Commentary on the Development of the Republic of Seychelles Access to Genetic Resources and Benefit Sharing Bill (2005)

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This commentary has been developed within the context of the project *Access and plant genetic resources for food and agriculture: Exploring options to implement the International Treaty on Plant Genetic Resources for Food and Agriculture and Article 15.2 of the Convention on Biological Diversity* executed by the International Plant Genetic Resources Institute (IPGRI). The overall purpose of this project was to develop a tool to assist national policy-makers working through the process of developing policy and legal instruments to regulate access to genetic resources. That tool is included in a companion volume 1, entitled *Methodology for Developing Policies and Laws for Access to Genetic Resources and Benefit Sharing*.

The final stage in the development of this tool was a two-week series of meetings and consultations with a wide range of stakeholders from Seychelles, during which the basic steps identified in the methodology were tested and refined. The draft national access and benefit sharing (ABS) law developed in the course of those meetings is presented in this volume. The actual content of the bill reflects the cumulative work of, and decisions taken by, the participants engaged in the two weeks of consultations. Legal experts from outside the country were involved to coordinate taking the participants through the methodology; they did not, however, make any final decisions about the draft bill that is presented here.

Prior to the meetings in Seychelles, the project commissioned a series of country case studies as inputs into the development of this methodology. There were also four regional workshops, held in Ethiopia in December 2003, Costa Rica in January 2004, South Africa in May 2004 and India in September 2004, which provided opportunities for

participants from thirty six countries to participate in the development of this methodology. Lessons learned from both positive and not-so-positive experiences in national and international ABS policy-making processes and forums that were aired in the case studies and regional meetings were taken into consideration. The commissioned case studies, covering eleven countries (Costa Rica, Guatemala, El Salvador, Mexico, Nicaragua, Panama, Uganda, Ghana, Nigeria, Malawi and South Africa) from three sub-regions (Central America, East Africa, West Africa and Southern Africa), are included in a companion volume 3, entitled *Country Case Studies on Access and Benefit Sharing*.

All three volumes were developed within the context of the IPGRI project noted above. The project was financially supported by the International Development Research Centre (IDRC), Canada, the German Federal Ministry for Economic Cooperation and Development (BMZ), through the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, the Swiss Development Corporation (SDC), and the Genetic Resources Policy Initiative (GRPI).

The extracts from the draft Bill are reproduced here by gracious permission of the Cabinet. It must be emphasized that the text of the Bill may change in its passage through the Legislative Assembly. It should not be quoted without suitable warning to the reader.

1. Introduction

From their earliest history, humans have always depended on the services of nature and the natural products it provides to meet their needs. These products are available in various forms and are used for various purposes, from the simple to the most complex, e.g. basic foodstuffs, pesticides, lubricants, cosmetics, pharmaceuticals and industrial enzymes are all significant commercial sectors today. In scientific jargon these natural products are derived from biological resources and, increasingly, from the genetic information that is contained within biological resources, i.e. genetic resources. Genetic resources, and the life sciences sector that depends upon them, have been often identified as one of the most important emerging commercial sectors. They have also been, through the traditional plant breeding sector which also depends upon them, one of the most important commercial sectors throughout history and, arguably, have provided the foundation of modern civilisation. The vast bulk of the diversity of biological resources, including genetic resources, has always been found in the tropics, with some regions, such as the fertile crescent and the Andes being better known as centres of origin for food crops. Others, such as the forests of the Amazon and Congo basins, being known as sources of products for other sectors, such as quinine or rubber. The islands of the Indian Ocean, given their position at the heart of the tropics, warm and humid environments and relative geographical isolation are no exception to this pattern and have been highlighted as one of the world's centres of endemism.

The significance of biological resources, including genetic resources, to Seychelles pre-dates even the first settlement of the archipelago in the 18th century. Coco-de-mer nuts were prized in India and by European and Arab seafarers for their mystical origins and supposed medicinal and aphrodisiac qualities, even before there was any knowledge of the existence of a land mass in the central Indian Ocean. From the moment of the first visits to, and settlement of, the main islands there has been a history of regulation of biological and genetic resources in Seychelles, such as bird's eggs, giant tortoises, turtles, timber—particularly fruit trees—and crops and, perhaps most famously of all, coco-de-mer. One of the very first formal regulatory regimes established in the islands was that promulgated in 1787[1] by the French authorities for the control of access to key natural resources, including giant tortoises, turtles, coco-de-mer and timber. While regulation was imposed with varying success, the collection and export of biological specimens grew significantly in the 19th century and continued into the early 20th century, with major exports of plant specimens to Kew Gardens in the UK and to other European botanic gardens and herbariums being particularly prominent. Albeit to a lesser degree, this pattern has continued, with a long history of exchanges of plant specimens by the Seychelles National Botanic Gardens and of birds, reptiles and other terrestrial animal species by various lead agencies, with museums, zoological gardens and research institutions around the world. In more recent years, following developments in scientific capacity, marine research has become much more common. From the 1960s to the 1980s, there are records of major expeditions undertaken by American, Russian and French research vessels, while today there are ongoing marine

1 McAteer, W. 2002. *Rivals in Eden: The History of Seychelles 1742–1827*. Pristine Books, Mahé, Seychelles. See pp. 101, 104–5.

research activities being undertaken by several universities and research institutions, as well as at least one major semi-private research expedition.

It is currently estimated that Seychelles is home to at least 1200 recorded endemic species, and this figure may grow considerably as research into invertebrates, mosses and lichens and the diversity of marine species advances. Species that are new to science are still regularly being identified, particularly in the marine environment. This diversity holds enormous potential for research and application in a broad range of fields, with the profitable areas of natural products and pharmaceutical compounds having tended to predominate in the recent past.

However, at the same time, Seychelles has a very limited range of native species with agricultural uses. From the earliest history of settlement in the archipelago, almost all of the cultivated food crops, and all of the staples, have been exotic species. This dependence upon exotic species is particularly strong as Seychelles has no significant plant breeding activity, whether in the private or public sector, and is therefore dependent upon its ability to locally evaluate the characteristics of improved varieties it is able to obtain from foreign institutions, particularly the international agricultural research centres of the Consultative Group on International Agricultural Research.

Scientific advances that have opened up new avenues in marine research, the entrenching of opportunities to claim monopolistic rights over all biological material and the development of new international structures in the agricultural sector have all prompted a review of Seychelles' legal regime for access to genetic resources, i.e. rights to exploit the genetic properties of biological material, and associated benefit sharing. The draft legislation that is the subject of this commentary is a response to these changing circumstances, but should not be seen as a watershed: rather, it is the latest stage in the development of the natural resources regulation that goes back to the very founding of the country.

The commentary follows a simple format, beginning with some explanation of why the decision was made to legislate at all. This discussion provides the context for the rest of the document in that the majority of the mechanisms developed in the legislation were designed to respond to motivations identified in the debate over whether to legislate or not. The rest of the document follows the text of the draft legislation. It explains the motivations behind, discussions surrounding and functions of each of the text's provisions in turn. To provide a further insight into these descriptions, there are two annexes to the commentary that contain the basic structures agreed upon for the two main sets of regulations that are expected to be promulgated under the legislation once it enters into force.

It is hoped that this commentary will serve two purposes. First, it will serve as an informal reference for the Seychellois authorities involved with the regulation of access to genetic resources and, perhaps, to prospective applicants for access. Second, it will provide researchers and possible regulators in other countries with an insight into the thought processes that led to the general approach, structure and specific provisions of the draft legislation, thus supporting them in their own efforts.

2. Part I: Preliminary

2.1 Objectives

Determining the objectives of a potential access regime is one of the first issues that needs to be tackled—before taking the final decision to go ahead with developing and implementing the regime. In the case of the draft legislation presented here, the stated objectives seem deceptively straightforward . However, the issues that had to be investigated, discussed, and agreed upon as part of the process of agreeing on the objectives were complex.

> 4. The objectives of this Act are as follows –
>
> i. Promoting the conservation and sustainable use of the genetic resources of Seychelles;
>
> ii. Providing for facilitated access to, and utilisation of, the genetic resources of Seychelles;
>
> iii. Limiting or eliminating access to, and utilisation of, the genetic resources of Seychelles other than in accordance with this Act; and,
>
> iv. Ensuring fair and equitable sharing of the benefits resulting from facilitated access to, and utilisation of, the genetic resources of Seychelles.

Before proceeding further, it is worth highlighting the fact that the objectives of an access regime also have to be exhaustively considered before deciding what form that regime will actually take, i.e. broad level-policy, legislation, executive order or regulations, or simply adapting existing administrative processes. The decision to develop legislation did not actually come until after lengthy consideration of objectives, potential scope, requisite preconditions for successful policy or legal interventions in the field, including national capacities, and so on, many of which are discussed below. For ease of reference therefore, we shall refer to 'legislation' throughout this text. However, it must be borne in mind that the decision to go ahead with legislation came relatively late in the series of steps that the development of this draft law went through.

The objectives act as the basic instructions for the development of all the other aspects of the legislation: unless you know what you are trying to achieve it can be hard to be precise about how to do it. Many debates about access to genetic resources remain relatively general about their objectives and, without considering what these objectives are built on in terms of practical detail, the assessment of success or failure becomes a subjective exercise. Therefore, the discussion underlying the objectives of the legislation provided the detailed parameters that allowed its various mechanisms to be established.

2.1.1 Background challenges informing the need for a national access regime and the objectives of that regime in particular

The objectives were designed in response to four sets of factors, particular to Seychelles, that can be categorized into four groups:

- High volume of access to and utilization of genetic resources.
- The desire to promote the recognition of rights to natural resources.
- Limited effectiveness of current legal and institutional regimes.
- Advantages of independent legislation.

2.1.1.1 Volume of access and utilization

Most people consulted during the process were able to provide details

regarding activities that they considered as falling within the potential scope of regulations that would govern access to genetic resources. Attempts were only made to collect indicative information in this regard and the information presented here should not be considered in the same way as the results of a systematic survey.

At a generic level, there appears to be a significant level of research involving either biological or genetic resources. The Seychelles Bureau of Standards, which is currently responsible for the issuing of research permits, reports receiving an average of one application, including both individuals and organizations, per calendar month that involved the collection of biological material, together with a number of others ambiguous in nature. At the same time, the Centre for Marine Research and Technology, with relatively modest facilities, estimates that it hosts between 250 and 300 foreign scientists each year.

At a more specific level, the most commonly cited form of access to genetic resources, and often biopiracy, at the international level is the case of medicinal plants, and this has been identified as an issue in Seychelles. Officials have stated that, collectively, the Ministry of Culture and Sports, the Department of National Heritage, and local government staff were approached to facilitate contacts with traditional healers or herbalists by about 15 foreign researchers over a two-year period. This is despite the existence of a wide-ranging project for the cataloguing of medicinal plants under the auspices of the Indian Ocean Commission and the fact that most local experts agree that the majority of locally used medicinal plants are exotic. However, there is also the fact that, of approximately thirty endemic species with identified uses, some fifteen are estimated to be in regular use, suggesting a potential for global commercial application.

Other terrestrial activities cited are immensely varied in their nature. A British-based, conservation-oriented project has collected samples of flowers and, under agreement with the Seychelles authorities, has developed a hybrid ornamental that is being commercialized.[2] In a completely different field, universities from the USA, UK and France have all been showing keen interest in an endemic species of fruit fly (*Drosophilia* sp.) that, unlike other recorded species, feeds only on a particular endemic plant. Perhaps the most famous example of access to genetic resources, or—depending upon your interpretation—biological resources, from Seychelles is that of coco-de-mer, a twin-lobed coconut endemic to a few of the central islands of the archipelago. Coco-de-mer[3] was famous even before the islands were inhabited, with isolated examples washing up on the shores of India creating much interest for their 'supposed medicinal and aphrodisiac properties'.[4] In recent times, interest in exploring the chemical properties of the nut's kernel has been expressed from a number of South East Asian countries and a local Seychellois company is developing a series of natural products

2 The so-called Seychelles Busy Lizzie (*Impatiens gordonii* × *walleriana* cv. Ray of Hope), was bred by the Eden Project from the endangered endemic *Impatiens gordonii*. Its advertising highlights that the proceeds will be used to raise awareness and support the conservation of its parent in Seychelles' mist forests (see http://www.edenproject.com/1399.html).

3 The name, literally translating as 'sea coconut' derives from the ancient belief, prior to the discovery and settlement of Seychelles in the 18th century, that the nuts grew under the sea. McAteer, W. 2002. *Rivals in Eden: The History of Seychelles 1742–1827*. Pristine Books, Mahé, Seychelles. See p. 19.

4 Ibid.

in collaboration with international partners.

However, despite the interest shown in the terrestrial genetic resources of Seychelles, by far the most active sector, somewhat predictably given the geography of the archipelago, is marine genetic resources. More than twenty collecting missions to Seychellois waters by research ships of the former Soviet Union in the 1970s and 1980s are recalled by various stakeholders.[5] Significant levels of marine collection missions were also noted in the period 1995–2000, with the belief that, while these are still frequent, their numbers have declined in more recent years. These missions have been conducted by a wide range of actors, but universities and government-sponsored teams from Europe and North America appear to have been particularly prominent. While some of these activities may not actually constitute access to genetic resources, a number clearly do. The collection of a range of water samples for analysis in Europe is one such case, even though its purpose might be academic. Two cases involving chemical extracts from sea sponges are even clearer, one from the 1970s reportedly having led to a commercialized anti-cancer agent, and one from the 1990s having been patented in the USA for its anti-viral properties. Universities from the USA are frequently noted as being active. The unknown potential of what might be derived from Seychelles' marine environment was also amply illustrated by a purely taxonomic research project that was concluded while research for the regulatory regime that is the subject of this commentary was underway. A project examining fish species in and around the main commercial harbour identified some 30 species of fish previously unknown in Seychelles' waters and up to six thought to be previously unknown to science.

While only a detailed analysis would reveal the degree to which the various research activities described above, and elsewhere in this commentary, accurately fit a reasonable description of 'access to genetic resources', and particularly whether there might be any tangible direct benefit that Seychelles might derive from these activities, it is clear that there is, at a minimum, a significant level of activity that is often accompanied by limited information and that might include access to genetic resources. Of course, the simple existence of activity does not mean that regulation is necessary. Existing forms of control may already be sufficient.

2.1.1.2 Recognition of rights to natural resources

The central problem relating to genetic resources that appears to be of concern to Seychellois stakeholders is that of rights to these resources as a national asset. Two basic aspects of this issue came to the fore during research: sovereignty and equity.

Sovereignty[6]

Regarding the issue of sovereignty, the general perception appears to be that

5 It is reported that, in the 1990s, a UNESCO consultant reviewed the reports of these missions provided to Seychelles authorities and concluded that they did not provide adequate information to make any meaningful assessment. Subsequent requests for information to the Russian authorities were reportedly responded to with the statement that the break-up of the Soviet Union meant that none of the relevant records were readily available.

6 Understood as '[t]he supreme, absolute and uncontrollable power by which any independent state is governed'. Black et al. 1990. Black's Law Dictionary Sixth Edition, West Publishing, St Paul, MN, USA. See p. 1396.

genetic resources, while they may be a new or newly recognized resource, are, nevertheless, a natural resource and, therefore, subject to the State's right to determine ownership and the parameters of exploitation. They are a component of national assets and, where they are exploited without the authorization of, or benefit to, Seychelles, this is, at best, misappropriation[7] and, at worst, simply larceny.[8] A number of the examples of access to genetic resources discussed above have not been authorized, at least not in terms of their essential purpose, by Seychelles and there is a strong feeling that others are profiting, whether financially or otherwise, from these activities. In the perceived absence of any international framework to limit such exploitation, there is the widespread belief that Seychelles must develop its own legal framework to exert its ownership of its natural resources and protect its interests more generally. The understanding is that this will ensure the recognition of rights within the national jurisdiction and may assist in the assertion of rights at the international level. Fundamental to this understanding is a belief that the unauthorized exploitation of genetic resources should be criminalised and be punished by appropriate measures. A large number of stakeholders appear to believe that regulation is necessary even if it will be at public expense rather than a self-supporting commercialized sector.

Equity[9]

The issue of equity is closely related to that of sovereignty in the context of regulating access to genetic resources in Seychelles. It is not so much that Seychellois want to exclude others from their genetic resources, rather that they want to encourage research that they consider fair. This position is significantly influenced by the global debate on intellectual property rights and the patenting of life forms,[10] and the perception that foreign individuals and organizations are claiming rights to Seychelles' genetic resources, or products or information derived therefrom. The local perception is that the international framework, in the form of UN organizations and the WTO, accepts this alienation and subsequent foreign ownership of Seychelles genetic resources and their derivatives. The desire for an assertion of sovereignty, discussed above, is, essentially, a direct response to this, as a means of asserting a prior claim.

When individuals or organizations claim exclusive rights to Seychelles' genetic resources, it appears that they often seek to exclude others both from the use of these resources, products or information and from any profit accruing from their commercialization. The majority of individuals and organizations interviewed or participating in workshops where this was discussed were not against the idea of the commercialization of Seychelles' genetic resources, whether by foreigners or otherwise, but registered strong

7 Understood as '[t]he unauthorized, improper, or unlawful use of…property for purpose other than that for which intended…including not only stealing but also unauthorized temporary use…whether or not…any personal gain or benefit' is derived. Ibid. p. 998.

8 Understood as 'an actual or constructive taking away of the…property of another without the consent and against the will of the owner or possessor and with a felonious intent to convert the property to the use of someone other than the owner.' Ibid. p. 881.

9 Understood as 'the spirit and habit of fairness, justness and right dealing which would regulate the intercourse of men with men.' Ibid. p. 540.

10 For example, trademarks and geographic indications may also become an issue with products trading on the name of 'coco-de-mer'.

objections to situations where such activity did not provide any reasonably direct benefit to Seychelles. Such benefit need not always focus on financial reward, but could equally consist of equipment, training, information or any other form of benefit in kind that could assist individuals or organizations in Seychelles.

In essence, the Seychelles position regarding sovereignty and equity is that Seychelles should have prior claim to its own natural resources and that, where individuals or organizations wish to exploit these resources, Seychelles should be a partner in the process in one form or another. As with the question of the volume of activity, discussed above, perceptions of asymmetrical relationships in ownership and profit from exploitation do not automatically lead to the conclusion that legislation is necessary, although they do suggest that some form of policy intervention is required. To consider what form of policy intervention might be appropriate, one needs to consider the weaknesses that stakeholders identify in the current policy regime.

2.1.1.3 Limited effectiveness of current legal and institutional regime[11]

The current regime primarily consists of two parts:

- a research permit issued by the Seychelles Bureau of Standards (SBS) after consultation with relevant lead agencies, pursuant to the 1997 SBS Amendment Act; and
- a Material Transfer Agreement (MTA) developed by what is now the Ministry of Environment and Natural Resources, for use in all authorized access to biological resources. This is an ad hoc administrative mechanism developed by the Ministry of Environment.

Stakeholders involved in the process of considering and developing the bill presented here identified both political and legal weaknesses in the current legal and institutional regimes affecting peoples' access to genetic resources in Seychelles.

The key weaknesses identified in the existing system implemented by SBS include:

- There is no definition of research and, therefore, it is not always clear which activities require authorization and which do not.
- The legal force of the system is open to question, with SBS empowered to issue research permits by the 1997 SBS Amendment Act, but with the situation regarding enforcement and penalties left unclear.
- There is concern that the current research permit requirements do not provide the necessary baseline information to allow for effective decision-making in some specialist sectors, including access to genetic resources.
- The existing system includes no formal mechanisms for benefit sharing, whether in-kind or otherwise.
- There is no formal schedule of fees.

These gaps severely hamper the options for achieving optimal levels of technical assistance and financial return within an equitable system. Furthermore, it is not clear what the consequences of not obtaining a research permit are, for example, what penalties,

11 Discussion here focuses on the particular problems with the existing framework, as identified by stakeholders. For a more general discussion of the existing legal and institutional framework governing genetic resources in Seychelles, see Payet, R. & Lettington, R. 2003. Access to Genetic Resources in the Seychelles. In K. Nnadozie et al. (editors). *African Perspectives on Genetic Resources: A Handbook on Laws, Policies and Institutions,*. Environmental Law Institute (ELI), Washington D.C. See pp. 215–230.

if any, apply if one operates outside the scope of the research permit.[12] The fact that the permit system is not entrenched in law also means that researchers are often authorized by other agencies or line ministries without going through the system at all, something that is apparently particularly prevalent when researchers approach the government through diplomatic channels rather than directly. This type of event also appears to be common in the area of large-scale marine collections, making it an issue of particular concern.

The use of an MTA, in the absence of any supporting policy framework, is problematic in that it only regulates those who approach the government through the existing system, and thus only brings those with some intention of acting equitably within the framework. In such a situation, material that is collected without authorization and taken out of the country, or that is already beyond Seychelles jurisdiction, is not provided for under any legal framework. Another problem is that, as a private contract, an MTA is technically enforceable under the civil law of most jurisdictions, but, given the limited legal capacity and financial resources of the Seychelles authorities, such enforcement would be practically impossible outside the country. While this situation may prove a problem even in the presence of both potential criminal and civil sanctions, as discussed below, it is believed that the existence of a formal framework would give greater weight, both legal and moral, to any follow up through diplomatic or other channels concerning violations.

12 Research permits are usually based upon proposals or research protocols submitted by applicants, and the main condition subsequent is for the submission of a report on the results of the research undertaken, which is rarely fulfilled once researchers leave Seychelles jurisdiction.

The situation described above had led to there being a lacuna in the overall structure of regulation, whereby it is not clear how lead agencies should proceed, leading to a fair degree of ad hoc response by those agencies to access-seekers.

There are several other legal instruments that prohibit the taking or possession of particular species of biological resource or of all material from particular geographical areas (see Payet and Lettington[13]), but none, with the limited exception of coco-de-mer, contain any provisions relating to specific terms and conditions under which material may be accessed, such as benefit sharing or limits on use. Similarly, there is no clear and coherent written policy, at lead agency, ministerial or other governmental level, to guide the authorization of access to genetic resources.[14] In this situation, lead agencies with limited knowledge of access to genetic resources issues tend to be cautious about authorizing any activity whatsoever, due to fears of exploitation of their weak capacity, while those with some knowledge tend to be equally cautious due to fears of exploitation of a weak system for recognizing and enforcing Seychellois interests. The Ministry of Environment and Natural Resources goes so far as to recognize that it is imposing a *de facto* moratorium on all activity, with only very limited exceptions for coco-de-mer,

13 Payet, R. & Lettington, R. 2003. Access to Genetic Resources in the Seychelles. In K. Nnadozie et al. (Eds.). *African Perspectives on Genetic Resources: A Handbook on Laws, Policies and Institutions,*. Environmental Law Institute (ELI), Washington D.C. . See pp. 215–230.

14 There appears to be a general feeling that this situation applies not only to access to genetic resources but can also be considered as representative of the environmental sector in general, although the Ministry of Environment and Natural Resources is attempting to make incremental steps towards addressing the problem.

where regulation is in place, and for some other very specific projects that are covered by MTAs.

Another political weakness of the current regime is related to inadequate coordination among lead agencies and other organizations. This inadequacy is rooted in a fact recognized by numerous stakeholders, namely that there is no organization with overall responsibility for access to genetic resources and related issues. That is not to say those stakeholders have a strong desire for a completely centralized authority. Instead, they see the need for a coordinating body that can oversee activities and set general policy. This preference appears to derive from the general feeling that the basic structure of the existing regime, with an administrative focal point consulting with lead agencies, has been quite effective in some respects, and rather than dismantling this system there is a need to establish an overall responsible agency to monitor activities and trends in various lead agency sectors, and to take the lead in policy development. It would also be more feasible for such a coordinating agency to develop at least minimal expertise to address the often complex questions of benefit sharing and enforcement.

2.1.1.4 Advantages of independent legislation

Winston Churchill once noted 'that democracy is the worst form of government except all those other forms that have been tried from time to time'[15], effectively highlighting the fact that identifying weaknesses in any existing regime is easy enough, whereas proposing measures that might effectively mitigate these weaknesses is quite another. Coordination and monitoring responsibilities within government can often be usefully addressed by a clear policy statement at Cabinet level. However, gaps and other shortcomings in regulatory regimes are rarely so easily addressed. This is particularly true in the case of some of the measures various stakeholders have identified as necessary to improving the access-to-genetic-resources regime in Seychelles. Central to these are the fundamental requirements, recognized as pillars of Article 15 of the Convention on Biological Diversity (CBD), for prior informed consent and mutually agreed terms as the basis of any authorized access to genetic resources in Seychelles. Failure to comply with these fundamental requirements must lead to mandatory consequences. The need for a requirement for the recognition of the contributions of Seychelles to any products or other developments should be generally applied. Experience to date in Seychelles suggests that only a mandatory regime will be able to impose these conditions. For example, traditionally, coco-de-mer has been exploited for its entire nut and the legislative regime was geared to this activity. However, at a certain point, the authorities began to observe the exploitation of the kernel alone, something that was effectively a loophole in the law, and a dramatic increase in what was viewed as piracy or poaching ensued. As soon as the legal regime was amended to expressly include the kernel, as well as whole nuts, poaching came back to manageable levels. Similarly, in the fisheries sector, authorities accept that they will not have the resources and capacity to fully police the Seychelles Exclusive Economic Zone (EEZ), but are equally convinced that the legal threat of boat seizures and other punitive measures in combination with a reasonably flexible permit regime is, at

15 Speech in UK House of Commons, November 1947.

least, somewhat effective as a deterrent to unauthorized or otherwise irregular activities. This example highlights the link between mandatory requirements and penalties for non-compliance. A requirement, for practical purposes, will never be genuinely mandatory unless there are penalties for non-compliance, and anything more than token administrative measures and fines must have the full force of law to be enforceable.

Prior to beginning research for an access and benefit sharing regime, the process of developing framework environmental legislation had been initiated by the Ministry of Environment and Natural Resources. However, the option of including umbrella access to genetic resources provisions in this legislation, and then developing implementing regulations, was rejected for two reasons. First, concern was registered in a number of quarters that the adoption of framework environmental legislation inevitably raised a number of issues that would be contentious domestically, and therefore the process of development might well be a lengthy one. Almost all stakeholders were convinced that the urgency that motivated work on access to genetic resources was such that it should be approached independently to ensure that it would move forward as quickly as possible. Second, there was a clear recognition in both governmental and non-governmental circles that any regime for the regulation of access to genetic resources would need to be highly flexible to allow for specific cases and for adaptation to the learning process that would accompany implementation. Therefore, an independent piece of legislation was considered preferable—one that assigned clear responsibilities, provided for a basic framework that could be developed and adapted through regulations, and imposed a clear structure of offences and penalties.

2.1.2. The four objectives of the Seychelles access regime

Four basic objectives are provided. They should not be considered as mutually exclusive, nor as exhaustive, as they are intended to be presented as a whole that provides an overall view.

2.1.2.1 Conservation and sustainable use

The objective of promoting the conservation and use of genetic resources was consistently cited as a top priority by a broad range of stakeholders.

Sustainable use

The most commonly cited view of conservation and use focused on the environment as the primary national asset. Seychelles' isolated geographical location and limited traditional natural resources mean that it has, by necessity, to focus on the creative exploitation of its environment. This chiefly involves the role of the environment as the foundation of the archipelago's significant tourist industry. However, as noted earlier, tortoises and coco-de-mer were one of the earliest economic attractions of the islands in the 18th century, while spices and essential oils became key activities in later periods. In more recent years, with the expansion of the natural-products industry and the development of modern biotechnologies, the options for the exploitation of the environment have been considerably extended. An almost universal view among stakeholders is that Seychelles should take advantage of any opportunities that might arise, provided that they

further national interests and do not prejudice the environment in terms of its long-term capacity. Given the fragility of many elements of the Seychelles' environment, the need to emphasize a 'protect and manage' approach was frequently highlighted; the essential point being that there is concern regarding the exploitation and depletion of resources, but also recognition that if there are options to offset some of the costs of conservation initiatives, these must be taken.

Conservation

For higher plants and fauna, government authorities and non-governmental organizations (NGOs) are reasonably confident that they have a solid base of knowledge and, therefore, the conservation priority is the limitation, mitigation or elimination of threats, such as land conversion or unsustainable extraction. In contrast, knowledge of the marine environment is very limited, not extending much beyond commercial fisheries species and basic mapping of the sea floor. Knowledge relating to non-commercial fish species, microorganisms and other forms of sea life varies between negligible and non-existent. As such, the conservation priority is on the generation of taxonomic and more advanced data to be able to assess the status of species in the marine environment and to subsequently identify and act on threats. The situation applying to the marine environment also applies, to a large degree, to the terrestrial environment beyond higher plants and fauna. Arthropod and lower plant taxonomy are reported to be fairly well developed, but more advanced data, such as life cycles and relationships with plants and animals, are generally unavailable. Almost no information regarding terrestrial microorganisms is available. Once again this means that the conservation priority, beyond basic ecosystem protection, is on the generation of knowledge rather than on addressing threats. As is discussed below, both the need to research and finance the addressing of threats and the need to generate data, link the objective of conservation with that of benefit sharing, albeit it in different ways, which is a significant part of the justification for use.

2.1.3 Facilitated access

The second objective —facilitating access to, and the use of, genetic resources—is a key feature of both the CBD and the FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) approaches to access and benefit sharing. From one perspective, facilitated access is intended to ease the process of research; from another perspective, it is the service provided in return for benefit sharing. In reality, facilitated access should serve both of these purposes in equal measure. In the course of research conducted for the development of this legislation, facilitated access was cited as a key objective of any regulatory regime, and cited almost as often as conservation and sustainable use, with, perhaps surprisingly, the objective of promoting research as a global public good being cited at least as often as any relationship to benefit sharing.

For placing a major emphasis on facilitating access in any access to genetic resources regulatory regime, five basic reasons were given by the stakeholders involved in the development of the bill presented here:

1. promoting research that contributes to the global public good;

2. providing a legitimate mechanism that is not overly burdensome discourages irregular or otherwise undesirable activity;
3. Seychelles has an interest, if not fundamental need, in promoting collaborative, low transaction cost, international approaches to genetic resources in the agricultural sector;
4. a failure to facilitate access will limit the options for any form of benefit sharing, whether financial or in terms of in-kind benefits such as research results or technical assistance; and
5. facilitating access in the context of a controlled regime follows the general Government policy towards natural resource exploitation in other areas.

A variety of examples of access problems were described by different stakeholders as explaining the need for a regulatory regime that creates a clear and predictable mechanism for access to genetic resources. At one end of the spectrum were some regulatory agencies, who stated their reluctance to approve all but the simplest activities involving foreign researchers due to the absence of any framework to guide them in protecting national interests. In some cases locally-based researchers complained that this protectionist tendency had even extended to their activities in the field of taxonomy. At the other end of the spectrum were problems, or perhaps, more accurately, challenges, experienced by the agricultural authorities in sourcing sufficient appropriate germplasm for local evaluation and distribution. Given that, by volume and significance, the International Agricultural Research Centres (IARCs) of the Consultative Group on International Agricultural Research (CGIAR) are the most important source of germplasm for Seychelles, and that the CGIAR has indicated its intention to place its collections within the framework of the ITPGRFA, there is a strong local belief that Seychelles must also place itself within this framework to ensure continued easy access to international collections hosted by the IARCs, despite assurances that those collections would be available also to non-parties to ITPGRFA.

Despite these problems and challenges, almost all stakeholders stated their strong belief that, whether for philanthropic or pragmatic reasons, any regulatory regime for access to genetic resources must be based on the encouragement of positive activities, or approaches to them, rather than on trying to limit or ban activities. On several occasions this was linked to Seychelles' historical experiences with natural resource management, such as with birds' eggs and coco-de-mer. In these cases, the local population, and within specific limits foreigners, have traditionally harvested resources from the environment. These activities used to be, with some notable exceptions discussed earlier, largely unregulated. As the population has grown, the pressure on resources has also grown and regulatory regimes have been progressively introduced. However, these regulatory regimes have tended not to ban harvesting but, rather, subject it to licences, seasonal restrictions or other controlling measures. In a similar line, most stakeholders expressed the desire for a regulatory regime that would not only encourage access to genetic resources but also control such access to limit both perceived occurrences of unfair exploitation and the protectionist tendencies that have developed in reaction to these perceptions.

2.1.4 Limiting or eliminating irregular access

While implicit in the discourse above relating to sustainable use and facilitated access, the concept of limiting or eliminating irregular access, including what is often called 'biopiracy', was raised on several occasions. At a general level, this was usually framed within the context of equity: 'We don't mind you exploiting and profiting from our resources, but what's in it for us?' being the basic question. A slightly different view of the same concern is the fear of Seychelles losing rights to natural resources that it may not yet even know it owns. There appears to be a widespread belief among governmental and non-governmental actors that there is a significant level of unauthorized access to genetic resources, particularly in the marine environment, where enforcement is at its weakest. While concerns in this area include the direct unauthorized removal of samples, there is also considerable concern regarding what might be described as 'conversion', where a sample is taken for one stated purpose, usually taxonomy, and then converted to another use, usually with some potentially commercial outcome. The widespread general concern regarding the problem of irregular access appears to be at least partly justified by the fact that almost every agent of a regulatory agency has a story about either irregular access and its outcomes, or about suspicious activity. Many of these problems revolve around relatively obvious resources, such as coco-de-mer, giant tortoises or sea turtles, usually in association with supposed aphrodisiac or medicinal qualities. However, cases such as the patenting of an extract from a sea cucumber for its pharmaceutical properties and recent large-scale collections of marine microorganisms by USA-based researchers clearly demonstrate that the field of activity is much broader.

2.1.5 Benefit sharing

Similar to the case with limiting irregular access, the issue of benefit sharing was raised numerous times as an objective of an access and benefit-sharing regime. It is generally seen as the *quid pro quo* of a form of access that can contribute to the development of equitable relationships between suppliers and access-seekers. The idea of benefit sharing for financial gain, based on applied research and commercialization, to support regulatory activities was noted in several instances, particularly where the activities surrounding access are not likely to provide any direct benefit to Seychelles. However, in general, a far greater emphasis was placed on technical cooperation and the generation of information that can inform policy and implementation. In addition, the basic right to be consulted regarding the use of national resources and the use of a regulatory structure as a means to assert rights were highlighted. A further point that was noted in regard to benefit sharing was one that regimes from those of the Philippines and Andean Pact onwards have struggled to provide for: the need to distinguish between different types of applicant, from masters research students to multinational corporations, and between purposes, from basic to applied research.

2.2 Scope and definitions

Scope, preamble and definitions are addressed jointly here because key elements of the scope of the Bill are dependent upon the definitions of some

of the key terms included in the bill and the preamble.

Part I – PRELIMINARY
AN ACT to provide for the regulation of access to, and the utilisation of, genetic resources and benefit sharing and connected matters.

Scope:
3. This Act relates to access to, and the utilisation of, the genetic resources of Seychelles and the fair and equitable sharing of the benefits of such utilisation.

At a general level, the scope of the Bill is provided for in the preamble and Paragraph 3, *Scope*. There are several points that should be noted regarding these general-level statements of the scope of the bill presented here. While the text generally follows the familiar language of the CBD, there is an additional distinction made between access and utilization that is not included in the CBD, a distinction that is further elaborated in the definitions and that is strongly reflected in the operative content of the Bill itself. The main purpose of this distinction is to emphasize that there are two main types of act that might trigger the provisions of the Bill: the collection of genetic resources, and the use of genetic resources, and in the latter case whether or not they were collected by the person seeking to make use of them.

The mention of benefit sharing is a response to the belief of a broad range of stakeholders that there should be an express reference at the outset to both the facilitation of access and the conditional nature of this access.

Much legislation in common-law countries includes reference to 'connected matters' in the preamble This provides an umbrella for providing for matters that serve to support the general objectives of the Bill but are not directly related to them, such as provisions relating to the collection of biological material and or the relationship between this legislation and other regulatory structures.

2. In this Act unless the context otherwise requires –

"Access" means obtaining genetic resources in accordance with the provisions of this Act pursuant to the recognised international commitments of the Republic of Seychelles;

"Utilisation" means the use of genetic resources for commercial purposes, whether or not for consideration.

The definitions of 'access' and 'utilization' are particularly important in establishing the scope of the bill. The distinction between access and utilization is intended to broaden the scope of the Bill beyond activities that depend on the collection of genetic resources. In particular, the aim is to ensure that the provisions of the Bill will be triggered even if the activity in question does not involve the actual collection of genetic resources in Seychelles. For example, this might include situations where intentions change after material has been collected or when materials are transferred to third parties. The examples of altered uses by third party transferees commonly arise when collections are initially undertaken in an academic context, or in the case of a business takeover of commercial entities. In an effort to address concerns in this area, a number of the world's major botanic gardens have undertaken to inform countries of origin of material in their collections when such material is requested for commercial purposes. The main legal mechanism in the approach taken by the legislation is one that recognizes a subsequent act and, therefore, avoids

the problem that some utilization of Seychelles' genetic resources might not fall within the scope of the legislation.

Regarding the actual detail of the definitions provided, it should first be noted that the CBD does not provide any definition of either 'access' or 'utilization'. A definition of 'sustainable use' is provided for in the CBD, but this definition focuses almost exclusively on the meaning of 'sustainable' and provides only tautological and vague ideas about what is meant by 'use'. As a result, Seychelles was free to define both 'access' and 'utilization' in the manner it deemed most appropriate to its needs.

Access

The definition of access is tied directly into the provisions of the legislation and has three elements. The first element is that access refers to the 'obtaining' of genetic resources. 'Obtaining' is not defined and, therefore, the default approach of plain meaning applies. According to a commonly used reference in these cases, the Oxford English Dictionary[16], 'obtain' means 'Come into the possession or enjoyment of; secure or gain as the result of request or effort; acquire, get.' Therefore, access in this context means coming into the possession of genetic resources. Importantly, this includes whatever means by which this might occur, including collection or third party transfer. The second element is the reference to 'in accordance with the provisions of this Act', which establishes that only access conforming to the legislation's requirements may be considered as legitimate. The third element is the reference to the 'recognized international commitments of the Republic of Seychelles', i.e. obligations established under international agreements to which Seychelles is a party, or by accepted customary law. This primarily refers to Seychelles' ratification of the CBD, but also encompasses other agreements that touch on issues relating to the exploitation of natural resources, such as the UN Convention on the Law of the Sea[17], and broader obligations under international law.

Utilization

The definition provided for utilization contains two elements: one that is directed at the question of benefit sharing and the other directed at closing loopholes. The first element is the reference to commercial purposes. Commerce is normally understood as referring to the buying and selling of property or services. However, 'commercial purposes' is not the same as 'commerce' and is intended to broaden the scope to activities that might be considered as preliminary to commerce per se. For example, research aimed at the development of a research tool, or even a product, might not be considered as falling within the scope of commerce because nothing is being bought or sold. Such research would certainly fall within a reasonable understanding of 'commercial purposes', as, however directly or indirectly, the activity ultimately has a commercially oriented purpose. This distinction between 'commerce' and 'commercial purpose' is potentially significant due to the fact that investment is often put into supporting preliminary research and, in the view of Seychelles' stakeholders, the service that Seychelles provides by making its genetic resources available

16 L. Brown. (Editor). 1993. *The New Shorter Oxford English Dictionary*. Clarendon Press, Oxford, UK.

17 See http://www.un.org/Depts/los/index.htm. Website last checked 15 March 2006.

should be factored into this investment in the form of benefit sharing. This approach is reinforced by the second element, the reference to consideration. Consideration, or the interest, profit or benefit accrued, is often viewed in terms of the accrual of benefit from a third party from the result of an activity and, therefore, work designed for in-house purposes or that is funded in advance, with academic research being a common example in the latter case, is often not viewed as being for consideration. The second element of the definition of utilization is, thus, to ensure that such activities are clearly understood as falling within its scope.

Despite the relatively restrictive approach suggested by this definition, it should be noted that the Bill overall still leaves considerable room for some kinds of activities to not be subject to access or use restrictions. For example, the basic definition of genetic resources, discussed below, provides for a broad range of activities, such as taxonomy (notwithstanding the limited requirements of Section 22, discussed below) and uses based on the commodity characteristics of a resource, that are not subject to access or utilization restrictions at all. In addition, non-commercial exchanges, or reproduction, such as for conservation purposes, of material already held in foreign *ex situ* collections would not trigger utilization conditions. It should also be noted that the Bill is structured in such a way that regulations may be promulgated to reflect varying levels of restriction on access and utilization according to the relative sensitivity of different sectors or categories of material. This flexibility includes the option of allowing for authorizations 'as of right', i.e. upon the acceptance of standard terms and conditions without negotiation as discussed under Section 24 below, in relatively non-sensitive sectors, such as for genetic resources for food and agriculture (now that the Treaty has come into force and the standard MTA has been adopted by the Governing Body), as well as for more burdensome case by case negotiation requirements for sensitive sectors, such as pharmaceutical applications for terrestrial plants.

Substantive scope definitions:

"Biological resources" includes organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity;

"Genetic resources" means biological resources, including parts and components, with the exception of:

(a) any biological resource for which the intended purpose does not involve cultivation or reproduction by means of any natural or artificial technique, including biological resources for conventional uses, and

(b) any other biological resource or use of such resource the Minister may prescribe in regulations;

Defining access and utilization takes one a long way forward in understanding the scope of the legislation. However, a key element remains, as even if one understands what access and utilization refer to, one must also be clear regarding what is being accessed or used. This raises the question of 'What is a genetic resource?'

As discussed by Nnadozie et al.,[18] the CBD definition of genetic resources only highlights the fact that countries should define the term in a utilitarian, as opposed to a natural or physical, manner, but does not actually provide a definition itself. The CBD definition is, therefore, subject

18 K. Nnadozie et al. (Eds.). *African Perspectives on Genetic Resources: A Handbook on Laws, Policies and Institutions.* Environmental Law Institute (ELI), Washington D.C. See pp. 9–11.

to national interpretation. The approach taken in Seychelles is based on the same basic structure that can be found in the CBD, namely the identification of a general group and then of a subset of the general group. The general group can be found in the definition of biological resources, which is intended to cover all biological material. This matches the CBD definition of the same term, with one significant exception, which is that the reference to genetic resources has been deleted because it was not felt by the participants in the development of the bill that this added anything substantive to the broad scope of the definition, but instead, created confusion.

The development of the definition of genetic resources was one of the most thoroughly discussed aspects in the development of the legislation, due to its central role in determining which activities would fall within the scope of the legislation and which would remain outside. Various options were developed and discussed during the research process, and the text finally adopted was the result of conclusions reached after considerable deliberation by the broad group of stakeholders involved. It would be impractical to describe all the options developed, so discussion here focuses on the main steps in the process of developing the definition actually adopted. Its origins were in the delineation of the intended substantive scope of the legislation. This discussion began with a technical assistance project by FAO, in 2000,[19] that focused on the research, development and distribution systems for plant genetic resources for food and agriculture in Seychelles. Much was learnt regarding access and benefit sharing options during this project, but a key conclusion was that a regime that only addressed plant genetic resource issues was unlikely to meet national needs. There is an almost universal view among stakeholders that access to genetic resource issues should be addressed in a comprehensive manner, if for no other reason than that the life sciences are developing so fast that it is impossible to predict which resources may be most in demand in five or ten years. Specific examples cited in this context were pollutants and microorganisms but probably the area of most concern was the full range of resources to be found in the marine environment. At the inception of research for this legislation, the thought was to adopt the CBD definition of genetic resources, based on the definition of genetic material, as one that provided the broadest possible coverage.

Discussion of what should not be included in an access to genetic resources regime initially focused on the idea that any regime should allow for specific exclusions. When the question of what these exclusions might be, almost the only example provided of a physical or natural nature was the case of endangered or threatened species where any exploitation might create a risk of harm. The question of 'parts and components', could be considered as another exception, as it deals with the physical or natural properties of a resource, but, in reality, probably is not, as is discussed below. Almost all of the examples that were discussed related not to the physical nature of a genetic resource but to uses of a resource, confirming the view that the definition of genetic resources should be constructed from a utilitarian point of view.

19 The relevant report from the FAO project is on file with the Seychelles authorities and the Development Law Service of FAO: Plant Genetic Resources Issues and Draft Legislation for the Conservation of Plant Genetic Resources in the Republic of Seychelles. Report prepared by K. Troedsson under FAO Technical Cooperation Project TCP/SEY/8922 (A), 2000.

The most obvious exclusion was one for commodities, such as fish for consumption and other foodstuffs. This exclusion operates at a range of levels, from a need to avoid burdening Seychelles' significant fish processing industry, all the way down to the question of household shopping. In a more specific context, a range of other activities, including taxonomic research, the production of essential oils and the collection of wild materials for household use, were considered and, to varying degrees, proved controversial. For the purpose of establishing a generally applicable principle, the legal team suggested that the basic line between what particular use of a biological resource should make it a genetic resource and what use should not (i.e. the line between uses regulated by the legislation and those not provided for) could be drawn on the basis of whether the intended use focused on the commodity nature of a resource or on some other property. The main strength of this approach is that it automatically excludes the majority of foodstuffs and other directly extractive and consumptive activities. The main problems identified, after much discussion, were how to exclude generally accepted uses and how to include the field of taxonomic research. Several lead agencies felt that this latter field had been used as a means to abuse their good faith where material was collected for a declared taxonomic purpose, and then subsequently converted to another use.

The basic solution developed is the text of subsection (a) of the definition (see box above), which focuses regulation on activities that involve cultivation or reproduction, i.e. that mean that the recipient of material is not dependent on the source in Seychelles after the initial collection. Where the recipient of material will continue to be dependent on the source in Seychelles, i.e. commodity transactions, this is not regulated by the legislation on the understanding that such situations are most effectively regulated by traditional natural resource extraction systems. Such systems typically consist of a price set according to the volume of material and the known uses of that material. To avoid the regulation of generally accepted uses that might fall within this definition of genetic resources, the concept of 'conventional uses', discussed below, is introduced as an exception. While it might also be described as a form of generally accepted use by some, access to plant genetic resources for food and agriculture have been provided for separately, as discussed variously below, with the aim of allowing flexibility for Seychelles to follow the international structure established by ITPGRFA.[20] Seychelles had not, at the time of writing, ratified this Treaty, but ratification had the support of the relevant lead agencies and the matter had been placed before the Cabinet for consideration. To allow for situations that might not reasonably fall within the description of conventional uses, but that it might not be deemed appropriate to regulate as access to genetic resources, subsection (b) of the definition was introduced to provide the authorities with future flexibility to make exclusions as necessary. This follows the basic principle clearly established by stakeholders: an inclusive approach to regulation with exceptions to be established as necessary.

An alternative text, that was considered until relatively late in the development of the legislation,

20 See http://www.fao.org/ag/cgrfa/itpgr.htm. Website last checked 29 September 2006.

provided that notwithstanding the general principle, access to material for any form of research would fall within the scope of genetic resources. This was aimed at addressing concerns about taxonomic research. However, this text was problematic, both from the point of view that it made the basic guiding principle difficult to discern and the fact that, as noted earlier, the ambiguity of the term 'research' had been identified as a difficulty with the existing SBS permit system. The option of providing a definition of 'research' was considered but rejected on the basis that it might be extremely difficult to develop with sufficient precision to be useful but also with sufficient flexibility to account for the rapidly changing nature of the life sciences. The problem with taxonomic research was not so much that it was unregulated, but, rather, a lack of good faith on the part of some applicants for permits, something that would remain as much of a problem if it were to be included within the scope of access to genetic resources. Whether taxonomic collections are included within the scope of access to genetic resources or not, the conversion of material collected for taxonomic purposes to other purposes that do fall within the scope of the legislation would remain a violation of its provisions. On the basis that such a collection would represent unauthorized utilization, even if not unauthorized collection. Another approach to the concerns about taxonomic research was ultimately adopted and is discussed below, in Section 5.6 of this commentary.

As noted earlier in the discussion of substantive scope definitions, several terms are used to expand upon or clarify these definitions, and might be considered as 'supplementary scope definitions'.

Supplementary scope definitions:

"Conventional uses" means widely practiced and accepted uses such as –

(a) The local collection of wild genetic resources for cultivation in home or kitchen gardens and intended primarily for domestic use,

(b) the sale or exchange of agricultural produce for food or feed purposes,

(c) traditional fermentation techniques,

(d) the saving, using, exchanging or selling of farm-saved seed or propagating material among farmers, or

(e) any other use the Minister may prescribe in regulations;

"Parts and components" includes functional units of heredity, DNA sequences, chemical compounds, secondary metabolites, biochemicals and other similar material and transcriptions of information describing any of the above in terms of structure or similar technical details;

"Plant genetic resources for food and agriculture" means those genetic resources that may be prescribed as such in regulations by the Minister for the time being responsible for agriculture;

Parts and components

The term 'parts and components' was mentioned earlier as a clarification of the definition of genetic resources that could be considered as an exception to the generally utilitarian nature of that definition. The way in which it might be considered as an exception is that the definition of parts and components largely focuses on physical or natural characteristics. Its intention is to ensure that elements of a genetic resource, in whatever form they are presented, are clearly understood to be within the scope of 'genetic resources', i.e. in legal parlance they are non-severable from the whole. This means that any element of a genetic resource should be considered as a genetic resource in its own right and, therefore, the ownership

and control, and any associated rights and obligations, also apply equally.

The word 'include', indicates that the list of examples that follows is not exhaustive. Furthermore, the listed items are not necessarily mutually exclusive. For example, a DNA sequence might be considered a functional unit of heredity or a secondary metabolite might be considered a chemical compound. The key point to note is that the list is not trying to be scientifically precise: it is actually a political, rather than scientific, list. The overall aim of the definition is to ensure that it includes any possible element of a genetic resource.

The reference to transcriptions of information is intended to ensure that rights are being claimed to any written source, or some other form of communication, describing the basic characteristics of a genetic resource. This is increasingly important as the details of materials' genetic or chemical structure can be unravelled and then sent by e-mail, fax, etc., ever more rapidly. The term 'parts and components' could have been added to the definition of biological resources with equal effect, genetic resources being a subset of biological resources. However, the placing in the context of the definition of genetic resources is intentional, as a means to emphasize its role within the context of the legislation.

The participants preferred the term parts and components over 'derivatives'. The reason for this choice was that it was felt that using derivatives would involve complexities regarding concepts of novelty, and where to draw lines in cumulative product development processes, when this is a somewhat controversial subject at the international level and Seychelles has relatively limited expertise in the field.

Conventional uses

'Conventional uses' (see last box) defines all exceptional uses of genetic resources to which the provisions of the bill do not apply. These are uses that the Seychelles participants considered it unnecessary or counterproductive to regulate through an access law.

Subsection (a), providing for local collection, was the basic starting point in discussions with stakeholders pointing out that a survey identified more than 4000 households (out of a national total of 21 000) as having some form of kitchen garden, often focusing on traditional vegetables. Encouraging such gardens, and expanding them to the broadest possible range of cultivable species and varieties, is official government policy as a means of promoting the conservation of agricultural biodiversity. This policy has been developed as a response to the recognition that government-implemented conservation initiatives will always have limits and that active public participation can greatly expand the scope of activities. To potentially restrict activities in this area by subjecting them to access-to-genetic-resources regulation would clearly run counter to ongoing initiatives. Some people were concerned that this exception should be clear in not including the collection of wild material, particularly medicinal plants, from protected areas. However, it was recognized that these concerns arise from problems in the regulation and management of protected areas, rather than from the absence of access to genetic resources legislation, and that they would be best addressed in that context.

Subsection (b) was suggested by the legal team, and was rapidly accepted by all involved in discussions on the basis that most people had assumed that the sale or exchange of agricultural produce

for consumption would not be affected by access to genetic resources. Given the focus of the definition of genetic resources on activities that involve cultivation or reproduction, this would probably be correct but, due to the combination of the importance of food and the desire for clarity in the legislation, it was decided to make a specific exclusion anyway. This is obviously important from the perspective of household food consumption: somebody buying a mango should, obviously, not need access authorization. However, it is also very significant to the national economy of Seychelles, as one would not wish to add an administrative burden, and thus competitive disadvantage, to industries such as fish processing.

Regarding subsection (d), it should be noted that Seychelles has no plant variety protection system, seed company or plant breeders, and therefore this exception will probably relate mostly to the informal cultivation of traditional food crops and medicinal plants for practical purposes. However, the relationship of this exception to Article 9.3 of ITPGRFA, and international discourse concerning Farmers' Rights, was noted and participants wanted Seychelles to be seen as supporting the recognition of Farmers' Rights.

Subsection (c), concerning distillation, both for alcohol and essential oils, and other similar activities, as well as fermentation, was probably the most controversial of the specific conventional use exceptions. Some activities, particularly fermentation, do involve the reproduction of biological resources. In addition, the fact that some stakeholders feel that the regulation, and taxation, of this kind of activity is currently inadequate suggests that access to genetic resources might be seen as a means to capture benefits. The conclusion, based on a majority opinion, was that fermentation, as an indicative example, should be excluded and that the other related forms of activity, particularly distillation, should also be excluded, as they are not really issues of access to genetic resources. If there are problems based on the perception that, in their commercial form, distillation or fermentation profit from the biological resources of Seychelles in a manner that is inequitable in terms of individual versus national benefit, then this could be more effectively addressed through taxation or licensing.

The list of exemptions is not intended to be exhaustive. It is intended to provide an interpretative guide for use by the authorities. It would be impossible to exhaustively list all possible conventional uses and, if one were to attempt such a feat, any uses that were left off the list would be assumed to be regulated and such an oversight might create unforeseen burdens. To deal with activities that fall in a grey area, subsection (e) provides the Minister with powers to gazette further specific exclusions as necessary.

Plant genetic resources for food and agriculture

The final supplementary scope definition concerns plant genetic resources for food and agriculture (PGRFA). Seychelles, in common with most small island states, is highly dependent on exotic species and varieties for the bulk of its agricultural production. The absence of a seed industry or public research sector also means that this dependence is mostly in the form of improved varieties rather than more basic breeding material. As such, the situation with agriculturally useful genetic resources, where there is a critical need and little or no local supply,

is the inverse of that with other genetic resources, such as marine resources with potential pharmaceutical applications, where Seychelles has an abundant supply but limited means to exploit that supply. The definition, therefore, is established to allow the Ministry of Environment and Natural Resources to distinguish specific genera and species as PGRFA for regulation according to specifically tailored criteria. As is discussed elsewhere in this commentary, the intention is for Seychelles to regulate access to PGRFA in a manner mirroring, or, upon ratification, in compliance with, the ITPGRFA.

Administrative definitions:

"Applicant" means a person or organisation requesting access to, or rights to the utilisation of, genetic resources under this Act;

"Application" means a request for access to, or rights to the utilisation of, genetic resources fulfilling the requirements established by this Act;

"Competent Authority" means the Authority designated pursuant to section 9 of this Act;

"Coordinating Agency" means the Agency designated pursuant to section 11 of this Act;

"Lead agencies" means those agencies identified by the Competent Authority pursuant to section 13 of this Act;

"Minister" means, except as may be otherwise stated, the Minister for the time being responsible for matters relating to the environment;

"Provisional application" means an incomplete request for access to, or rights to the utilisation of, genetic resources; and, [AND WHAT???]

The definitions for administrative purposes are relatively straightforward. Those relating to applicants clarify the status of persons requesting access and the degree to which the authorities are required to respond. A person must formally request authorization for access to be considered as an applicant, thereby requiring the authorities to respond. Only an application meeting the basic requirements of the legislation, including planned subsidiary regulations, need be addressed in any detail. A provisional application can be recorded but no further action need be taken until it becomes an actual application. These measures are included with the aim of limiting the burden on the authorities and promoting well thought out applications.

The definitions relating to the various bodies referred to in the legislation are designed to allow for some flexibility to follow government structures and capacities. As is discussed later, stakeholders were clear as to which existing bodies should play which role, but also wanted the ability to adapt to changing names, structures, mandates and capacities.

The definition of 'Minister' addresses two basic issues. First, the Ministry of Environment and Natural Resources currently encompasses both environmental and agricultural matters, but is the result of a recent merger of those two sectors. However, it is possible that these sectors may, at some point in the future, be separated at the ministerial level, or be subject to some other change, as the result of further restructuring. Should this occur, the definition ensures that the environmental sector will retain the overall power of policy direction for the legislation. However, the text 'except as may be otherwise stated' ensures that matters relating to PGRFA will remain within the mandate of the agricultural sector, as is discussed in Section 4.5, below.

3. Part II: Ownership of and right to determine, control and regulate access to and utilization of genetic resources

3.1 Ownership and right to regulate

5. Pursuant to Article 26.1 of the Constitution of the Republic of Seychelles, ownership of genetic resources is recognised as vested in the registered proprietor of the land, the lessee of the land, the agent or trustee of the land or their agent, transferee or assignee, on, below or above which such genetic resources are found.

6. Pursuant to Article 26.2(a) of the Constitution of the Republic of Seychelles, the right to determine, control and regulate access to genetic resources found in the Republic of Seychelles is vested in the Government for the benefit of the public interest and shall be exercised in accordance with the provisions of this Act.

Sections 5 and 6 of the legislation are primarily intended to situate it within the context of the existing Seychellois constitutional order. As such, their purpose could be viewed as purely administrative, but they also have a direct practical application. In common with the approaches of most legal systems, including common law and civil code, the ownership of, and rights to, natural resources follow the land on which they are found. There are two basic exceptions to this principle. First, key national resources, such as minerals and oil, are often set aside to the exclusive management or ownership of the state under constitutional provisions. Second, the state usually, as is the case in Seychelles, reserves the right to manage resources for the protection of the environment or for other purposes of national interest. As such, section 5 of the draft Bill follows the right to property and recognizes the right to private ownership as set out in the Constitution of the Republic of Seychelles:

> Article 26.1 (Right to property) Every person has a right to property and for the purpose of this article this right includes the right to acquire, own, peacefully enjoy and dispose of property either individually or in association with others.

However, Section 6 of the draft Bill asserts the power of the State under the Seychellois Constitution to limit the right of ownership for the benefit of the public interest:

> Article 26.2 The exercise of the right under clause (1) may be subject to such limitations as may be prescribed by law and necessary in a democratic society –
> (a) in the public interest;

Given that, in legal parlance, genetic resources are 'fungible', meaning that individual samples are interchangeable, the case for regulation is a powerful one: it is not the individual genetic resource that is valuable but the ownership of the information it contains. More simply, the ownership of a physical sample of a medicinal plant does not compare to the ownership of the information encoding the chemical compounds that give that plant its power. Therefore, the only way to maximize the value of genetic resources is to regulate access to them collectively, i.e. through the Government.

This approach has strong precedents in Seychelles. The most prominent of these is coco-de-mer, where private ownership is recognized, but the right to sell, license private sellers and to set

the price is reserved to the Government (Coco-de-Mer (Management) Decree; Declaration of Coco-de-Mer Nut Notice 1995). Similarly, management rights to key agricultural resources, such as breadfruit (Breadfruit and Other Trees (Protection) Act 1917), have traditionally been limited, as have the rights to pirate treasure found on private land. In short, where resources are collected on private land, private landowners may have the right to claim a share of any resulting benefits, but it is the State that has right to determine the parameters of access and to negotiate what the level of any benefits should be.

3.2 Basic functions of the Bill

7. Access to the genetic resources of Seychelles shall only be in accordance with this Act. Access to the genetic resources of Seychelles other than in accordance with this Act shall be an offence.

8. Utilisation of the genetic resources of Seychelles shall only be in accordance with this Act. Utilisation of the genetic resources of Seychelles other than in accordance with this Act shall be an offence.

Sections 7 and 8 are relatively straightforward in their meaning. Where sections 5 and 6 assert the government's right to regulate, sections 7 and 8 provide the basic framework of the regulation being established: any access or utilization of Seychelles' genetic resources must be authorized. One further important point to note is that sections 7 and 8 provide the basic requirement of the bill: any access or utilization of Seychelles' genetic resources identified in the bill must be authorized. Sections 7 and 8 also embrace the distinction between access and utilization. The purpose of this distinction is to avoid basing all regulatory authority on the act of collecting material. Where genetic resources have been collected and passed to third parties, the third parties' uses of the materials would also be subject to regulation. It was recognized by the participants in the development of the bill that the ability to effectively regulate third-party uses would be limited in many cases, particularly outside the country. However, a broad spectrum of the stakeholders involved were clear that the legislation should at least clearly assert Seychelles' rights, even if these might be difficult to enforce in the absence of cooperation from foreign governments or other actors.

4. Part III: Administration

Two basic principles identified by stakeholders informed the development of the administrative structures established by the legislation. The first of these was that the existing ad hoc administrative structure used for the regulation of research should be reinforced and used as the basis of the administrative structure in the legislation. There was an almost universal view that these existing structures had the potential to be effective and that their main problem was that they did not have adequate force of law and were not specifically adapted to the needs of access to genetic resources. The second principle was that structures and responsibilities should be kept simple and, wherever possible, complement the existing activities or mandates of regulatory agencies. This was considered important primarily due to the limited human resources, in particular technical expertise, available.

4.1 The Competent Authority

Section 9 provides for the identification, of the Competent Authority. The primary reason for empowering the Minister, rather than directly naming a responsible institution, is the recognition that executive or administrative structures and mandates may change.

The Competent Authority has a general oversight duty rather than having to be involved in the day–to-day implementation of all aspects of the legislation. The nature of this role

9. The Competent Authority shall be designated by the Minister as he may prescribe in regulations.

10. The functions of the Competent Authority shall be –

    a) as may, from time to time, be necessary to coordinate the development of policies and guidelines relating to the effective implementation of the objectives of this Act;

    b) to co-ordinate all policy and substantive activities relating to access to, and utilisation of, genetic resources in accordance with this Act;

    c) to promote harmony and consistency in the implementation of this Act by lead agencies;

    d) to collaborate with the Coordinating Agency in the effective implementation of its functions under this Act;

    e) to collaborate with lead agencies in, and be responsible for, the management and regulation of the utilisation of genetic resources under this Act;

    f) to monitor, in collaboration with the Coordinating Agency and other Lead Agencies, the application and use of genetic resources transferred from Seychelles and deposited outside Seychelles;

    g) in collaboration with lead agencies, to ensure that the people of Seychelles benefit from the genetic resources accessed;

    h) to collaborate with lead agencies in carrying out public awareness campaigns and designing capacity building programmes;

    i) as may be appropriate, to implement, in collaboration with the Coordinating Agency, lead agencies, non-governmental organisations and other interested parties, an integrated training programme for promoting the implementation of this Act;

    j) to collaborate with lead agencies in ensuring compliance with, and enforcement of, this Act; and,

    k) any other functions the Minister may prescribe in regulations.

is reflected in Section 10's focus on coordination and collaboration, as opposed to unilateral action. To some degree, the Seychelles' Ministry of Environment and Natural Resources currently plays this role in the ad hoc research approval process; most applications for research permits received by SBS are considered in consultation with the Ministry. However, the fact that no specific legal mandate exists, including for the development of a coordinating policy, led a number of stakeholders to highlight the absence of effective information sharing and coordination of efforts and practice. This is seen as prejudicial to Seychelles' objectives and interests in the field of access to genetic resources because of the varying levels of experience and knowledge in different agencies, thereby providing those intent on irregular access with plenty of loopholes and gaps or overlaps in authority to exploit.

In its ad hoc role, the Ministry of Environment and Natural Resources has developed working relationships with other government agencies, including lead agencies under its supervision and with other ministries and lead agencies. For example, it works quite closely with the Attorney General's Chambers on enforcement and prosecution matters, but this tends to be at the level of implementing policy or actions that have been established, or decided upon, by the Ministry rather than in policy formulation. Similarly, key lead agencies, such as the Seychelles Fisheries Authority or the Marine Parks Authority, tend to focus on their core mandates and, to the degree that they address other issues, provide technical input and implementation assistance to the Ministry. In several cases, lead agencies were clear in stating that they would prefer to avoid a role that consisted of more than providing technical input to policy formulation and assistance in enforcement, primarily due to concerns over capacity and the potential for distraction from their core responsibilities.

As a result of its small population, Seychelles has a very limited pool of technical expertise and the option of developing access to genetic resources expertise in multiple institutions is not realistically available. However, there appears to be a widespread belief that the possibility of developing some centralized expertise is realistic, even if this has to be developed and supported from government funds rather than being self-supporting on the basis of benefit sharing arrangements. The issue of capacity, along with the urgent need for information sharing and coordination, was a major factor in opting for the establishment of a policy-oriented Competent Authority.

The various functions listed in Paragraph 10 are intended to be indicative, not exhaustive. Subsection (k) allows for flexibility to adapt to experiences as the legislation is implemented. This flexibility is important, given that this is a relatively new area for regulatory treatment and the dynamics of the functioning of such a law are still not well understood, and have proved in many countries to be controversial.

4.2 The coordinating agency

Section 11 provides for the designation of a coordinating agency, a body which, like the Competent Authority, has its origins in existing Seychellois structures and practice.

11. The Coordinating Agency shall be designated by the Minister as he may prescribe in regulations.

12. The functions of the Coordinating Agency shall be –

a) to receive and facilitate the expeditious processing of all applications for access to, or utilisation of, genetic resources submitted to it;

b) Upon receiving written authorisation from the relevant lead agencies, grant permits for access and utilisation of the genetic resources Seychelles;

c) Receive notifications of the collection of biological resources pursuant to Section 22 of this Act and forward such notifications to the relevant lead agencies;

d) to co-ordinate all administrative activities relating to access to, and utilisation of, genetic resources in accordance with this Act;

e) to establish and maintain a depository for all applications, permits, material transfer agreements, reports and other relevant documentation, including communications and notifications;

f) to establish administrative mechanisms for the implementation of this Act;

g) to ensure that that digital specimens of genetic resources accessed or utilised under this Act are deposited in Seychelles, such digital specimens to be provided in appropriate electronic format and to include –

i) an image of the genetic resource or the specimen from which it was derived or extracted,

ii) any available accompanying taxonomic or passport data,

iii) any other information the Minister may prescribe in regulations or the Competent Authority or lead agencies require on a case-by-case basis.

h) as appropriate and in collaboration with lead agencies, to ensure that representative samples and specimens of genetic resources accessed or utilised under this Act are deposited in Seychelles;

i) as appropriate and in collaboration with lead agencies, to advise on and approve the location for depositing of samples and specimens of genetic resources accessed or utilised under this Act;

j) as appropriate and in collaboration with lead agencies, to ensure that samples and specimens accessed or utilised and held outside of the jurisdiction of Seychelles remain reasonably available to Seychelles upon request;

k) to monitor technology transfer and information exchange in relation to genetic resources;

l) in collaboration with lead agencies, to facilitate negotiation and conclusion of all material transfer agreements, including the terms and conditions upon which access or authority for utilisation is to be granted;

m) to ensure that all material transfer agreements or permits contain sufficient provisions for the sharing of benefits accruing to any person or entity from access to, or utilisation of, the genetic resources of Seychelles;

n) to submit to the Competent Authority reports relating to the implementation of this Act; and,

o) any other functions the Minister may prescribe in regulations.

The functions of the coordinating agency are primarily administrative. Its main functions are to, firstly, act as a focal point for the receipt of applications for access to, or the utilization of, genetic resources, and, secondly, to liaise with lead agencies in the completion of any necessary agreements. Ultimately, the

coordinating agency will be responsible for the issuance of permits pursuant to authorization by lead agencies. The purpose behind these functions is to promote effective coordination in the implementation of the legislation at an administrative level, with particular attention to the question of possible gaps or overlaps in mandates. It is the coordinating agency, not the applicant, who will determine the relevant lead agencies for any particular application. This approach is intended to facilitate the process for applicants, in that they can channel any communication through a single body, simultaneously closing off any loopholes that may result from limited capacity in particular lead agencies. Similarly, this approach ensures that the appropriate lead agencies are brought into the negotiating and decision making processes on a case-by-case basis. The coordinating agency will serve as a central repository of information regarding all access and utilization activities, thereby providing an institutional memory and reference point for lead agencies and the Competent Authority. To a limited degree, this service already exists in the form of a database maintained by SBS, which is accessible through the internet.

To date, SBS has performed many of the functions that are envisaged for the coordinating agency, and the overwhelming view appears to be that it should continue in this role. It has been noted for its efficiency in the delivery

13. Lead agencies shall be identified or designated by the Competent Authority as necessary and appropriate.

14. (1) Lead Agencies shall be responsible for the management and regulation of access to genetic resources under this Act.

(2) The Coordinating Agency shall forward to the relevant Lead Agency an application for access to genetic resources submitted to it by an applicant.

(3) The functions of a Lead Agency in respect of an application for access to genetic resources submitted to it under section 14.2 shall be –

a) to review the application and provide authorisation to the Coordinating Agency, in writing, consenting to the grant of access or rights of utilisation or otherwise;

b) to maintain a depository of all documentation of relevance to access and utilisation of genetic resources within their respective responsibilities or mandates and to ensure that duplicates of such documentation are provided to the Coordinating Agency in a timely manner;

c) to ensure that a member of staff of an appropriate lead agency accompanies all applicants granted access to genetic resources under this Act in activities relating to the collection of such resources;

d) As appropriate and in collaboration with the Competent Authority, ensure the effective enforcement of this Act;

e) to ensure that the rights of the local communities which use, collect or research into genetic resources are protected, including verifying compliance with consent requirements;

f) as appropriate and on the approval of the Coordinating Agency, to establish a depository or designate an existing depository for representative samples or specimens of genetic resources taken out of Seychelles; and,

g) any other functions the Minister may prescribe in regulations.

(4) In the exercise of its functions under this Act, a lead Agency shall continue to execute its mandate as prescribed by law.

of its functions, and it was frequently remarked that it was generally perceived as a neutral body that could be effective in linking ministries and lead agencies, perhaps because of its inter-ministerial governance. A further advantage in SBS performing the functions of the coordinating agency is that it oversees the issuance of generic research permits and, therefore, will be in a unique position to see any links, or gaps, between that permit system and the legislation.

4.3 Lead agencies

Sections 13 and 14 establish lead agencies as the on-the-ground implementers of the legislation. In line with its role as the provider of policy guidance for the legislation, Section 13 empowers the Competent Authority to identify or designate lead agencies in the context of the legislation. This highlights the relationship between the Competent Authority and lead agencies: that the lead agencies will implement their functions under Section 14 within the scope of the policies formulated by the Competent Authority.

Subsection 14 (4) recognizes the existing mandates of lead agencies and is intended to highlight that their activities under the legislation should complement these existing mandates. This, final, point highlights the prevailing view among the participants involved in the drafting of this bill, that law should not fundamentally alter existing structures and mandates but, rather, clarify and reinforce them.

4.4 Collaboration with other organizations

> 15. Where necessary and appropriate, the Competent Authority, Coordinating Agency, lead agencies and any other agencies of the Government of Seychelles shall collaborate with local, foreign and international organisations, whether governmental or non-governmental, in the effective implementation of this Act.

Section 15 is a blanket administrative provision applying to all the agencies with responsibilities under the legislation. Its intention is to empower agencies to work with all other organizations necessary for, or simply supportive of, the better implementation of the legislation. The most obvious organizations with which agencies will need to collaborate are the CBD Secretariat, the Governing Body of ITPGRFA, and associated bodies such as the UN Environment Programme (UNEP) and the Global Environment Facility (GEF). If, as has been suggested in some quarters, the CBD's Clearing House Mechanism takes on an expanded role in information sharing for access to genetic resources, such collaboration could easily expand beyond policy coordination and funding.

Collaboration with a number of other organizations is also likely to prove beneficial. Some NGOs, in both developing and developed countries, are beginning to provide technical assistance in both policy formulation and in the event of disputes. Similarly, NGOs have played a valuable role in monitoring and encouraging accountability on a number of occasions in various regions.

Most of these potential relationships might be assumed as natural given the mandates for different types of agency established by the legislation. That Section 15 specifically empowers

agencies to enter into them is to make clear that they have this authority, both for the purpose of encouraging collaboration and to avoid the possibility that collaboration, particularly in the area of enforcement, might be challenged in the context of a dispute.

4.5 Prescribing of regulations

16. The objectives and provisions of this Act shall be carried into effect by means of regulations that may be prescribed, including –

    a) The Minister for the time being responsible for agriculture shall prescribe measures for access to, and utilisation of, plant genetic resources for food and agriculture under this Act; and,

    b) The Minister shall prescribe measures for access to, and utilisation of, genetic resources other than those provided for in paragraph (a) of this section under this Act.

    c) Notwithstanding the provisions of sub-section b) of this section, the Minister shall have powers to regulate access to, and the utilisation of, specific genera, species or sub-species in a more restrictive than the provisions of this Act, where the Minister, in consultation with the Competent Authority and relevant Lead Agencies, deems necessary or appropriate.

As noted elsewhere in this commentary, the prescribing of regulations, and, therefore, Section 16, is critical to the regulatory structure established by the legislation.

By use of the word 'including', the chapeau establishes a general power to prescribe regulations, notwithstanding the regulations specifically referred to in the subsections. This general power is particularly important to allow flexibility in the face of unforeseen events.

Subsection (a) is the reason for the exception to the definition of 'Minister', provided for in Section 2, discussed above. PGRFA have been managed by a distinct unit, which falls within the Ministry of Environment and Natural Resources. Therefore, for the time being, the 'Minister' and the 'Minister for the time being responsible for agriculture' are one and the same, but, in the past, agriculture and environment have been under separate ministries, and the possibility of further re-structuring in the future is allowed for. The reason for providing for such a clear division between PGRFA and other genetic resources is twofold. One, Seychelles' almost complete dependence on exotic material for its agricultural sector has led to the recognition that there are very different dynamics prevailing in different genetic resource sectors. Second, there is considerable support for ratification of the ITPGRFA among the agricultural authorities and it is recognized that, in the event of ratification, there will be a need to implement mechanisms that are very specific to that framework, such as an internationally agreed standard MTA. The broad provisions of this legislation should provide an adequate umbrella for implementing regulations that follow the multilateral approach of the ITPGRFA, as well as the bilateral approach usually preferred for the regulation of non-agricultural sectors. Until Seychelles have actually ratified or acceded to the Treaty, the participants agreed that it would not be appropriate to include more precise details in this draft bill.

In almost all jurisdictions, regulations are recognized as a more flexible instrument than legislation because their promulgation does not involve time-consuming legislative processes. In Seychelles, this principle

is, perhaps, even stronger than in most other jurisdictions: there is a history of regulations being changed extremely rapidly to adapt to changing circumstances or new phenomena. One example cited by stakeholders related to the protection of sea cucumbers, which have a significant market in Asia, in Seychellois waters. Several years ago the relevant authorities noted a significant rise in the poaching of sea cucumbers and, in less than three weeks, introduced new regulations specifically addressing the problem. These new regulations have been amended several times since their initial promulgation to improve the structure they establish. Recognizing that the establishment of a regulatory regime that both furthers and protects national interests while also genuinely facilitating and promoting research has been an elusive goal in other countries and regions. It is expected that the flexibility provided by a heavy dependence on regulations, rather than the core legislative regime, will allow the relevant authorities to rapidly address problems as and when they be identified.

5. Part IV: Conditions of access

As noted in Section 3.2, above, the legislation makes a conceptual distinction between 'access' and 'utilization' for the purpose of ensuring that the scope of regulated acts is clear. Part IV of the legislation provides the basic outline of the regulatory approach to access. Conditions of utilization are addressed in Part V below.

5.1 Prior informed consent

> 17. Access to the genetic resources of Seychelles shall be conditional upon the granting of prior informed consent by the following –
>
> The relevant authorities of Seychelles, as prescribed in regulations; and,
>
> As may be appropriate, any holder of private rights that may be relevant to the grant of access.
>
> Private rights in this section shall be understood so as to include the rights of the holders of the knowledge, innovations and practices of local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity, whether or not these rights may be formally recognised in law.

Article 15.5 of the CBD provides that access to genetic resources shall be subject to the 'prior informed consent of the Contracting Party providing such resources, unless otherwise determined by that Party.' Paragraph 17 of the draft Bill follows Article 15.5 by requiring the prior informed consent of the relevant authority, as a representative of the State, and, in addition, requiring the prior informed consent of any holder of private rights relating to the genetic resource in question, or relating to any other aspect of access.

The relevant authority to provide prior informed consent is not specified, because, as noted earlier, lead agencies provide the primary consent, through the coordinating agency, and the relevant lead agency may vary depending on circumstances. However, it is important to note that this should not complicate matters for an applicant, as they will not be asked to identify the relevant authority: this is one of the roles of the coordinating agency acting as a focal point.

Similarly, applicants will not be required to identify any holders of private rights relating to a resource or to access to that resource. In its role of facilitating negotiations, the coordinating agency will, in collaboration with lead agencies, identify private rights holders and ensure that they are adequately aware of the circumstances of any application. The recognition of private rights is solidly entrenched in the Seychellois Constitution and is therefore clearly recognized in the legislation. The concluding paragraph of section 17 links partly with Article 8(j) of the CBD, but also with the wider international discourse relating to traditional and indigenous knowledge. Seychelles has no 'indigenous' communities in a strict understanding of that term, having been uninhabited prior to the 18th century, but has a long history of traditional medicine that is widespread among its communities. The reference to the formal legal recognition of rights to traditional knowledge is to allow for the fact that, at the time of writing, Seychelles was largely still at the research phase of considering options for the protection of traditional knowledge.

A final point is that section 17 does not actually specify what 'prior informed consent' means. This can sometimes be a complex concept, particularly in terms of what it means to be informed. In this context, it is planned that the information required in any application will be specified in regulations, allowing flexibility for both adaptation to perceived needs and, perhaps, to the varying activities and capacities of applicants.

5.2 Benefit sharing

> 18. Access to the genetic resources of Seychelles shall be conditional upon measures for the fair and equitable sharing of the benefits of such access, as may be prescribed in regulations.

Article 15.7 of the CBD establishes benefit sharing as one of the cornerstones of an access to genetic resources regulatory regime. As discussed in Section 2.2.4 above, benefit sharing is seen as a necessary complement to facilitated access. Also as noted in 2.2.4, there is a heavy emphasis on in-kind benefits and the recognition that varied approaches will often be required. Two possible approaches were considered. The first approach was to refer to the principle of benefit sharing and then provide a set of examples of different possible forms of benefit sharing. It closed with a requirement that benefit sharing arrangements reflect the various public, community and private interests that may be involved in any proposed access. The second approach, which was ultimately adopted, establishes the basic requirement for benefit sharing and leaves all detailed matters for regulations.

The reasons for choosing the simpler text were twofold. First, it provides maximum flexibility in forms and levels of benefit sharing. To the degree that any mandatory requirements are

deemed necessary, they can be provided for in regulations and therefore adapted relatively quickly on the basis of experience. Second, and most significant, is the fact that it is recognized that benefit sharing, and particularly financial benefit sharing, will be less important in the context of access than in that of utilization. It was frequently remarked that, in many cases, the main benefit that might be derived from the granting of simple access would be the provision of information.

5.3 Protected or threatened species

19. Access to the genetic resources of Seychelles involving any species listed or otherwise officially recognised in law or practice as protected or threatened shall not be granted unless written approval for access is received from the lead agency responsible for the conservation and management of such species including, where relevant, the CITES Management Authority.

Section 19 is a basic conservation provision, highlighting the fact that access to threatened or endangered species will inevitably be more complex than access to other species. It recognizes the existence of other regimes controlling access issues. Section 19 also includes recognition that rapidly changing circumstances, or new information, may mean that a species has not been formally listed as threatened or endangered but that it is, nevertheless, recognized as such in practice.

5.4 Discretion to refuse access

20. The Competent Authority, in consultation with the Coordinating Agency and lead agencies, shall have the discretion to refuse access to the genetic resources of Seychelles where it is reasonably believed that the applicant is from, or otherwise based or operating in, jurisdictions that do not provide adequate guarantees for the respect and enforcement of this Act.

Section 20 reflects a currently *de facto* administrative practice implemented by a number of lead agencies and other institutions: the right to refuse access where the authorities are not reasonably sure of an applicant's commitment to the terms and conditions under which access might be granted, or of their ability to seek redress in the event that an applicant breaches those terms and conditions. A number of examples were given where applications for a particular activity by institutions or individuals from one country had been approved but applications for the same activity by institutions or individuals from another country had been refused. The most commonly cited reasons for these distinctions were that, in the case of the applications that had been refused, the authorities felt that did not have adequate guarantees or were uncertain of how exported material might really be used.

While providing scope for the relevant authorities to act on their concerns, it is also hoped that Section 20 may influence the approaches of applicants. In particular, it should highlight a key regulatory concern to applicants in advance of their submission of an application, thereby encouraging them to seek to address this concern in their applications. However,

it should be noted that the view that adequate guarantees or security would not exist in all countries in the absence of an, at least minimal, international regime on access and benefit sharing. For the agricultural sector, the ongoing negotiations regarding the dispute resolution mechanisms to be included in a standard material transfer agreement could, therefore, be seen as critical, and potentially as something that might have broader implications in non-agricultural access and benefit-sharing dispute resolution.

5.5 Limitation on time and scope of access

21. Access to genetic resources other than plant genetic resources for food and agriculture shall be expressly limited in both time and the nature and scope of authorised activities.

Section 21 is largely intended to ensure control of access to genetic resources by third parties and to discourage unauthorized utilization, whether by applicants or third parties. It is a measure that is found in the MTAs of a number of institutions around the world and its inclusion here merely reflects this emerging standard. The specific exclusion of PGRFA from this requirement reflects the fact that the provisions of ITPGRFA preclude its application to that sector and, indeed, are intended to facilitate third-party transfers and limited, if any, reporting on, or monitoring of, the nature of activities.

As discussed earlier (Section 2.1), Seychelles had yet to ratify ITPGRFA, but is actively considering this matter at Cabinet level. In this situation, the text provided here, as well as in other provisions of the Bill, is intended to provide the flexibility required to implement the Treaty's provisions without prematurely binding Seychelles to their details. Also as discussed earlier, the definition of PGRFA provides discretion for the Minister to determine what species or genera fall under this term, thereby allowing Seychelles to mirror the species and genera covered by the Treaty (listed in its Annex I) or to go beyond this list to a broader group if ultimately the government decides that it would like to do so.

5.6 Collection of biological resources

22. Any collection of biological resources for taxonomic, or other research purposes not falling within the provisions of this Part, shall, notwithstanding any permits or authorisation that may be required, be notified to the Coordinating Agency, including details of the purpose, nature and scope of such collection.

Section 22 is a specific response to a concern raised by regulatory authorities that a number of actors had sought access to genetic resources in recent years stating that their intended purpose was taxonomic research. While the authorities are keen to encourage such research, they are worried that such applications have sometimes been made in bad faith and that resources have been converted to other uses once accessed. Such conversion would be an offence under the provisions of the legislation relating to utilization and, probably, also a violation of the terms and conditions under which access might be granted. However, by the time the offence was committed the applicant would, most likely, be beyond Seychelles' jurisdiction

and, therefore, the authorities wanted some means of monitoring access that might not require authorization under the legislation to allow for possible action to limit abuse. It is important to note that Section 22 is purely a matter of notification and does not involve any process of authorization.

5.7 Additional conditions for access

23. As appropriate and necessary, the Minister may prescribe additional conditions for access to the genetic resources of Seychelles in regulations.

The provisions of Part IV only address the basic structure of an access regime and, as has been discussed in the context of the legislation more generally, subsidiary regulations are necessary to add detail in a manner that will allow for flexibility in implementation. Section 23, therefore, serves a dual purpose. On the one hand, it empowers the Minister to add and, as may be necessary, amend this detail, and, on the other, it allows the Minister to go beyond the scope of the core structure established by the legislation. This latter point can be particularly important in ensuring that conditions of access, such as the payment of application fees or requirements that local staff accompany any collecting missions, established in subsidiary regulations cannot be held to be *ultra vires*, or beyond the scope, of the parent legislation.

6. Part V: Conditions of utilization

6.1 Prior informed consent

24. Rights to the utilisation of the genetic resources of Seychelles shall be conditional upon the granting of prior informed consent by the relevant authorities of Seychelles, as prescribed in regulations.

Section 24 varies from the text of Section 17 in that it does not provide for the prior informed consent of private rights holders. This is primarily due to the fact that Section 24 only applies where an application is exclusively for rights to utilization and where no collection of material is involved. This situation may occur where one is dealing with material already held in *ex situ* collections, particularly botanic gardens or university collections, or where a new possibility for utilization is identified subsequent to collection. In the former case, the resource has already, at least for practical purposes, been alienated from any local private rights, whether subject to ongoing conditions or otherwise. In the latter case, the authorities may still work with the holder of any private rights pursuant to any terms and conditions that might have been agreed to as a condition of access. It is important to note that the question of prior informed consent does not determine outcomes relating to benefit sharing and therefore private actors could, and in some cases must, be included in benefit sharing, even if they are not directly involved in the negotiation of those benefits. It is also important to note that Section 24 does not preclude the recognition of standardized approaches, such as that embodied by the multilateral system of

access and benefit sharing (MLS) created by ITPGRFA. It is perfectly compatible for regulations to provide that rights to use may be granted 'as of right' provided that stated terms and conditions, such as those provided for in the standard MTA to be used for transfers of all materials under the MLS, are agreed to. The practice of offering licences as of right, i.e. without the need for negotiations or, in many cases, even contact, is widespread in the world of patents and is at least part of the inspiration for practices such as 'shrink-wrap' contracts in information technology.

6.2 Intellectual property rights notification

25. Any grantee of rights to the utilisation of genetic resources shall notify the Coordinating Agency of any intention to apply for, assert or otherwise claim any form of intellectual property rights relating to such utilisation.

Section 25 was included in the legislation by majority, rather than unanimous, decision. Its purpose is to facilitate the monitoring of any authorizations for utilization, as, at least in the commercial sector, intellectual property rights applications are one way to monitor potential commercial applications of research activities. Requiring that notification be given of intent, rather than of actual applications, allows the authorities to act early where they believe there may be a violation of any term or condition of rights to utilization while also maintaining the option of opposing an application for intellectual property rights where they believe such an application to be improper.

The debate regarding the inclusion of Section 25 in the legislation was generated more by the question of its relative utility rather than because of any concern that it might be prejudicial to the objectives of the legislation. The questions relating to its utility were twofold. First, it was pointed out that it would probably only be complied with by those who intended to act in good faith anyway. Second, it was noted that the main motivation behind monitoring utilization is to ensure that any financial benefits are effectively captured and that intellectual property rights are not always the most effective proxy for identifying commercial profit.

6.3 Benefit sharing

26. Any grant of rights to the utilisation of the genetic resources of Seychelles shall be conditional upon measures for the fair and equitable sharing of the benefits of such utilisation, as may be prescribed in regulations and including –

    1) monetary benefits such as fees, royalties or milestone payments; or,

    2) non-monetary benefits such as the provision of research results, training, equipment or information contributing to the conservation and sustainable use of the genetic resources of Seychelles.

    Provided that such benefit sharing shall include due consideration of the public interest and of the interests of the holders of private or community rights including to the knowledge, innovations and practices of local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

In many ways, the provisions of Section 26 are the result of that same discussion that produced the provisions of Section 18, although the conclusion was different. The objective was to provide flexibility while promoting equitable relationships. While access to a resource may, or may

not, generate tangible benefits beyond the availability of information it is considered that the utilization of that resource is far more likely to generate at least in-kind benefits, if not financial returns as well. Given this relative likelihood of the generation of benefits, it was felt that more detail should be provided in Section 26 compared with Section 18. The text adopted here is very similar to the alternative option proposed, but ultimately rejected, for Section 18, as discussed above. The examples of forms of benefit sharing are non-binding and indicative and, therefore, do not really limit flexibility but are intended to highlight the greater emphasis placed on benefit sharing in the context of utilization as opposed to simple access. The key distinction between Section 26 and Section 18 is therefore the binding requirement that any benefit sharing arrangements relating to rights to utilization consider private or community rights as well as the public interest. In cases of simple access, where the benefits generated are often likely to consist of research results, a sharing of benefits at the private or community level may not always be effective or desirable. However, the increased likelihood of the generation of direct tangible benefits in the context of rights to utilization means that private and community rights must be considered if a generally equitable arrangement is to be established. This reflects the provisions of Sections 5 and 6, discussed above, recognizing the existence of private ownership of genetic resources found on private land but within the context of a government assertion of the right to regulate such privately owned resources. In other words, while the private owner of a genetic resource may not have the right to determine the outcome of any application for utilization, they do have the right to claim a share in any benefits that might be generated.

6.4 Declaration of origin

27. Any grant of rights to the utilisation of the genetic resources of Seychelles shall be conditional upon the grantee declaring Seychelles as the provider of such genetic resources in any patent application or claim or other form of intellectual property rights application, claim or assertion. The Competent Authority may, upon notification by a grantee pursuant to section 25 above, waive the condition provided for in this section, provided that such waiver is strictly limited in scope and only applied on a case-by-case basis.

The background to Section 27 is, in many ways, similar to that of Section 25, discussed above. The same debate as to the relative utility of its provisions applies. However, in the case of Section 27, there was concern not only relating to the relative utility of the provisions but, also, as to possible impacts that might be prejudicial to the objectives of the legislation. In particular, it was pointed out that some private sector actors might be reluctant to undertake research in Seychelles under this condition. However, it was also noted that private sector objections to declaration of origin requirements primarily relate to where these are included in intellectual property rights legislation and, in particular, where they might threaten the validity of intellectual property rights, as opposed to forming the basis of a claim for damages. Section 27 was ultimately included because a majority felt that it had the potential to be useful in monitoring and that it probably would not inhibit research for the following reasons: such declaration requirements have been routinely included in MTAs in various parts of the world

without major controversy. Furthermore, where a genuine reason for not including a declaration in an intellectual property rights claim exists, the Competent Authority may grant a waiver of the requirement.

6.5 Protected or threatened species

28. Rights to the utilisation of the genetic resources of Seychelles involving any species listed or otherwise officially recognised in law or practice as protected or threatened shall not be granted unless written approval for access is received from the lead agency responsible for the conservation and management of such species including, where relevant, the CITES Management Authority.

The purpose and function of Section 28 is largely as that described for Section 19, above. However, there is a slight difference in that regimes for the protection of threatened species usually focus on access to those species. Regulations relating to their utilization are more of a secondary mechanism to ensure that the rules relating to access have been complied with.

6.6 Discretion to refuse rights to utilization

29. The Competent Authority, in consultation with the Coordinating Agency and lead agencies, shall have the discretion to refuse rights to the utilisation of the genetic resources of Seychelles where it is reasonably believed that the applicant is from, or otherwise based or operating in, jurisdictions that do not provide adequate guarantees for the respect and enforcement of this Act.

The purpose and function of Section 29 is exactly as that of Section 20, discussed above.

6.7 Limitation on time and scope of utilization

30. Rights to the utilisation of genetic resources other than plant genetic resources for food and agriculture shall be expressly limited in both time and the nature and scope of authorised activities.

The purpose and function of Section 30 is exactly as that of Section 21, discussed above.

6.8 Additional conditions for utilization

31. As appropriate and necessary, the Minister may prescribe additional conditions for the grant of rights to the utilisation of the genetic resources of Seychelles in regulations.

The purpose and function of Section 31 is exactly as that of Section 23, discussed above.

7. Part VI: Measures to support prior informed consent and mutually agreed terms, including benefit sharing, in countries of origin or countries providing genetic resources

Part VI of the legislation can be clearly distinguished from parts IV and V of the draft Bill in that it relates almost exclusively to the role of Seychelles as a user of genetic resources rather than its role as a provider. The main motivation for the inclusion of what have come to be known as 'user measures' was one of morality or equity: if Seychelles is to expect foreign jurisdictions to respect its legal framework for access to genetic resources then it must, within reasonable limits, be prepared to respect other countries' legal frameworks in the field. A second motivation relates to the fact that, in the absence of any effective international regime, it might be possible to at least mitigate challenges in monitoring and enforcement by the development of some form of less formal cooperation based on reciprocity. This sort of semi-formal cooperation has some precedents in, for example, the relationship with Mauritius, where the Mauritian authorities will generally confiscate any coco-de-mer nuts found in their jurisdiction without official Seychelles certification, although this is technically regarded as a violation of Mauritian import regulations rather than of Seychellois sale and export regulations. The basic belief underpinning this approach is that the existence of an international regime that, at a minimum, addresses some level of monitoring and enforcement concerns, or, in the absence of such a regime, some less formal structure of reciprocity, would allow for a far more open approach to authorizing access and utilization.

The direct functions of Part VI are to provide for monitoring of access to genetic resources by Seychellois in other jurisdictions and to establish measures for the limited recognition and enforcement of foreign regulations or material transfer agreements. The limited nature of this recognition is largely due its being based upon the principles of equity and reasonableness.

To some degree, it has to be admitted that the question of user measures may be an easy one for a country like Seychelles that, with the exception of the agricultural sector, is clearly a net provider of genetic resources. However, the user measures provided for in Part IV do apply to agricultural material, and they would also apply to some other activities that are already present in Seychelles, including aquaculture based on foreign brood stock, and potentially the growing natural products industry.

7.1 Compliance with law of source jurisdictions

> 32. Any person or other entity based in or otherwise subject to the jurisdiction of Seychelles shall comply with the laws or other regulatory regimes of other jurisdictions in which they may access or seek authorisation for the utilisation of genetic resources.

Section 32 establishes the basic principle that any Seychellois should comply with any laws or rules that may exist in countries whence they access any genetic resource. There are three points to be noted here. First, the key function

of Section 32 is to make it an offence under Seychelles law to obtain genetic resources in violation of any foreign law or rule. Second, this key function depends upon the existence of relevant laws or rules in those foreign jurisdictions. Section 32 does not establish any fundamental right to benefit sharing or prior informed consent. However, any law may not need to be specifically directed at access to genetic resources, for example, many laws on protected areas establish a basic requirement that nothing should be removed from a protected area without authorization. Third, because of the reference to 'access or seek authorisation', Section 32 applies whether one is alleged to have breached accepted terms and conditions of access or where one is alleged to have completely circumvented any access law or rule.

7.2 Compliance with terms and conditions of source

33. Any person or other entity based in or otherwise subject to the jurisdiction of Seychelles shall comply with the terms and conditions upon which they have been granted access or authorisation to utilise genetic resources in any other jurisdiction, including any material transfer agreements or permits.

Section 33 largely mirrors Section 32, but where Section 32 addresses legislative and regulatory measures, Section 33 focuses on the enforceability of any specific terms and conditions that may have been agreed upon. Section 33, therefore, does not necessarily depend upon the existence of laws or regulations but could, depending upon the circumstances, also provide for the ad hoc arrangements that are in place in many countries at the present time. Where an MTA, or a form of permit that could be understood as a contract, is in place, there would, notwithstanding Section 33, obviously be a cause of action under Seychelles law for breach of contract for any aggrieved person. However, Section 33 moves beyond this by making such a breach something that the Government of Seychelles can act upon, thereby providing greater security for anybody authorizing access to genetic resources by Seychellois in their jurisdictions.

7.3 Notification to source and Competent Authority of access or utilization

34. Any person or other entity based in or otherwise subject to the jurisdiction of Seychelles and accessing or utilising genetic resources originating in or provided by other jurisdictions shall notify the relevant authorities, including any access and benefit sharing competent authority, of that source country and the Competent Authority of such activities and of any permits issued or material transfer agreements executed and provide details of the same.

Section 34 is intended to facilitate the monitoring of access to genetic resources activities involving Seychellois, both by the authorities of countries of origin and, for the purposes of the implementation of Part VI, the Competent Authority in Seychelles. It is recognized that the notification requirement assumes that relevant authorities are identifiable,[21]

21 Through its Clearing House Mechanism, the CBD maintains a list of contacts for the ABS competent authorities and focal points of which it has been notified. At the time of writing, notifications consisted of 15 countries in the former category and 43 in the latter. See http://www.biodiv.org/world/map.aspx. Web site last checked 13 March 2006.

which may not always be the case. In the development of Section 34, it was assumed that compliance would have to be judged by some form of good faith, or reasonableness, rather than absolute standard, given the lack of clarity prevailing in some countries. In the case of notification of the Seychellois Competent Authority, the main objective is to establish the said Authority as a central source of information on the activities of persons subject to Seychellois jurisdiction and to facilitate the implementation of Part VI generally. A further, incidental, benefit is that the recording of permits and material transfer agreements originating in other countries will provide a useful source of information for Seychelles' authorities in assessing their own policies.

There was some discussion about whether Section 34 should be mandatory or not. The focus of discussion was the requirement to inform (a) the Competent Authority in Seychelles and (b) possibly authorities in countries of origin. In the former case, the concern expressed by some participants was that such a requirement would create an additional burden for the Competent Authority and that it would probably only be complied with by those acting in good faith anyway, thereby reducing the marginal utility of the requirement for the purposes of monitoring. However, recognizing the probably low volume of import activity in sectors other than PGRFA, and the fact that government agencies are almost the only actors in the import of PGRFA, the various Seychelles authorities were clear in their view that any burden involved would be manageable.

With respect to notifying the authorities in countries of origin, the main concern expressed was about the ability to identify the relevant authorities. As noted above, it was felt that the problem of identification could be adequately catered for by a reasonable interpretation of the text: if there is no relevant authority, or one cannot be identified, a declaration to that effect could be made to the Seychelles Competent Authority and this could be subject to challenge by the source country in the event of a dispute.

7.4 Additional supporting measures

35. The Minister may prescribe in regulations any further measures to support prior informed consent and mutually agreed terms, including benefit sharing, in countries of origin or countries providing genetic resources as he deems appropriate.

In line with the general approach of the legislation, Section 35 provides the Minister with powers to expand, or expand upon, the various provisions of Part VI. It will be necessary, for example, to provide greater detail through regulations with respect to notifications under Section 34 and (depending upon the degree to which authorities want agencies to be proactive) under sections 32 and 33. Experience globally with the implementation of user measures is limited. Consequently, flexibility in implementation through regulation is useful.

7.5 Reciprocity and unconscionable terms and conditions

36. The provisions of this Part shall only apply in respect of the laws or other terms and conditions of access or utilisation of foreign jurisdictions providing equivalent or reciprocal protections to those contained in this Part and shall not be enforceable where any relevant terms and conditions are declared unconscionable.

Section 36 sets limits upon the enforceability of Part VI based upon two basic principles. The first of these is the principle of reciprocity that influences much of the structure of the legislation. Reciprocity is a common concept in many fields of law, most often in a situation where its absence can operate as a bar to extraterritorial enforcement of, for example, contractual agreements, when it can be shown that a party is in breach. The second principle embodied in Section 36 is that unconscionable terms and conditions cannot be enforced. This is also a common theme in most legal systems, where manifestly unreasonable or unfair terms and conditions can be held to be unenforceable even if the parties concerned agreed to them. In the absence of an international framework for access to genetic resources that establishes these principles in a broader framework, including them in national laws is useful if the country concerned is planning to take actions regarding breaches of foreign laws, and wants to promote reciprocal treatment by other countries.

A final important point regarding Section 36 relates to the authorities that will be responsible for it. In the case of reciprocity, it is assumed that the Competent Authority, as the leader on policy matters, would make any necessary decisions, probably in collaboration with the Attorney General's Chambers. In the case of unconscionable terms and conditions, the text requires a more formal process, the assumption being that only a court of law with appropriate jurisdiction can make a formal declaration that any term or condition is unconscionable. In common with other legal processes, such a declaration could be sought pre-emptively or requested as a defence to a claim of breach.

8. Part VII: Monitoring and enforcement

Monitoring and enforcement is one of the most difficult aspects of regulatory regimes for access to genetic resources. The material in question can often be difficult to identify, consisting of things such as seeds, water samples or microorganisms, and, even when identified, the provenance of material is not always easy to prove. One example that was cited, and that illustrates the point, was the case of a set of water samples that were collected in Seychelles to be analyzed in Europe. The Seychelles authorities had no means of assessing what the samples might contain and what

37. The Coordinating Agency shall bear primary responsibility for monitoring compliance with the administrative requirements for access to, and utilisation of, genetic resources established under this Act, including –

    (1) Informing prospective applicants of the administrative and documentary requirements of this Act;

    (2) Accepting provisional applications or applications and informing applicants and lead agencies of the status of such Provisional Applications or Applications under this Act;

    (3) Informing the Competent Authority and relevant lead agencies of any actual or suspected breaches of the administrative requirements of this Act; and,

    (4) Maintaining all relevant documents, records or other relevant information that may further the effective implementation of this section.

38. Lead agencies shall bear primary responsibility for monitoring compliance with the terms and conditions of access to genetic resources under this Act, including –

    (1) Ensuring that access does not threaten, or otherwise place at risk, the genetic resources being accessed or any element of the ecosystem or ecosystems within which they are found;

    (2) Ensuring that access is in accordance with the terms and conditions of this Act or any agreement reached, or permit issued, pursuant to it;

    (3) Informing the Competent Authority and other relevant lead agencies of any actual or suspected breaches of the terms and conditions of access to genetic resources under this Act; and,

    (4) Maintaining all relevant documents, records or other relevant information that may further the effective implementation of this section.

39. The Competent Authority shall bear primary responsibility for monitoring compliance with the terms and conditions of rights to the utilisation of genetic resources under this Act, including –

    (1) Ensuring that utilisation is in accordance with the terms and conditions of this Act or any agreement reached, or permit issued, pursuant to this Act;

    (2) Informing the Coordinating Agency and relevant lead agencies of any actual or suspected breaches of the terms and conditions of rights to the utilisation of genetic resources under this Act; and,

    (3) Maintaining all relevant documents, records or other relevant information that may further the effective implementation of this section.

40. The Competent Authority, in collaboration with relevant lead agencies, shall bear primary responsibility for ensuring the effective enforcement of this Act.

41. The Competent Authority, Coordinating Agency and lead agencies shall collaborate with other established agencies and forces of the Government of Seychelles and, as necessary and appropriate, with other national, foreign, regional or international organisations in the effective implementation of this Act.

uses they might be put to. The collection of material for one purpose might be quite legitimate while collection of the same material for a different purpose might be an offence, which makes monitoring a complex proposition.

As noted in Sections 2.2.2 and 2.2.3, above, there is clearly a need to focus on the establishment of a regime that encourages compliance rather than one that seeks to force it through monitoring and enforcement actions. This point is emphasized when one considers the relatively limited enforcement capacity of most Seychelles authorities, particularly in the marine environment.

Part VII concentrates on establishing responsibilities for particular aspects of monitoring and enforcement from agency-to-agency. Section 37 gives the coordinating agency the prime responsibility for monitoring compliance with the administrative provisions of the legislation, which largely relate to the basic requirements of the application process. Section 38 focuses the responsibility of lead agencies on issues of access, which, it is assumed, will largely take place in the field. This area includes matters such as sustainable use and whether collections are undertaken as agreed. This latter point might involve the officers of lead agencies accompanying, or undertaking, collecting expeditions where this is deemed necessary.

Section 39 places the monitoring of utilization within the mandate of the Competent Authority on the understanding that this will most commonly involve activities taking place beyond the jurisdiction of Seychelles. These broad provisions provide considerable scope for the agencies involved to define their own approaches to monitoring. For example, lead agencies could, as part of their strategy, make use of the model provided by the environmental hotline that has been effective in enhancing the monitoring of turtle protection. This was based upon awareness raising among communities and capitalized upon the tendency of many Seychellois to be sympathetic to environmental conservation objectives. If lead agencies were able to rely upon public reporting of collecting activities, this would considerable reduce any burden that might be created by responsibilities for monitoring.

While Sections 37, 38 and 39 of the draft Bill provide for responsibilities in monitoring, Section 40 places the responsibility for enforcement in the mandate of the Competent Authority. In the majority of cases, this is likely to be a collaborative undertaking at the national level involving the consultation and cooperation with the Attorney General's Chambers. This latter form of cooperation is already a strong feature of enforcement processes in the environmental sector in the Seychelles. At the international level, it is assumed that the Ministry of Environment and Natural Resources will perform the functions of the Competent Authority and, as a Ministry, have greater ability than the Attorney-General to make use of diplomatic channels or to mobilize the resources required for more direct legal actions where necessary. A further advantage of giving the Competent Authority responsibility for enforcement is that it is uniquely placed to be able to coordinate both expertise and information gathering to address any enforcement problems that may arise.

Section 41 reflects the provisions of Section 15, discussed in 4.4 above. As with Section 15, Section 41 serves two purposes: to encourage cooperation and to ensure that such cooperation is in compliance with the law.

9. Part VIII: Powers of Authorized Officers

The provisions of Part VIII are largely drawn from existing legislation in force in Seychelles and, in particular, legislation that relates to the regulation of the exploitation of natural resources. The reasons for adopting this approach generally, and for the inclusion of a number of the specific provisions, were based on the research and consultation process that preceded the drafting of the legislation. First, the participating stakeholders broadly expressed the view that access to genetic resources should be viewed as a very serious matter touching on the conservation of, and rights to exploit, a key national asset, i.e. the natural environment. On a number of occasions, the view was forcefully expressed that irregular access to genetic resources, or use of genetic resources that have already been collected for different purposes, should be viewed in the same manner as any other case

42. The Minister may, by prescribing in regulations, identify authorized officers for the purpose of enforcing the provisions of this Act.

43. For the purpose of enforcing the provisions of this Act, an authorized officer may, with or without a warrant:

    (1) Search any vehicle, other means of transport or premises;

    (2) Require any vehicle or other means of transport within the jurisdiction of the Republic of Seychelles to stop and do anything else which will facilitate the search of said vehicle or other means of transport;

    (3) Require to be produced, examine and make copies of any permit, logbook or other document relating to activities conducted pursuant to this Act;

    (4) Require to be produced and examine any equipment and inspect any genetic resources; and,

    (5) Require persons on board any vehicle or other means of transport or present in any premises searched pursuant to this Section to do anything which appears to him to be necessary to ascertain whether any offence has been committed.

44. Where an authorized officer has reasonable cause to believe that an offence against this Act or against any other written law relating to the environment or natural resources has been committed, he may, with or without a warrant:

    (1) Seize and detain any vehicle or other means of transport including any equipment, stores and cargo found therein or belonging to said vehicle or other means of transport, and seize and detain any equipment or other material abandoned by the vessel; and,

    (2) Arrest any person who he believes has committed such offence.

45. In effecting the seizure of a vehicle or other means of transport under this Part, an authorized officer may use such force as may be reasonably necessary.

46. A foreign vehicle or other means of transport or other thing detained under this Part shall, as soon as practicable, be delivered into the custody of the Commissioner of Police and shall be released upon demand to the owner or master if no proceedings are instituted within 10 (ten) days of such delivery against the owner or master in respect of an offence against this Act.

47. (1) No action shall lie against the Government or against any authorized officer for damages in any civil court for any act done or ordered to be done in good faith in pursuance of this Act.

    (2) No prosecution of any authorized officer, or action which may lawfully be brought against any authorized officer, in respect of anything done in pursuance of this Act shall be entertained by any court unless it be instituted within 6 months from the date of the act complained of.

of the misappropriation or conversion of private or state property. Therefore, the most effective means is to include enforcement mechanisms and penalties that are associated with non-compliance in the legislation. Second, Seychelles' approach to a number of natural resource extraction issues has, particularly in recent times, been a combination of flexibility and relatively low barriers to entry, with fairly strong enforcement powers and penalties in the event of breach. The aim of such a strategy is to provide a framework in which the costs of compliance are reasonable but the costs of non-compliance are relatively high. Following the same basic approach in the context of access to genetic resources would therefore serve the purpose of policy harmonization and coherence, as well as being independently justifiable from a national perspective. The third reason for the adoption of the powers of authorized officers presented in Part VIII is that providing powers that are already exercised by the officers of existing agencies in the exercise of their existing functions is lightweight in terms of administrative and human resources requirements.

Section 42 refers to the 'identification' of authorized officers. The use of the term 'identification' means that the legislation does not intend to create a new law enforcement agency but, rather, intends to expand the mandate of existing agencies. As such, the need to match the powers provided with those already being exercised in fields, such as fisheries or customs, with enforcement officers that could act under this ABS legislation becomes significant. In particular, collaboration between the Ministry of Environment and Natural Resources and Transport Security and Customs, who monitor luggage and cargo and key points of entry, and the Immigration Department, who regularly travel to some of the more distant islands of the archipelago to monitor tourist activity, were noted for their major impact on limiting various forms of poaching. The option of collaboration with the quarantine authorities was also noted, particularly as both areas depend upon the basic ability to monitor what biological material is either entering or leaving the country. However, it was pointed out that there was already a need for more qualified staff in this area, which, in turn, suggests that there may well be a need for some form of training for all of the enforcement officers that would have access to genetic resources issues included within their powers.

Another reason for including these provisions in Part VIII relates to sections 43 through to 46. As has been noted above, a key challenge in the enforcement of access to genetic resources regimes is the fact that a large number of those seeking rights to access and utilize genetic resources are from jurisdictions other than those in which they are seeking rights and, once they have left a country's borders, the range of enforcement options narrows drastically. This fact, combined with the fact that most genetic resource samples are easily portable, means that, even where offences can be identified, there is a high risk of flight. To maximize the chances of uncovering irregular activity prior to flight, flexible powers of search are useful; so too are strong powers of seizure essential.

10. Part IX: Offences and penalties

48, Any person who commits an offence against this Act shall be liable for both civil and criminal prosecution.

49. Any person who acts in contravention of Section 7 of Part II or Parts IV and VI of this Act shall be guilty of an offence and on conviction be liable to fine not less than SR 5000 and not exceeding SR 500,000 and to a term of imprisonment not exceeding five years.

50. Any person who acts in contravention of Section 8 of Part II or Part V of this Act –

(1) shall be guilty of an offence and on conviction shall be liable to a fine not less than SR 10,000 and not exceeding SR 1,000,000 and a term of imprisonment not exceeding five years; and,

(2) shall be liable to civil prosecution for the recovery of any profit, whether financial or otherwise, derived, directly or indirectly, from the act contravening the provisions of this Act.

Sections 48 to 50 establish the offences that may be prosecuted under the legislation. Section 48 provides that offenders may be subject to both criminal and civil prosecution and applies generally to any offence against the legislation, as opposed to sections 49 and 50, which apply to offences against specific provisions. Criminal prosecution was favoured by the Seychellois authorities as the most effective deterrent. During discussion, it was noted that the threat of penal sanctions are most effective where offenders remain, or can be detained, within the geographical jurisdiction of Seychelles That said, the prospect of having an outstanding warrant of arrest might still be a deterrent to many actors. It was also noted that some more effective means of seeking enforcement in foreign jurisdictions was needed. In the absence of any international regime, seeking to enforce a Seychellois civil award of damages in a foreign court would be the requisite course of action.

Sections 49 and 50 primarily reflect the distinction between access and utilization as established by the legislation. A violation of the legislation's provisions on simple access is considered a lesser offence than violation of the provisions relating to utilization. The reason for this is that in cases of utilization the offender is seeking to profit, in some direct form, from their violation of the legislation. Where a violation of the legislation's provisions on simple access could have more serious impacts is in cases where that violation is prejudicial to the conservation status of a resource, but this is provided for separately in Section 51, discussed below. In subsection 50.2, the legislation expands upon the basic penalties provided for, by requiring civil prosecution for the recovery of any profits derived from irregular acts. It should be noted that this is more a question of emphasis in relation to acts of utilization, as Section 48 establishes a general liability to civil prosecution.

Section 49 also encompasses violations of Part VI of the legislation, relating to user measures. It is recognized that this could include utilization-related offences, and thereby establish a lesser range of penalties for offences committed by Seychellois in foreign jurisdictions than is applicable to foreign offenders in Seychelles. However, the fact that most established regulatory regimes for access to genetic resources do not make the distinction between access and utilization is deemed to preclude any other option. It should also be noted that, pursuant to Section 48, Seychellois would still be liable to civil prosecution for any

profits they may have derived from irregular acts.

The levels of criminal penalty established by sections 49 and 50 are based on the proposals for penalties that are currently under consideration for other environmental offences.

51. In addition to imposing a penalty for an offence arising under this Part, the Court may order the person convicted to compensate any loss or damage to biological resources and to take such steps as may be specified in the order and within such time as may be specified, to pay damage and prevent, control, abate or mitigate any harm to such resources caused by commission of the offence or to prevent the continuance or recurrence of the offence

Section 51 addresses restitution and applies to any offence under the legislation. It reflects the conservation and sustainable use objective of the legislation by making any convicted offender liable for any environmental harm their offence may cause. This provision reflects approaches to offences and penalties that are being considered in the context of the broader reform of environmental laws in Seychelles.

52. Where an offence under this Act has been committed by a corporate person, every natural person who, at the time the offence was committed, was in charge of, and was responsible to, said corporate person for the conduct of the business of that corporate person, as well as the corporate person itself, is guilty of the offence and liable to be proceeded against and punished accordingly.

(1) Provided that nothing contained in this Section shall render any such person liable to any punishment provided in this Act, if the person proves that the offence was committed without the knowledge of that person or that the person exercised all due diligence to prevent the commission of such offence. Negligence in the conduct of assigned duties and responsibilities shall not be a defence under this sub-section.

(2) Where an offence under this Act, has been committed with the consent to, connivance of or is attributable to any officer of a corporate person, such director, manager, secretary or other officer is guilty of that offence and shall be liable to be proceeded against and punished accordingly.

The language of Section 52 is drawn directly from precedents in Seychelles law. It establishes that senior corporate officers may be held personally liable for offending acts of a corporate entity. In legal parlance, this amounts to a 'piercing of the corporate veil', whereby a court may disregard the usual immunity of corporate officers from liability for wrongful corporate activities.

53. Any person who in any way prevents or hinders any authorized officer from exercising the powers conferred by this Act shall be guilty of an offence and liable to a fine not less than SR 5000 and not exceeding SR 500, 000 and a term of imprisonment not exceeding five years.

Section 53 complements the provisions of Part VIII by addressing

obstruction relating to the powers of authorized officers. While preventing or hindering an officer from exercising these powers might be considered an offence under the general provisions of Section 48, Section 53 removes any doubt, by creating a specific offence to address this situation (and establishes associated penalties following those set out in Section 49). The justification for following the lower levels of penalty associated with Section 49, as opposed to the higher levels associated with Section 50, is that any act that might present a threat to an officer would constitute a separate offence, which would be punishable under Seychelles criminal law, and, therefore, acts that would be primarily punishable under Section 53 will be non-threatening in nature.

Sections 54 and 55 relate to seizure and forfeiture of property; they build upon similar provisions in Part VIII. The reason for their inclusion partly relates to the same concerns regarding flight risk discussed in Part VIII. Subsection 54 (1) intends to contribute to the undoing of the offence committed by restoring possession of genetic resources irregularly acquired or utilized, and any products of that irregular access or use, to the Government. Subsection 54 (2) is intended to limit the occurrence of repeat offences by removing, where relevant, the means for the commission of an offence. Section 54 (3) is a means of recovering costs that may be incurred in the enforcement of the legislation where these costs relate to the particular circumstances of a case rather than to the general costs of enforcement. Section 55 relates directly to the powers of officers to detain property by providing for the sale of such property to offset any sums owed in the event of the non-payment of any fines, costs or other moneys ordered by a court.

54. When a person is convicted of an offence against this Act, the Court:

    (1) shall order that any genetic resources and related information or products seized shall be forfeited to the Government;

    (2) may, or in the case of a second or subsequent conviction, shall, order that any property used in or in connexion with the commission of an offence shall be forfeited to the Government;

    (3) shall order that any costs incurred in the detention of property, and the costs of the repatriation of any persons, shall be payable by the person convicted.

55. Where the master or the owner of foreign property within the jurisdiction of the Republic of Seychelles has been convicted of an offence against this Act, the property, if not ordered forfeit by the Court, shall be held until such time as the fine, costs and other moneys ordered by the Court to be paid have been paid, and if payment in full has not been made within 30 (thirty) days, the property may be sold and payment made from the proceeds.

56. The Minister may prescribe in regulations offences that may be compounded to improve the administration of this Act, provided that,

    (1) The level of any composition fine for an offence under Part V of this Act shall be proportionate to any profit, whether financial or otherwise, derived and, in the case of corporate persons, may take into consideration the annual turnover of such corporate person.

    (2) In the event of the rejection of any offer of composition, the offence shall be investigated and, if there is sufficient evidence, shall be prosecuted to the full extent of the law.

Section 56 is designed to enhance the flexibility available to the authorities in terms of the levels of penalties applicable in different situations. In practical terms it allows the authorities, within limits

to be formally established in detail by regulations, to effectively 'settle' cases through the imposition of fines rather than pursuing the full prosecution of offences. This flexibility has two main advantages. The range of actors involved in access to genetic resources is enormous: from students, to large publicly-financed research expeditions, to multinational corporations. Accounting for the different levels of intent, culpability, potential negative impact and financial capacity of such a range of actors can be problematic. Providing the discretionary option of compounding, or 'compromising on', offences allows the authorities to assess penalties less than those statutorily provided for where they believe that this would be in the interests of justice and would limit the burden of cost and time a prosecution would impose upon the authorities and courts. The second advantage is that the power to compound offences also provides the authorities with a wider range of options in dealing with offenders that it might be difficult to bring before Seychellois courts or who hold no assets within the jurisdiction of Seychelles.

11. Part X: Miscellaneous

Part X is designed to address loose ends that are not fully addressed elsewhere in its text.

57. The provisions of this Act shall not prejudice the existence of rights and obligations established in law.

58. The Minister may prescribe in regulations exceptions to the provisions of this Act where he deems that regulatory mechanisms meeting the objectives of this Act already exist.

59. Any person granted access to, or rights for the utilisation of, genetic resources under this Act shall not require a research permit from the Designated Authority.

60. Activities falling within the scope of this Act but commenced prior to its entry into force shall comply with the provisions of this Act within 3 (three) months of its entry into force.

Section 57 provides that the legislation does not amend the rights and obligations that are already established in other Seychelles laws. There are a number of pieces of legislation and sets of regulations, such as those relating to coco-de-mer, that establish specific regimes for particular species, or groups of species, that the authorities do not want to be effectively repealed by the legislation.

Section 58 provides for the fact that some form of regulatory mechanism to approve research or collection already exists in other laws applicable to specific sectors or geographical areas, such as fisheries. Although some participants were hesitant to allow for any exceptions, it was ultimately deemed useful to allow room to establish exceptions to avoid double authorization requirements, especially where other mechanisms might be more appropriate to the circumstances. The requirement that they be prescribed in regulations

precludes the possibility that they could be fully ad hoc.

Section 59 addresses confusion that may follow from the recognition in section 58, i.e. the possibility of double requests and double authorizations. It gives priority to authorizations under this legislation on the basis that authorizations flowing from other mechanisms may not meet the same standards as the legislation for their specific sectors or species.

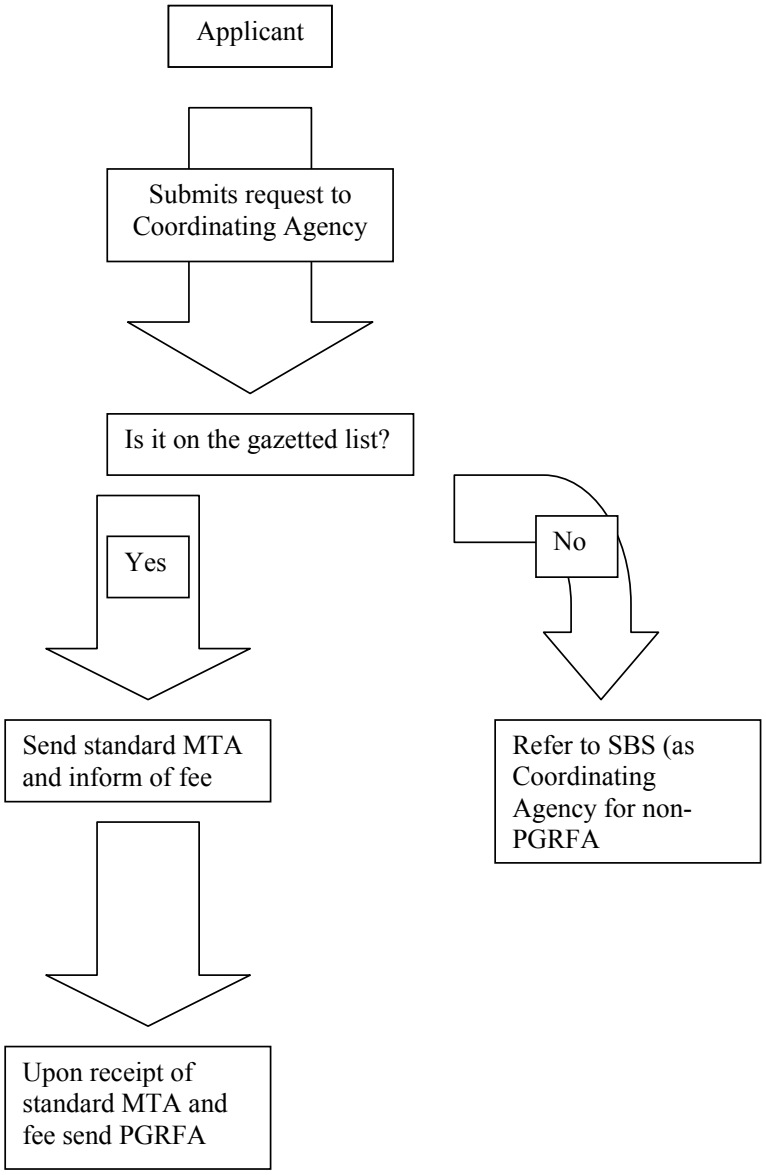
Section 60 is a transitional provision that allows for ongoing activities that fall within the scope of the legislation to be brought into compliance within three months of its entry into force. Three months is a relatively short period but the authorities were confident that they were aware of all activities that were being legitimately conducted, and were therefore in a position to complete the necessary processes regarding them. Where irregular activities might be ongoing it was not deemed appropriate to provide additional flexibility solely for their regularization.

Acronyms

ABS	Access and Benefit Sharing
CBD	Convention on Biological Diversity
CGIAR	Consultative Group on International Agricultural Research
FAO	Food and Agriculture Organization of the United Nations
IARC	International Agricultural Research Centre
IPGRI	International Plant Genetic Resources Institute
ITPGRFA	FAO International Treaty on Plant Genetic Resources for Food and Agriculture
MLS	multilateral system of access and benefit sharing
MTA	Material Transfer Agreement
NGO	non-governmental organization
PGRFA	plant genetic resources for food and agriculture
SBS	Seychelles Bureau of Standards

Annex 1

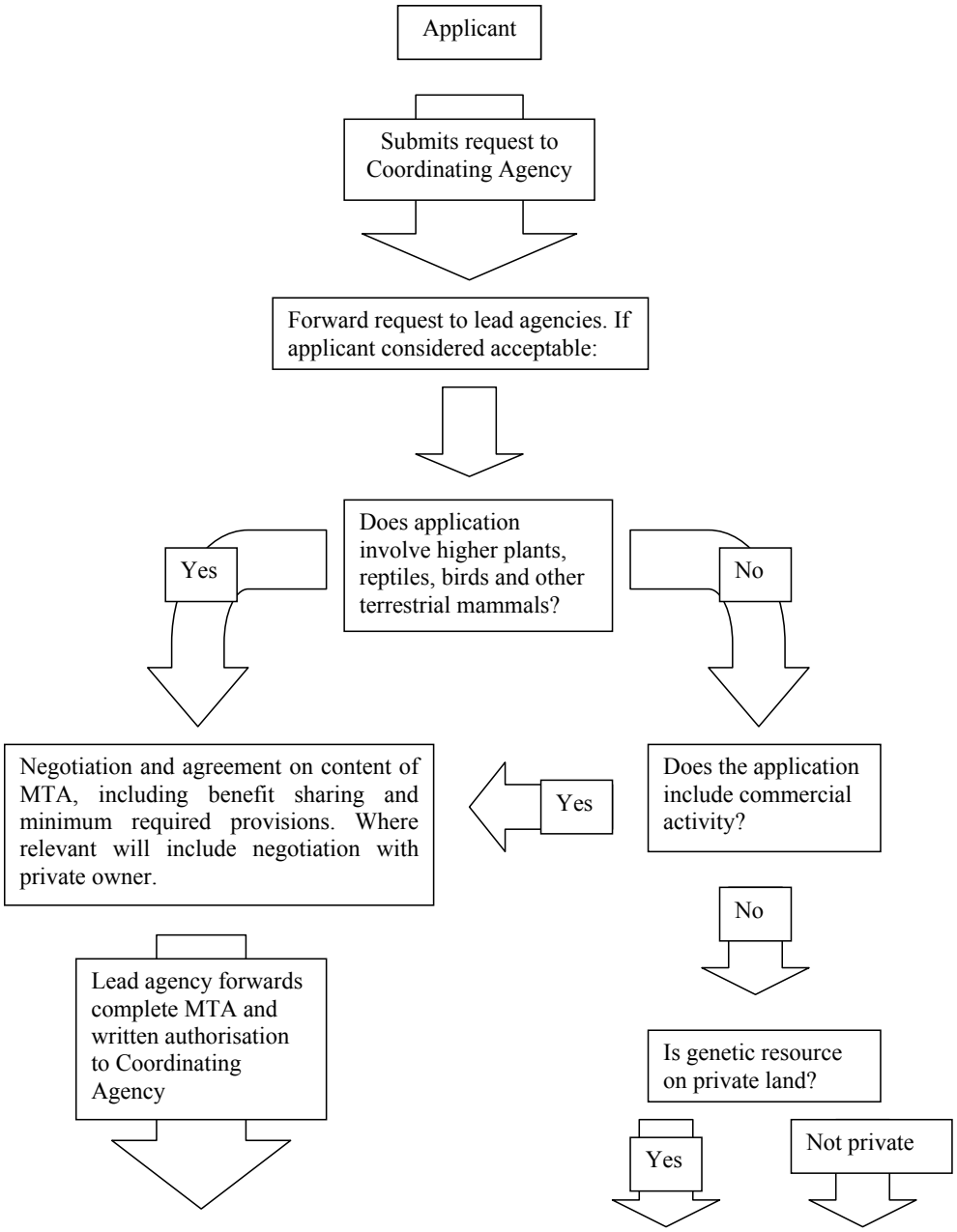
STRUCTURE OF REGULATORY APPROACH TO PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

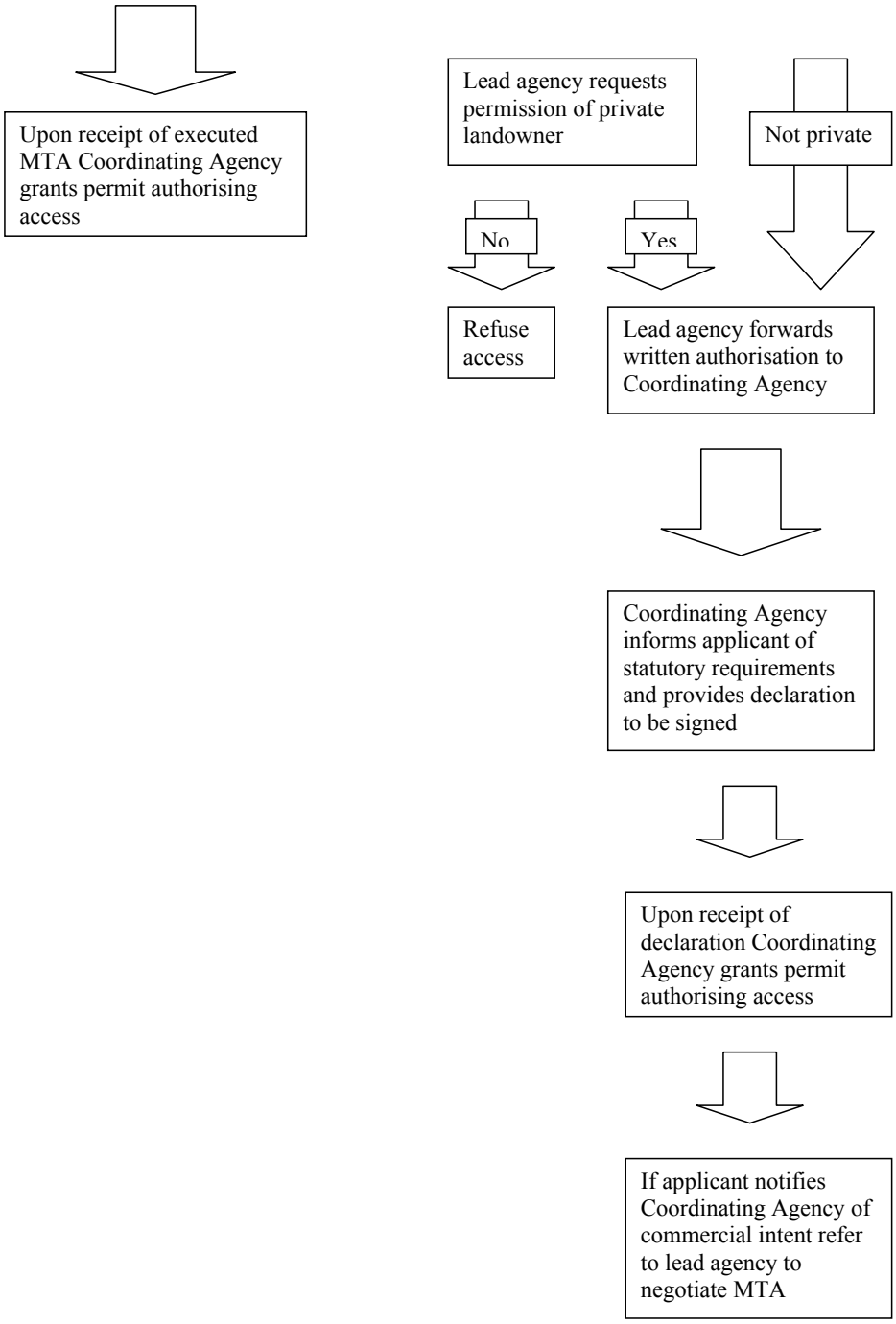


In the event that the Seychelles does not become a party to the International Treaty the following would apply

Annex 2

STRUCTURE OF REGULATORY APPROACH TO NON-AGRICULTURAL GENETIC RESOURCES




Upon receipt of executed MTA Coordinating Agency grants permit authorising access
Lead agency requests permission of private landowner
Not private
No
Yes
Refuse access
Lead agency forwards written authorisation to Coordinating Agency
Coordinating Agency informs applicant of statutory requirements and provides declaration to be signed
Upon receipt of declaration Coordinating Agency grants permit authorising access
If applicant notifies Coordinating Agency of commercial intent refer to lead agency to negotiate MTA