otieno-Odek in: Mugabe 1997: 98). Accordingly, any person seeking access to such resources or parts thereof must obtain a permit from the Minister for Tourism and Wildlife (Mugabe/Otieno-Odek in: Mugabe 1997).[13] It also lists numerous offences pertaining to illegal entry into protected areas as declared by the Minister of Natural Resources by gazette notice, and penalties for, *inter alia*, unlawful collection of products thereof. In addition, the Act regulates the movement of tourists through the parks, as well as licences for access thereto (Angwenyi 2004).

Although wildlife is a national heritage held in trust for the benefit of the public (Ibid; Sindiga; MoEC), the Act does not possess any provisions on sharing of benefits arising from access and utilization of wildlife resources (Kameri-Mbote/Cullet 1999). It's also silent on the participation of local people in determining access to wildlife, particularly that found on private lands (Ibid), and, of course, sharing the benefits from utilization of such resources.

[b] Forests Act

The Forests Act (Cap 385) provides for the establishment, control and regulation of forests[14] and nature reserves.[15] Section 7 of the Act empowers the Director of Forestry, or any other person authorised by him, to issue licences for, among others, collection of specific "forest produce"[16] (Sect. 8(1) (a)(xi), (b)(ii)). However, section 8(1) (a)(viii) of the Act establishes a hierarchy according to which a licence obtained from the KWS is sufficient to carry out activities that are otherwise under the jurisdiction of the forestry department. In addition, the law might require that a licence for an act contained in the Forest Act be issued under the Wildlife (Conservation and Management) Act or under the Fisheries Act[17] (section 7). It implies that for such acts, no licence is obtainable under the Forests Act.

Apart from setting and/or increasing the boundaries of forests and nature reserves, as well

[13] The WCMA is not clear concerning regulation of access to flora (in parks and reserves). Provisions to this effect can only be hypothetically derived from sections 13 and 16, which forbid a variety of other activities against both fauna and flora without authorization, and empowers the minister to make entry regulations, as well as establish the fees to be paid for such entry. Now a draft bill, the Wildlife (Conservation and Management) Bill 2007, which incorporates research and bioprospecting concerns, has been developed and is pending in Parliament for approval. If it's adopted, the law will establish a clear requirement for (basic) researchers and bioprospectors to seek for an access permit and pay the required fee before any activities are conducted. Bioprospectors would still have to possess prior informed consent, material transfer and benefit sharing agreements from stakeholders whose interests are involved before a permit can be issued by the wildlife department. A copy of the bill is available at: http://www.fankenya.org/downloads/wildlife-conservation&managementbil2007.pdf
(last accessed 29 October 2008).

[14] A "forest" means any area of "unalienated Government land" (i.e. land for the time being vested in the Government which – (a) is not subject of any conveyance, lease or occupation licence from the Government; (b) has not been dedicated or set aside for the purpose of the public, but includes outspans; and (c) has not been declared to be a Central Forest or a forest area) that has been declared to be such an area by the Minister of Environment and Natural Resources (Sect. 4(1) (a)).

[15] I.e. a forest or part thereof that has been declared as a nature reserve by the Minister of Environment and Natural Resources, in accordance to Section 6 of the Forests Act, for the purpose of preserving the natural amenities thereof and the flora and fauna therein.

[16] According to section 2 of the Act, "forest produce" includes bark, creepers, fibres, fruit, grass, gum, honey, leaves, limestone, plants, rubber, sap, seeds, spices, wax etc.

as declaring these non-existent, the Minister of Environment and Natural Resources is also empowered to make rules either for general application or in respect to a particular forest or any unalienated government land (Sect. 15). These rules may include, *inter alia*: (a) the regulation of the sale of and the disposal of forest produce (…); (b) regulation and control of the manner and circumstances in which licences may be granted, refused and cancelled, the conditions and terms subject to which licences may be granted and the manner in which a person to whom a licence is granted shall exercise a right or privilege conferred upon him by the licence (…); (c) control of entry of persons into forests (Sect. 59.2 f) or nature reserves (Sect. 59.2 h), how long they should remain there and under which conditions they may do so (Sect. 52.1 b); (d) determination of the amount of royalties or fees payable for any activities licensed under the Act (Sect. 59.2 b);[18] and (e) protection and management of indigenous forests on alienated Government land. Before an approval for a licence/permit is granted, a period of ninety days, after such an intention is published in the Gazette and in at least two newspapers of national circulation, is given to the public to make objections (Sect. 44.3). If there are any objections, sixty more days from the time of the receipt of the objection are needed to deliberate and deliver a decision to the objector (Sect. 44.4).

Concerning entry into forests and collection, harvesting, removal or extraction of forest produce, only activities undertaken within a management plan[19] are exempted from a licence/permit and an Environmental Impact Assessment Report (EIAR) in respect of the proposed activity (Sect. 44.1, 2). An application by a foreign institution (researcher) to conduct a basic research aimed at improving sustainable use and management capabilities, for example, **might**, hence, enjoy the ease created by this provision. Advanced research aimed at commercialisation, on the other hand, would be caught by the provision.

The Minister may also empower a forest officer to accept, with the consent of the Director of Forestry, money by way of compensation and the forest produce from violators of the Act (Sect. 10(1)). Other persons empowered by the Act to search and arrest violators, as well as seize and detain any forest produce and tools related to the offence, are a magistrate, forest officer or police officer, the Chief Game Warden or a Senior Game Warden or Game Warden.

Like the Wildlife (Conservation and Management) Act, the Forests Act does not have provisions on benefit sharing or involvement of local communities in decisions concerning access to forest resources and benefit sharing from their utilization.

3.2 Shortcomings

Kenya's failure to adequately regulate A&BS issues up to 1999 is based on a number o reasons. First, a very vital prerequisite lacked and still lacks, i.e. that of a constitutional basis. In fact, generally referring to the question of environmental protection, the only provision at times dragged with difficulty into this area is section 71, which deals with the right to life. This encompasses the right to a clean and healthy environment. Hence, the Constitution of Kenya does not have a single provision dealing with issues of genetic resources.

Second, the co-ordination and collaboration between the various lead agencies was either weak or ineffective. Although the NES acted as the umbrella body charged with co-ordinating the activities of the lead agencies, as already noted, it was never provided with statutory legal status and, hence, although it was responsible for the national environmental action plan (NEAP) and, more recently, a national biodiversity strategy and action plan (NBSAP), it never

[17] Fisheries Act Cap 378 1989 (Rev 1991). An electronic copy is available online at: http://iodeweb1.vliz.be/odin/bitstream/1834/297/1/FishAct-Kenya1991.pdf.

[18] According to section 4 j, such charges are collected by the Kenya Forest Service (KFS).

[19] Section 2 defines a "management plan" as a systematic programme showing all activities to be undertaken in a forest or part thereof during a period of at least five years, and includes conservation, utilization silvicultural operations and infrastructural development.

achieved significant impact on the activities of the lead agencies in matters involving biodiversity issues. The NES was also consistently under-funded and suffered shortage of expertise (Abegaz/Demissev 2001: 5ff., 18ff.). Thus, it was unable to respond to its many responsibilities and developments in this area.

Third, legislation, policies and implementation were highly fragmented based on the interests of the major lead agencies.[20] In actual fact, Kenya's environmental legislation is contained in over 77 Statutes (Angwenyi 2004). This explains the phenomenon of fragmentation of environmental policies (Kamau in: Winter, 2005: 148, 182). Looking at the Wildlife and Forest Acts examined above, it's clear that some issues that fall under both could be effectively regulated by one of them. Section 8(1) (a) (viii) of the Forests Act, for example, deals with licences to capture animals in forests. This issue could well be regulated by the Wildlife (Conservation and Management) Act. At the moment, a licence is obtainable under both. Hence, it's possible to have licences for the same activity, but from different authorities. In this case, the KWS, which is a more competent authority in matters of animal wildlife, might be unaware of existing licences unless a controversy arises. It would also facilitate avoidance of the KWS' requirements where they are stricter than those of Forests Department.

The fourth shortcoming, which is partly facilitated by fragmentation of legislation, is overlapping and/or conflicting mandates and activities. The above example is clear; there is an overlap of powers and tasks between different lead agencies. This problem is prevalent likewise within regulations of the same lead agencies as evidenced by both the Wildlife (Conservation and Management) Act and the Forests Act. The former vests the power to issue licences for access to both the Minister and the KWS. The latter vests the task of searching and arresting violators, as well as seizing and detaining forest produce and tools connected to the offence, upon five different offices (Sect. 11(1)). Likewise, different authorities have the power to authorise others to carry out certain tasks. Powers to issue licences and take compensation and forest produce, for example, are vested upon the Director of Forestry and the Minister, respectively. All these powers should be placed under one of them.

Fifth, existing legislations contained gaps. First, some provisions created room for kickbacks and violation and/or conspiracy with some staff. Section 10(1) of the Forests Act, for example, allows a police officer that has been empowered by the Minister (and with the consent of the Director of Forestry) to accept a sum of money in compensation and the forest produce connected to the offence. The amount of money is not fixed as long as it does not exceed certain (laid out) limits. There is no way to ascertain how much compensation and/or forest produce was collected from the offender. Second, certain areas of great importance were left untouched or unregulated, as there were no provisions dealing with such issues. These include regulation of access to genetic resources (including those on private lands), benefit sharing and participation of the local people in determining these issues.

4. Regulation of access to genetic resources and benefit sharing in Kenya after 1999. Efforts to formulate a comprehensive law

4.1 Environmental Management and Co-ordination Act: Key Provisions

In 1999, Kenya enacted the so-called *Environmental Management and Co-ordination Act (EMCA) No. 8,* which entered into force on January 14, 2000. It constitutes, more or less, a comprehensive law on environmental management. The Act was enacted in response to the NES difficulties. Hence, issues concerning the conservation of biological diversity and

[20] The main lead agencies are the Kenya Wildlife Service (KWS), the Kenya Agricultural Research Institute (KARI), the Kenya Forestry Research Institute (KEFRI) and the National Museums of Kenya (NMK).

access to genetic resources were brought under its general administration. It established and empowered the National Environment Management Authority (hereinafter NEMA or Authority) to carry out the general administration and implementation of the Act.

The main provisions of the Act in the area of GR are sections 50-53. These deal with the general conservation of biological diversity, conservation of biological resources *in situ* and *ex situ*, and access to genetic resources. The measures prescribed or undertaken by the Authority for these purposes are to be carried out in consultation with the relevant lead agencies.

Section 50 empowers the Authority to prescribe measures necessary to ensure the conservation of biological diversity in Kenya by, *inter alia*, determining which components of biological diversity are endangered, rare or threatened with extinction, identifying potential threats to biological diversity and devising measures to remove or arrest their effects, undertaking measures intended to integrate the conservation and sustainable utilization ethic in relation to biological diversity in existing government activities and activities by private persons, specifying national strategies, plans and government programmes for conservation and sustainable use of biological diversity, etc.

Section 51 deals with conservation of biological resources *in situ* e.g., protection of species, ecosystems and habitats threatened with extinction. The local people have done a lot in this area. For decades, traditional knowledge has been applied in conservation of biological diversity. Therefore this section also calls for its integration with mainstream scientific knowledge.

Section 52 is concerned with the conservation of biological diversity *ex situ*, especially for those species threatened with extinction. Thus, the Authority has to issue guidelines e.g. for the management of germplasm banks and botanical gardens.

Section 53 is the main provision on A&BS. It states clearly that genetic resources of Kenya shall be managed and utilised sustainedly for the benefit of the people of Kenya. For that purpose, guidelines have to be issued or measures prescribed thereunder specifying appropriate arrangements for access to the genetic resources of Kenya by non-citizens of Kenya including: the issue of licences and fees to be paid for access, measures for regulating the import or export of germplasm, the sharing of benefits derived from genetic resources of Kenya, biosafety measures necessary to regulate biotechnology, measures necessary to regulate the development, access to and transfer of biotechnology, and any other matter that the Authority considers necessary for the better management of the genetic resources of Kenya.

The provisions of the Act concerning conservation and access are all important in formulating rules on access to GR and benefit sharing. Actually, from the three major goals of the CBD, two are concerned with the care to not deplete biological diversity through conservation and sustainable utilization of its components (Art. 16.1). (The third is concerned with sharing the benefits from the commercial and other utilization of genetic resources in a fair and equitable way (Art. 15.7).) Hence, sections 50-52 of the EMCA are part and parcel of Section 53 and would directly influence the scope of rights to be granted thereunder. For example, in formulating access rules under Section 53, consideration must be made not to leave or create a gap or vacuum, which is contra-productive to the abovementioned purposes of Section 50. Therefore, "appropriate arrangements" (Sect. 53) must integrate the interests of all stakeholders in a balance of reality. Consequently, "(…) the benefit of the people of Kenya" in Section 53 should be widely interpreted not to embrace alone direct (monetary or non-monetary) benefits, but the immediate and long term benefits of a well-conserved environment. This does not contradict the CBD requirement that provider States should facilitate access to GR. It's in line with its principle of conservation of biodiversity and sustainable utilization of its components.

4.2 Concretization of the A&BS provisions of the Environmental Management and Co-ordination Act

As mentioned above, the EMCA constituted a body called National Environmental Management Authority with powers to carry out the general administration and implementation of the Act, which included the concretization of the A&BS provisions. NEMA assumed office about three years after the Act entered into force (Walubengo 2001). Another three years later, it adopted a more detailed law concretizing sect. 50-53 of the Act. This new law is known as the Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006; in short Regulations 2006 or Legal Notice No. 160. Unfortunately, it's only until January when the process of its operationalization began (Angwenyi in: Kamau/Winter (eds), Forthcoming). The main reasons quoted for this failure are: first, it lacked recognition of the main stakeholders, mainly lead agencies; Second, it lacked clarity in many issues; and third, NEMA lacked capacity and was short of resources for its implementation.[21] Consequently, there are no practical lessons to be learned from it. However, in anticipation of the possible impacts it might incur upon the regulation of A&BS, we shall analyse its theoretical aspects gauging them against experiences of forerunner provider countries where possible.

The A&BS provisions of Regulations 2006 are found in parts III (sect. 9-18) and IV (sect. 19-20). Part III contains the access provisions and part IV the benefit sharing provisions. The discussion limits itself to part III for two reasons. 1) The study focuses on the right to exercise sovereignty over genetic resources subject to the obligation to facilitate access. 2) Regulations 2006 just list monetary and non-monetary benefits to be shared from utilization of genetic resources following the Bonn Guidelines (Appendix II) muster, but do not give an insight on how they should be shared.

Part III states clearly that any person intending to access genetic resources in Kenya must be in possession of an access permit obtainable from the NEMA. This applies to both individuals and legal corporates (organizations).

The application for an access permit involves several procedures. First, the applicant must complete an application form as set in the first schedule of Regulations 2006. The form contains information concerning the applicants and their curriculum vitae[22], the size of the project budget, as well as details about any sponsors. It also includes, among others, particulars concerning the types of genetic resources to be collected, their location and providers if already identified, known or expected uses, details of any royalties, payments and/or compensation being offered by the applicant for access to genetic resources. Second, the prior informed consent (PIC) of the relevant lead agencies (LA) and interested persons, who might be local communities (LC) or private owners (PO) of genetic resources, must be sought. The PIC should be in form of a document containing the signature of the person(s) issuing it. Third, the applicant must have obtained permission to carry out research from the research authorizing authority (RAA), in this case the National Council for Science and Technology (NCST). Fourth, an administrative fee must be paid as prescribed in the second schedule of Regulations 2006.[23]

How does the actual access procedure look like if critically examined? The starting point of the whole procedure is the research authorization from the NCST.[24] An application for authorization to conduct a research itself entails a number of requirements and involves a number of steps. An application consisting of a form duly filled with information about the proposed

[21] Interviewees, KWS, KFS, NCST, KIPI and NEMA, pers. comms, July/August 2008.
[22] For corporates (organizations), curriculum vitae of individuals in the project are to be attached to the form. Information about other individuals connected to the project, as well as the contact person and the position held in the organization is also to be included.
[23] The second schedule of Regulations 2006 shows the fees to be paid for access permits, their renewal and for perusal in the register of access permits.
[24] The NCST is under the Ministry of Science & Technology.

project together with a detailed proposal of the project, curriculum vitae of all project participants, two passport-size photographs of the person(s) conducting the research in Kenya and a fee is made at the NCST. The applicant is required to have an affiliating institute in Kenya.[25]

The NCST convenes the responsible committee or division to examine the application depending on the area of research.[26] If a decision is reached to grant authorization, the committee gets a local collaborating institution—if the applicant had none—and assists in making a memorandum of understanding (MoU) between the two.[27] This procedure takes approximately six weeks.[28] Of course there is still a hidden double procedure between the Ministry of Science & Technology and the NCST as the former has the mandate to register applications, cash the fees and issue the permits upon advice by the latter (Atsali).

The issue concerning prior informed consent, especially from (relevant) lead agencies, might present numerous problems. Existing procedures of lead agencies for entry into territories and collection of resources placed under their jurisdictions are not dismantled or shortened. Thus, the following questions arise: What other requirements would the applicant have to meet? Would that involve other applications? Would it mean paying another fee? How long would the procedure take before the PIC is granted?

As seen above, the FA and the WCMA indicate clearly that any person intending to enter into territories placed under their jurisdictions, or collect or remove any type of biological resources, or carry out extraction for export must be in possession of a licence or permit and must pay the prescribed fee. The procedures of obtaining access permits from KWS and KFS also have waiting durations, which includes the processing of applications with the institutions (lead agencies), as well as allowance for comments from other concerned stakeholders and the public in general—the latter though being just a formality.

Another issue that complicates the access procedure in Kenya is PIC for traditional knowledge associated to genetic resources. It might be very difficult to identify local communities that are organized and issue-sensitized and hence also hard to trace the true representation of a local community. There are very few of such local communities in Kenya e.g. those living around Mukogodo forest and organized by a council of elders known as ILMAMUSI (standing for four group ranches: Ilngwesi, Makurian, Mukogodo and Sieku), or those living around Kakamega forest and organized by an organization called Kakamega Environmental Education Programme (KEEP). This also implies that one might have easy access to PIC which is not representative and that might be challenged later by the legitimate local community.

An application for an access permit is only acceptable by NEMA after all the other requirements above have been fulfilled. The applicant has to seek all clearances, licences and permits etc.—even from government institutions—before applying for the access permit at NEMA. Upon receipt of the application, the Authority shall, nonetheless, publish a notice in the Gazette and at least one newspaper with nationwide circulation, or in any other appropriate way (Reg. 2006, sect. 10). This is meant to give the public an opportunity to bring representations or objections (Reg. 2006, sect. 11). It takes sixty days from receipt of an application to the time the Authority decides to grant or refuse the permit (Sect. 13).

Drawing from the above requirements, how long and how expensive would be an access procedure? If the applicant succeeds to get a

[25] See application for authority to conduct research in Kenya by non-Kenyans, available at: http://www.scienceandtechnology.go.ke/downloads.php?cat_id=3 (last accessed 29 October 2008).
[26] Interviewee, NCST, April 2007: There are eight main divisions: Biology, industry, health, agricultural sciences, environmental & earth sciences, physical & natural sciences, information sciences & land and social sciences. Each of these divisions has twelve scientists with one chairman.
[27] Interviewee, NCST, April 2007.
[28] Ibid.

research clearance from the NCST/MST within two months, PIC from KFS within ninety days and access permit from the Authority within sixty days, the duration of the process would amount to seven months. It's also very expensive as there are different fees to be paid, as well as other likely expenses to be incurred by the applicant. If an applicant succeeds to obtain research authorization and access permit with the first attempt, he would have paid USD 100-500 at NCST/MST and USD 260-650 at NEMA as administrative fees. But this still does not include the fee(s) of the lead agency(ies) under whose jurisdiction the resources are to be found and without whose PIC NEMA cannot issue an access permit. Assuming the applicant needs a permit from only one LA with a fees estimate to that of NCST/MST or NEMA, the applicant will have paid a total of USD 460-1,650 or USD 620-1,810.

This is the shortest access procedure one can imagine from Regulations 2006 yet it's still longer than that of the Philippines Executive Order 247, and most certainly more expensive. If the applicant requires PIC from more lead agencies or ex-situ collections and may be one or two local communities, the procedure becomes extremely complicated and expensive.

It should also be kept in mind that an applicant has no assurance that the application will succeed at all (Sect. 11) and if it does, after how many attempts. In addition, the validity of the permit after such a great effort lasts only one year (Sect. 14.1). The renewal provision (Sect. 14.2) does not mitigate the situation, but creates more uncertainty. First, by stating that "an access permit **may** be renewed", it gives the impression it might not. Second, it allows for new terms and conditions to be imposed, which might force the researcher/bioprospector to give up a project that had already been started. Third, the second renewal also lasts for only one year. Fourth, a new fee for renewal has to be paid.

Regulations 2006 do not distinguish between the procedure for non-commercial and commercial research. Unless regulations of lead agencies make exemptions similar to that of the FA, which favour basic research aimed at improving sustainable use and management capabilities, any applicant seeking PIC of various LA is deemed to repeatedly perform a similar procedure. In addition, some procedures are quasi duplicated as some jurisdictions e.g. over fisheries, wildlife and forestry resources often intertwine. It is also to be expected that some conditions would vary from one LA to another thus increasing uncertainty. If legislations of lead agencies with overlapping jurisdictions do not develop a united approach of regulating access, such a situation is likely to produce a disguised hindrance to access—especially for non-commercial research—as Regulations 2006 have not succeeded to unify the procedure.

The procedure created by Regulations 2006 is very cumbersome, complicated, very taxing or exhausting, time-consuming and expensive. It also creates (legal) uncertainty and depicts a certain level of ambiguity. According to experience made by other (forerunner) countries, such a procedure would most likely discourage researchers. Likewise, it is not capable of enticing potential bioprospectors.

In light of the outcome of the analysis above, it is justifiable to conclude that, Regulations 2006 do not adopt the right to regulate A&BS in a balance. Hence, they do not comply with Articles 15.2 and 8(j) of the CBD and need to be revised. To that effect, the Brazilian initiative is exemplary.

Such adjustments could help ease the access procedure, but they require a lot of prior ground work. To simplify the PIC procedure, for example, a database of existing local/indigenous communities, form of organization, representation, their knowledge and its use needs to be created. The communities must be consulted, sensitized and involved. How the fund will function and be made effective must also be well regulated. On the other hand, reversal of the requirement that foreign institutions establish collaboration arrangements with local institutions before an access permit is granted might require a study to establish which effects that would have on technology transfer. Kate and Laird, for example, see it as being contrary to the objective of creating an opportunity for

knowledge transfer (Kate/Laird 1999: 15). This is just indicative of the hard task involved in making a fairly suitable ABS regime.

5. Appraisal

NEMA has made a good attempt to concretize the CBD provisions on A&BS in Regulations 2006. However, the Regulations distort the balance required between Arts. 15.1 and 15.2, which implicitly demand the exercise of the sovereign right to regulate access to genetic resources subject to facilitation of the same.

Also, Regulations 2006 did not implement Art. 8(j) of the CBD on benefit sharing from utilization of the traditional knowledge of indigenous/local communities, especially associated to genetic resources. That might gravely hurt the rights of communities who possess TK associated to GR, especially those who have been custodians of government forests. It's likely that some, if not most, of this knowledge could have been disclosed during collaboration between the indigenous communities and government officials and researchers in conservation. There is, therefore, a danger that TK could leak to collectors of genetic resources without the awareness of the locals if the latter are not involved in the process of granting PIC for genetic resources found in such forests. In actual fact, local communities should not only be involved when PIC for their traditional knowledge is required, but also in requests for access to GR since most of the GR contain TK. Regulations 2006 should incorporate these concerns.

NEMA has not yet mustered its role of general supervision and co-ordination of all environmental matters as defined in section 9(1) of the Act. As a result, the old tradition of fragmentation of legislations, overlapping of powers and application of *ad hoc* approaches—which is frequently ineffectual—continues. That makes the access procedure quite complex, as already seen. Hence, NEMA needs to appropriate its power in order to carefully implement the A&BS regime and thus terminate the tradition of "scattered bits" of law.

The government's responsibility (in environmental matters) under the Act is not clear (Kamau 2005: 242). This leaves a gap for possible violation of the provisions of the Act by the government. Hence, that gap needs to be sealed quickly to avoid any violations in the future.

Although NEMA is "(…) the principal instrument of Government in the implementation of all policies relating to the environment" (Sect. 9(1)), the Government does not seem to offer NEMA the needed backing in realising its objectives when they conflict with economic ambitions (Makabila 2005). This has always been a great challenge even long before the formation of NEMA (Kamau in: Winter 2005: 175ff.; Kamau 2005) and is likely to remain a stumbling block in realization of environmental policies. It's therefore important, as mentioned above, to clearly state the government's responsibility *vis-à-vis* environmental management. The government should also be in a position to take a firm political stance against the general violation of environmental laws. For example, in transactions for transfer of technology used to process genetic resources, the government should support NEMA in ensuring that the environmental impact assessment requirement is met before a licence to set up an industry is granted (EMCA sect. 58-67; CBD Art. 16.1; Kamau 2005: 240).

One of the greatest challenges that impaired the progress of NEMA's predecessor, the NES, was a scarcity of funds. It confirmed that, "money answers all things." However beautiful Kenya's plans in environmental management look or sound, it's impossible to make policies and implement and sustain them without funding. Hence, it's important for the government to take the task placed upon NEMA seriously and ensure constant and sufficient supply of funds, without which Kenya's ambition of an efficient and well functioning A&BS law will turn into an illusion.

The greatest failure of NEMA maybe is the length of time it has taken since its formation to

concretize the A&BS provisions of the Act, and from the enactment of Regulations 2006 to operationalize them. That has denied the A&BS legislative process, as well as the law, the opportunity to test its strengths and expose its weaknesses and thus gain practical experience. Biopirating has also had ease with its activities to a point of endangering some of the threatened plant species e.g. saddle wood. Strict implementation of the law in Kenya is therefore an urgent need.

6. Conclusion

Sovereignty over genetic resources hangs on the balance of the **right to regulate access** to genetic resources and traditional knowledge, the **obligation to facilitate access** to genetic resources, and the **right to share in benefits** derived from the utilization of genetic resources and traditional knowledge. This is reflected clearly in Art. 15.1, Art. 15.2, Art. 15.7 and Art. 8(j) of the CBD. Most CBD contracting states have not yet implemented these provisions in a manner that ensures that the rights and obligations spelt out by the CBD are operational. This includes Kenya.

A&BS legislations in Kenya have a tradition of fragmentation, conflicts and overlapping mandates. This has been a result of uncoordinated regulation of genetic resources that is historically carried out by different lead agencies based on the jurisdiction under which the resources are found. Co-ordination and collaboration between the different lead agencies was also deficient because the body constituted to facilitate this function (NES) was void of statutory legal status and was underfunded. Existing legislations until 1999 in addition did not have provisions on benefit sharing, as well as involvement of local communities in decisions concerning access to forest resources and benefit sharing from their utilization.

The enactment of the Environmental Management and Co-ordination Act in 1999 brought some changes; it adopted the CBD provisions on ABS. These provisions have been concretized in the current A&BS law (Regulations 2006) by the NEMA. The latter is empowered to carry out the general administration and implementation of the Act and co-ordination of all environmental activities of the various lead agencies as a successor of NES.

The operationization of Regulations 2006 just began in January 2008. Hence there are hardly any practical experiences to learn from them. However, from the experiences of forerunner provider A&BS regimes, a theoretical analysis of these regulations depict that the access procedure they create might be even more complex and expensive than some failed access procedures of other countries, and of course than the access procedure in Kenya prior to their enactment. This is because, the procedures of lead agencies still exist as they did before the NEMA regime. Like NES, NEMA has not been successful in coordinating the lead agencies in A&BS matters, as well as environmental matters as a whole due to similar shortcomings of lack of clarity concerning mandates and lack of capacity and resources for implementation. It also did not clarify the question concerning access to traditional knowledge—especially associated to genetic resources—and benefit sharing. The regulations hence contain gaps and lack clarity in many A&BS issues. Consequently, the Kenyan A&BS regime does not fully comply with Art. 15.2, Art. 15.7 and Art. 8(j) of the CBD.

These and other weaknesses do not only impair collaboration in research, but also give way to secret smuggling, as well as the so-called "civilized" smuggling ("intellectual biopiracy"). There is therefore a need to streamline the existing A&BS regime by harmonizing the access procedure and also incorporating in it A&BS issues pertaining to traditional knowledge. The work at hand would be difficult to accomplish, however, without the government's political will to back it and provide funds for the implementation task. But first and foremost, the government's role should emanate from its responsibility in environmental matters. This responsibility should be defined in the Act.

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