

Selective breeding and the intensive management of wildlife: a legal challenge for Namibian conservation

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The Republic of Namibia recently lost a High Court case preventing the sale of antelope that were selectively bred and intensively managed to produce traits that are uncommon in the wild. This paper looks at the foundations that the Namibian government may draw on to develop a policy context which would enable the country to redraft and amend existing legislation. The Namibian Nature Conservation Ordinance has exceeded its usefulness, in that it is ill-equipped to maintain and protect the country's wildlife and its traditional enclosed extensive wildlife systems on private farms - and the Ordinance should be replaced. It is further concluded that the provisions of the Maputo Convention and the Nagoya Protocol apply to selective breeding and intensive management of wildlife. Caution is raised that provisions of these agreements, when read in isolation with the definition of biodiversity in the Namibian Environmental Management Act, may be interpreted in a manner contrary to the conservation of this resource. It is concluded that a formal inclusion of the public trust doctrine into the Namibian environmental jurisprudence, as has occurred in many African and countries elsewhere, would provide the necessary omnibus to address current and future challenges to the country's wildlife and other components of the environment.

Key words: Africa, Namibia, public trust doctrine, responsible wildlife management, genetic manipulation, intensive and selective breeding, Nagoya Protocol, policy, multilateral environmental agreements, robust research, self-regulation.

BACKGROUND

The recent application to auction antelope which were the result of selective breeding and intensive management, alerted the wildlife authorities of the Republic of Namibia (Namibia) to the fact that these activities are taking place in the country. Given the growing concerns regarding similar practices elsewhere (IUCN, 2015), and particularly those that have arisen out of the captive (e.g. canned lion) breeding and antelope colour-variant breeding in South Africa (Hargreaves, 2010; Thomas, 2017), there is uncertainty about the potential risks the products of this industry would bring to the Namibian wildlife and hunting industry. With this uncertainty in mind, the Namibian government took a precautionary approach and looked to its wildlife jurisprudence to prohibit the continuance of the mooted activity, by, *inter alia*, refusing to issue a permit that would allow for game bred within this intensive breeding facility to be auctioned. This decision was also underpinned

by the notion that such a prohibition would create an opportunity for the Namibian Wildlife authorities to gain a defensible understanding of the potential threats that selective and intensive breeding of wildlife may have (if any) on the genetic integrity of the country's wildlife, and its reputation for providing a sincere wild game-viewing and hunting experience (Thomas, 2017). The action would also create the opportunity for the country to revise its wildlife laws, so that the impacts of selective breeding and intensive management of wildlife could be regulated, or, if necessary, prohibited (Malan Lindeque, Permanent Secretary of the Ministry of Environment and Tourism, Republic of Namibia, pers. comm., August 2016).

The administrative decision by the wildlife authority was taken on urgent review by the High Court of Namibia, where impediments preventing the auction of game were set aside by acting Judge A.J. Parker (*Wildlife Ranching Namibia v Minister of Environment and Tourism*, hereafter referred to as 'Parker, 2016'). Notwithstanding procedural and administrative shortcomings, the case was

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decided on interpretation of section 47 of the Namibian Nature Conservation Ordinance 4 of 1975 (Ordinance) – and whether the applicant fulfilled the provisions of this section. Without going into the merits, the crux of the case revolves around the interpretation of a ‘farm or piece of land which is not a farm’, which is enclosed with a game-proof fence, and which is at least 1000 ha in extent (section 47(1)(b)). Farms in Namibia have not been subdivided and hence retain their original extent – which exceeds 1000 ha. The *prima facie* intent of these provisions, therefore, ensured that game were secured and free-roaming in areas greater than 1000 ha, and hence they may be sold from these properties in accordance with the provisions of section 47.

In this case, the farm or piece of land (hereafter ‘the farm’) was enclosed by a game-proof fence and was greater than 1000 ha in extent. The internal area of the farm appears to have been partitioned into an array of enclosures within which the ‘to be auctioned’ game (including colour variants) were bred. In brief, the Namibian wildlife authority argued that the ‘enclosure’ was equivalent to ‘land which is not a farm’ as contemplated in section 47 of the Ordinance, and which is significantly less than the minimum area requirement of 1000 ha. With this understanding, the authority issued a permit with the following condition: ‘[t]his permit does not apply to game kept in enclosures smaller than 1000 ha’ (Parker, 2016). The wildlife authority argued that this condition fulfilled the intent of the Ordinance, which was to ensure that all game sold in Namibia was free-roaming and that such a wild state could only be achieved in areas which are a minimum of 1000 ha in extent. The imposition of this condition, given the circumstance, resulted in an effective prohibition of the auction which precipitated the court application.

Parker concluded that the Ordinance was silent on the ‘intention of the Parliament’ when adopting this section of Ordinance, and, as such, the implied intent carried no standing other than conjecture. Furthermore, Parker noted that the conflation of a ‘piece of land’ with ‘enclosures’ was both inappropriate and unjust. The wildlife authority therefore acted outside of the rule of law which led to the decision by Parker to set aside the prohibitory restrictions of the permit. The consequences of this decision were that the limitation of 1000 ha could not be applied to internal enclosures (irrespective of the size) of a farm. Furthermore, the farm meeting such area requirements, together

with the game-proof fencing, entitled the applicant to auction the game bred in these enclosures. This decision effectively marked the entry of Namibia into the fraternity of selective breeding and intensive management of game, and the sale thereof.

The issuing of the permit, together with the judgement handed down by Acting Judge Parker, suggests – at least in the circumstance of selective breeding and intensive management of game – that the provisions of the 1975 Nature Conservation Ordinance are outdated and hence can no longer be relied upon, in its current form, to empower the wildlife authority to manage new potential threats to the integrity of the country’s wildlife populations. While the wildlife authority may in the short term, and having gone through the necessary public consultative process, amend the Ordinance to address the matter of internal farm fences and the creation of enclosures significantly less than 1000 ha in size, entirely new legislation may be a better placed in the medium term. This change to the law would naturally be ideally based on a robust wildlife policy that takes into account contemporary uses of wildlife, as well as threats that have arisen since at least 1975 – together with the conservation, social and economic imperatives of the country.

It is the purpose of this paper to investigate, from first principles, and recommend from a domestic and international law perspective, a foundation on which a Namibian fiducial policy on the use and management of the country’s wildlife may be based. This investigation focuses on whether the potential incorporation of the public trust doctrine into environmental decisions and the country’s jurisprudence would be legally justifiable and administratively sound. In so doing, an understanding of the relevance of the doctrine as the foundation for a policy on selective breeding and intensive management of wildlife in Namibia is generated. This understanding is achieved through a historical review of the development of the conservation of wildlife in Africa since the drafting of the first multilateral agreement on the continent – and the analysis of the Namibian Environmental Management Act 7 of 2007, together with relevant African and global multilateral agreements which apply to this type of use of a country’s biodiversity.

ANALYSIS AND DISCUSSION

Historical foundation of a wildlife policy

As a general rule, environmental degradation is caused directly and indirectly by the human use of

the environment (Ruppel & Ruppel-Schlichting, 2011). The state is empowered to intervene by way of environmental legislation to regulate, and in certain circumstances prohibit, any human activity which may lead to a non-trivial or significant degradation of the environment, and in other instances provide incentives or disincentives to achieve the same outcome. The outcome is to be a sustainable use of the environment, in which its integrity and character are sustained from one generation to the next. This intervention by the state is founded on the concept of the public trust doctrine, which has been described by several commentators as being custodianship, guardianship, wardening and stewardship (Taylor, 2012). Notwithstanding that which may have been derived from either the European or American legal systems, the concept of the state assuming the role of trustee for the environment, and specifically wildlife, has a deep African history which has a direct bearing on the policy adopted by the Southern African Development Community (SADC), and, in particular, Namibia. It is therefore important from a policy-framework perspective to contextualize the country in terms of understanding the development of wildlife conservation in Africa.

1900 London Convention

The earliest formal record of the concerns about the unsustainable use and extermination of wildlife (Hoffmann & Jungius, 1972), was the Convention of the Preservation of Wild Animals, Birds and Fish in Africa (1900 London Convention), which included those territories under German possession in South-Western Africa (Article 1). This Convention was primarily focused on the establishment of a coordinated strategy for the conservation of the wellbeing of free-ranging wildlife, and in relation to the impact that humans, by way of unsustainable hunting or 'indiscriminate slaughter', had on wildlife populations (Preamble to the Convention). The strategy in the Convention included, *inter alia*, a range of restrictions and prohibitions on hunting. These included, for example, the prohibition of hunting of females of listed species, application of bag limits and closed seasons, the application of a licencing or permitting system, an imposition of export duties on certain wildlife products, and a strict penalty system for defaulters (Article II). The Convention also set in place the need to protect extensive wildlife systems or 'reserves' – in which wildlife could exist in an undisturbed or unconstrained state (Article II). While the Convention

never came into force, it set in place a significant if not innovative milestone by way of endowing the then Colonial powers with the right to exercise a fiduciary duty over wildlife by restricting a reasonable expectation, if not a right, of people to hunt. While this limitation applied to a common resource, wildlife was considered by way of Roman customary law to be *res nullius* or not owned until seized and taken possession of by the hunter (*i.e.* by being hunted). It thus set the foundation for the realization that individual rights regarding wildlife may not be absolute and may be subject to restrictions to uphold a common good. In so doing, the 1900 London Convention formed the foundation for the application of the public trust doctrine in Africa.

1933 London Convention

The 1900 London Convention was followed by the Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933 London Convention) – which came into force in 1936. The hallmark of this Convention, other than amplifying the importance and types of protected areas, was embedding the recognition that the state had an inalienable fiduciary duty (Article 6) to regulate the use of the environment and the wildlife therein for the betterment of all – rather than a select few. This was the prime purpose of the Convention. The recognition of the fiduciary duty of the state was underscored by increased and strengthened regulation of the use of wildlife (Article 9), and, in particular, the need to regulate and minimize the negative impact of international trade in animal products, as this was seen to be a key threat to the wellbeing and conservation of Africa's wildlife. Thus, for example, any wildlife products of listed species that were not derived from a permitted hunt (*e.g.* the animal found dead or accidentally killed) would remain the property of the state (Article 9(6)). This provision within the Convention effectively restricts the customary law principle of wildlife being *res nullius*, and, in so doing, reinforces the state's fiduciary duty to safeguard the listed species in favour of a vested interest of the citizens of the country in those species. The same conclusion may be drawn from the Convention's prohibition of various strategies used to kill or capture free-roaming wildlife – save for, *inter alia*, on land occupied by the owner (Article 10(1)).

Finally, the 1933 London Convention introduces a relatively isolated provision that encourages parties to undertake 'domestication of wild animals suscep-

tible of economic utilisation' (Article 7(8)). The Convention is, however, silent on the meaning of 'domestication' or when a species is considered 'domesticated'. Article 2(2), however, distinguishes between 'wild' and 'domesticated'. From this it may be construed that a domesticated species is no longer considered wild. Thus, the domesticated species, in order not to be considered 'wild', would no longer display a wild character and would be best suited to be contained within a controlled environment such as a paddock or enclosure. Should this hold, the domesticated species would no longer display characteristics (e.g. home ranges) that would conflict with being held in captivity like livestock. Thus, it may be concluded that the Parties to the Convention believed that the domesticated species would be distinctly different to their wild counterparts. Furthermore, Article 2(2) prohibits the introduction of, *inter alia*, domesticated wildlife to a strict natural reserve. It is surmised that the Parties to the Convention recognized that a domesticated species may pose a significant threat to, or interfere with, the integrity of a strict nature reserve and the biodiversity therein, or is in some other manner highly undesirable within these areas. The concept of domestication of Africa's wildlife was short lived, however, as the concept failed to appear in subsequent revisions of Africa's multilateral environmental agreements on wildlife. This circumstance held for 70 years before the role and genetic content of wildlife – in the form of biological diversity and the conservation thereof – resurfaced in African multilateral agreements.

1961 Arusha Manifesto

By 1961, most of African states had gained independence from their European colonists. This ushered in an opportunity for most of Africa to derive an African perspective on the conservation of biodiversity (Blackmore, 2017a). At that time, South-West Africa was under the administration of South Africa; in 1946 it was incorporated into South Africa as its fifth province (Dugard, 1973). The apartheid policies of both South Africa and South-West Africa resulted in these countries being isolated from the evolution of an African conservation persona (Blackmore, 2017a). This isolation persisted for South-West Africa until its independence as the Republic of Namibia in 1990 – following which the country was incorporated both politically and economically back into Africa. The most profound statement on the conservation

of Africa's wildlife emanated from the Arusha Manifesto in 1961. The prime concern leading to the drafting of the Manifesto was the apparent and unabated deterioration of the continent's biodiversity, and the effect this had on the people of Africa (Watterson, 1961). This concern was articulated by Julius Nyerere, the first Prime Minister of then Tanganyika (now Tanzania), and stressed the unassailable fiduciary duty to be placed on the independent African nations to act as the ultimate trustee of wildlife. Nyerere declared that:

The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration but are an integral part of our natural resources and of our future livelihood and well-being. In accepting the trusteeship of our wildlife, we solemnly declare that we will do everything in our power to make sure that our children's grandchildren will be able to enjoy this rich and precious inheritance. The conservation of wildlife and wild places calls for specialist knowledge, trained manpower and money and we look to other nations to co-operate in this important task – the success or failure of which not only affects the continent of Africa but the rest of the world as well (IUCN, 1961).

The inclusion of this quote into the Manifesto was a profound statement on the role that African states are to play as trustees of wildlife. The Manifesto extended this trusteeship to habitats, protected areas, sustainable use of biodiversity, and also addressing the many threats facing the natural environment (IUCN, 1961). This became the foundation for the 1968 African Convention on the Conservation of Nature and Natural Resources (the Algiers Convention), which repealed the 1933 London Convention.

Current multilateral agreements

1968 Algiers Convention

The Algiers Convention brings to the fore two key hallmarks. The first is the strengthening of the conservation and sustainable use, and development of, the environment. The second is a significant broadening of the scope of the fiducial duties of the parties to act as trustees for the broader environment (Blackmore, 2017 origins) – as opposed to the previous convention's strong focus on wildlife and protected areas. The Convention also set in place recognition of the importance of wildlife from not only a profitable economic perspective (e.g. sport hunting), but, equally, *inter alia*, from scien-

tific, educational, cultural and aesthetic perspectives (e.g. research and tourism) (Hofmann & Jungius, 1972). In addition, the Convention recognized that these values of wildlife may be threatened or irreversibly damaged or lost (Preamble to the Convention) – which the Convention endeavoured to empower and commit the African states to address. The Algiers Convention also places a strong emphasis on adherence to scientific principles and research (e.g. Article III), which are to underpin decisions on the environment, and, in particular, the management of faunal resources (Article VII (1)). In addition to appropriate protected area management, the Convention encourages parties to manage wildlife outside of these areas at optimum sustainable yield – in order for these areas to compete favourably with other potential land uses (Article VII (1)(a)).

Finally, the Convention lists an array of protected species that require specific conservation attention. While some of these species may occur in Namibia, due to the isolation of South Africa and South-West Africa and their non-participation in the compilation of the Convention, it is unlikely that this list would include all species or genera peculiar to, or of importance to, Namibia. Article VIII divides this list into three categories. Species listed in Class A are those that are to be ‘totally protected’ and any use thereof is restricted solely to the *bona fide* national interest – or for scientific purposes (Article VIII (1)(a)). Species listed in Class B are also totally protected, ‘but may be hunted, killed, captured or collected under special authorization granted by the competent authority’ (Article VIII (1)(b)). The third category comprises those species not listed in Class A or B. Contracting Parties to the Convention may assign species from this category to either of the A and B categories. This allocation would naturally be according to the specific conservation requirements of the contracting party or of the species concerned (Article VIII (1)(b)). Given that it is in force, the Namibian government, should it wish to do so, may accede as a party to this Convention, and, accordingly, use this multi-lateral agreement as a foundation for a national policy – including on selective breeding and intensive management of wildlife. In acceding to this Convention, the Namibian government may request the listing of species that are deemed to be vulnerable to varying kinds of uses. Given that selective breeding and intensive management may take place with a wide variety of species, this option, in isolation to the provisions of the Convention, may

not necessary be the most effective route (and potentially administratively prohibitive) to augmenting the contemplated national policy.

2003 Maputo Convention

The Algiers Convention is purported to be replaced by the 2003 African Convention on the Conservation of Nature and Natural Resources (Revised Edition) (the Maputo Convention). This Convention has not yet come into force, but since Namibia is a signatory, it would serve as a guiding policy for the country. This would be consistent with the provisions of Article 18 of the Vienna Convention on the Law of Treaties, which binds states to refraining from undertaking any activity that would defeat the object and purpose of a treaty they are signatory to, but which is yet to come into force (United Nations, 1969).

The Maputo Convention, while continuing to stress the importance of the economic (*i.e.* tourism and hunting) values of extensive wildlife systems and the critical importance of protected areas for the long-term conservation of species and their habitats – brought to the fore the need to ‘maintain and enhance species and genetic diversity of plants and animals’ (Article IX(1)). The Convention further stressed the need for contracting Parties to, for this purpose, ‘establish and implement policies for the conservation and sustainable use of such resources’ – with particular attention being granted to ‘socially, economically and ecologically valuable species, which are threatened and species which are only represented in areas under [their] jurisdiction’ (Article IX(1)). As with the Algiers Convention, the Maputo Convention underscored the value of ‘providing the appropriate scientific basis for decisions pertaining to their conservation and use’ (Article IX(2)(e)).

The Convention is silent on the intent of enhancing species and genetic diversity, which read in isolation may embrace the notion that, *inter alia*, hybridization between genera, species, subspecies, or ecotypes – or introduction of alien or extralimital – may be a mechanism to achieve such an outcome. Such interpretation would be contrary to the intention of the Convention, as well as that of the Convention on Biological Diversity (CBD). Scholars, for example Jones-Walters (2008), Savard *et al.* (2000), Ovenden (1998), and others, have interpreted this concept in either a restoration or expanded protected area context – rather than maximizing allele and species counts in an area irrespective of indigenous or native species

biodiversity. Others have noted the general opposition in international wildlife law to purposeful or anthropogenic hybridization of species (Trouwborst, 2014). Notwithstanding this notion, the definition of 'biological diversity' in Article 2 of the CBD and Article 5 of the Maputo Convention, does not specifically embrace retaining areas or the genetic complements of a species that have evolved to be homogeneous in nature. The concept of 'heterogeneity' is only weakly contemplated in the definition of 'habitat' in which an 'organism or population naturally occurs'. The wholesale adoption of an imprecise CBD definition of biological diversity into section 2 of the Namibian Environmental Management Act 7 of 2007 (EMA), particularly in the absence of additional legal provisions or guiding policies, may therefore be used as the omnibus for a parochial interpretation of the term 'enhancing species and genetic diversity' – in a manner incongruent with the conservation of biodiversity. In this regard, the application of the public trust doctrine as a framework to decision-making, is paramount.

Furthermore, the Maputo Convention, in line with the provisions of the CBD and Nagoya Protocol on Access and Benefit-Sharing (the 'Nagoya Protocol'; Namibia is a contracting party to both multilateral agreements) encourages Parties to 'provide for fair and equitable access to genetic resources, on terms mutually agreed between the providers and users of such resources' (Article IX (2)(j)). The Nagoya Protocol creates a legal platform which would allow state parties to exercise their fiduciary obligations to regulate the use of the genetic resources by private entities, and, in so doing, further the conservation and sustainable use of biodiversity.

Nagoya Protocol

The Protocol was primarily set in place to regulate, *inter alia*, commercial benefits from genes (for example relating to the medicinal and cosmetic industries) – and has been applied in Namibia with regard to the commercial use of genetic products (Ruppel & Ruppel-Schlichting, 2011). It would be a short step for both the Namibian government and other affected states to place within the Protocol's ambit – the purposeful manipulation of the genetic make-up of wildlife through selective breeding and intensive management to produce enhanced physical traits or uncommon colour variations (the 'derivatives of genes' – see Article 2(e) of the Protocol) for commercial gain. Here, the Namibian government would be encouraged, if not obliged,

to apply and ensure compliance with at least the core obligations of the Protocol, in order to achieve its ultimate purpose: the conservation of biodiversity. In support of this purpose, the Protocol calls for the contracting party to ensure that the use of genetic resources would reasonably contribute to the conservation of biodiversity (Objective 1). This requirement enhances the fiduciary duties of the contracting party from ensuring a 'no net harm to biodiversity', to ensuring that a positive and measurable conservation outcome accrues from the proposed use. This requirement, therefore, extends the common law principle on the burden of proof placed on those parties intending to make use of the genetic resources – to not only show beyond a reasonable doubt that no or insignificant (negligible) harm would result (Ellis, 2006; Blumm & Guthrie, 2012; Blackmore, 2017b), but also demonstrate the contribution to biodiversity or the conservation thereof. These two requirements (burden of proof and a net gain to biodiversity) are particularly relevant in developing countries where conservation is an emerging sector, and where surveillance and compliance enforcement of the Protocol would be a significant additional cost to potentially already stressed wildlife management resources (Morgera *et al.*, 2014). A levy placed on the uses of genetic resources in order to offset this additional cost – would naturally be commensurate with the 'polluter pays principle' (Blackmore, 2015). The same would apply should unintended consequences arise that serve to undermine the integrity of a species or wildlife of the broader environment.

In addition to those obligations which seek to promote the conservation of biodiversity, the Protocol stresses the importance of legal certainty, clarity and transparency for both the providers (in this case the state) and the users of genetic resources (the intensive and selective breeders). From a public trust perspective, the Protocol obligates the contracting party to set in place the necessary mechanisms to ensure that any decisions taken are made in an open and transparent manner, which is fair and non-arbitrary (Article 5(3)(d)). The mechanisms would enable the public (together with the user of the genetic resources) to ensure that the decision taken was appropriate and aligned with both the purpose and requirements of the Protocol and the CBD – and to ensure that the state upholds its fiduciary duty as trustee of the country's wildlife. While the term 'fair and non-arbitrary' may be easily interpreted in a

manner that precludes the government from applying rules and procedures that are prejudicial to the potential user of genetic resources, the provision also serves as an omnibus to ensure that any decision to grant access to genetic resources takes into consideration intra- and inter-generational equity, and is not prejudicial to other potential users of the resource. Furthermore, the provision ensures that the decision is based on sound information and that it takes into consideration the risks and certainties of the circumstance. To act contrary to such would risk the decision being set aside as arbitrary. While any applicant wishing to access the genes may do so with an expectation that such an application may be considered by the state in an impartial and predictable manner – such expectation cannot be granted by the state where reasonable risk to the trust resource or uncertainty exists, or is unfairly prejudicial to other current and future users. In keeping with its fiduciary duties, decision-making by the state therefore needs to be made with confidence, either derived through sound evaluation and science or through the application of the precautionary principle and other principles of environmental management housed in EMA discussed below – as well as other relevant provisions held in statutory and common law.

As with the African multilateral agreements, CBD and others, the Protocol further requires the contracting party to set in place the necessary domestic legal mechanisms which will enable the contracting party to give effect to the objectives and provisions of the Protocol. These include not only prohibitions of non-sustainable or harmful uses of genetic resources, but also a legal mechanism to monitor the use of genetic resources (Article 17). Such regulation may be applied *via* the application of ‘applicable national legislative, administrative or policy measures’ (Article 13(2)), which the Protocol requires the contracting party to set in place to give effect to, and ensure compliance with, the Protocol (Article 15). The key outcome of these measures would be the decision to decline the application or grant the same by way of a conditional permit. Such a decision would constitute an ‘international certificate of compliance’ with the Protocol (Article 17(2)). A uniquely identifiable permit, therefore, is required to contain the necessary information that would enable any domestic or international official to assess compliance with the Protocol (and therein compliance with the CBD) – as well as any restrictions or limitations the

country of issue or any other affected country may have set in place (Article 17(4)).

Finally, the Protocol provides for the contracting party to encourage and recognize self-regulation by actors in the industry, where the application of voluntary codes of conduct, guidelines and best practice or standards (Article 20) are equivalent to, or exceed, the conditional requirements of the permit – should such be issued. The recognition of, and adherence to, such voluntary measures would reduce risks that may be associated with intensive and selective breeding, and also increase the transparency of such practice to the general public (*viz.* the beneficiaries of the trust).

SADC Treaty and Protocol on Wildlife Conservation and Law Enforcement

Namibia is also party to the Treaty of the South African Development Community, which, *inter alia*, requires the country to achieve the objective of ‘sustainable utilisation of natural resources and effective protection of the environment’ (Article 5 (g)). This objective gave rise to the ‘Protocol on Wildlife Conservation and Law Enforcement’. While this Protocol does not deal specifically with intensive and selective breeding of wildlife, it does have relevance in terms of policy – in that it serves as a general framework that aims to regulate the sustainable use and safeguarding of wildlife (Preamble to the Policy, Article 4). In ratifying the Protocol, Namibia undertook to ‘take such policy, administrative and legal measures as appropriate to ensure the conservation and sustainable use of wildlife’ under its jurisdiction (Article 3(2)(a)). Thereafter, the state is to effectively apply such policy and enforce such legislation to achieve the objectives of the Protocol (Article 3(2)(b)). The Protocol further sets in place a number of key focal points which the national legislation is required to implement, as a basis for the sustainable use and conservation of wildlife. These focal points include, *inter alia*, general protection of wildlife and their habitat, measures to regulate the taking and trade of wildlife and the products thereto, measures to enable effective enforcement of wildlife laws, as well as measures to enhance the enforcement of wildlife-related legislation and incorporating the provisions of other relevant multilateral environmental agreements (Article 6). Furthermore, the Protocol requires contracting parties to ensure that they have the necessary capacity to ensure the protection and conservation of wildlife in their jurisdiction (Article 10). Thus, should a conditional

permit be issued for the selective breeding and intensive management of wildlife – from this Protocol's perspective, the Namibian government should have the necessary capacity to enforce compliance, not only with this Protocol and its domestic legislation, but also with that required by the Nagoya Protocol and other relevant multilateral agreements.

Namibian conservation law

Nature Conservation Ordinance

Wildlife management in Namibia has been given effect by way of the Ordinance. Notwithstanding that, there may have been amendments to this piece of legislation (e.g. the provisions to protect *Hoodia gordonii* from genetic exploitation by the pharmaceutical industry in 1996), the nature of wildlife management as well as the uses of this sector of the environment have changed dramatically during the 41 years since the Ordinance's promulgation. The socio-economic and political context of the country has also changed significantly over this period. This circumstance is not limited to Namibia, and is also reflected in South Africa where post-colonial Ordinances continue to form the backbone of wildlife conservation (Kidd, 2008). The bulk of the Ordinance, other than setting in place the Namibian Nature Conservation Board and its administrative structures, has been in the realm of *in situ* and *ex situ* conservation, hunting and protection of selected species – and the occasional criminal prosecutions and civil litigation in respect of non-compliance with its provisions (Ruppel & Ruppel-Schlichting, 2011). The decision taken by Acting Judge A.J. Parker in the High Court of Namibia (see above) highlights the conclusion that the Ordinance cannot be comprehensively relied upon to regulate or prevent new challenges being placed on Namibian wildlife. The same may be argued for the relatively recently drafted Botswanan Wildlife Conservation and National Parks Act of 1992 and Swaziland's (1991) amended Game Act of 1953 – in that they, *inter alia*, lack the provisions to regulate or prohibit selective breeding and intensive management of wildlife. Thus, little value would be gained from a detailed analysis of the provisions of the Ordinance, and its usefulness to regulate this industry.

Environmental Management Act

Apart from the concerns related to the alteration of the phenotypic character of wildlife through

selective breeding and intensive management, and the matter of the minimum of 1000 ha desired by the wildlife authority as discussed above – this activity (through selective breeding and intensive management of game) also has physical and metaphysical environmental considerations which are housed in the EMA. Section 1 of the EMA defines the 'environment' as:

The complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including

- (a) the natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and
- (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values

This definition encompasses, *inter alia*, the four domains within which the concerns are raised regarding selective breeding and intensive management: (i) the broad inclusion of wildlife (*viz.* all living organisms); (ii) the physical environment (*viz.* the 'land' comprised of the 'farm' or the 'piece of land' discussed above); (iii) the economic value of wildlife to the country; and (iv) the metaphysical attributes associated with wildlife (*viz.* the cultural, historical, aesthetic and heritage values). In addition to this definition, the EMA specifically includes 'biological diversity' within its provisions, and this is defined in section 1 as:

The variability among living organisms from all sources, including amongst others, terrestrial and aquatic ecosystems and the ecological complexes of which they are part, and this includes diversity within species, between species and of ecosystems.

As such, it is common cause that various provisions of the EMA, in addition to the Ordinance, would apply to the use and management of wildlife. Key to these would be the application of principles of environmental management (Section 3(2)). Here, organs of state making decisions on the environment are expected to apply the principles, *inter alia*, to: 'guide the implementation of this Act and any other law relating to the protection of the environment'; or 'serve as guidelines for any organ of state when making any decision in terms of this Act or any other law relating to the protection of the environment' (sections 3(1)(a) and 3(1)(c) respectively). Here the term 'protection of the environment' must be read in its broadest sense – *i.e.* to limit damage or injury or to prevent loss (see, for example, Louw, 2012). Such interpretation would

be equivalent to provisions in environmental legislation adopted in South Africa, Swaziland, Lesotho and other southern African states. Here, these states have made it explicit that the environmental management principles will be used in all spheres of environmental decision-making that may affect the environment (see section 2(1) of South Africa's National Environmental Management Act 107 of 1998; section 5 of Swaziland's Environment Management Act 5 of 2002; and section 3(1) of Lesotho's Environment Act of 2008).

The EMA sets in place 12 environmental management principles which include, *inter alia*: sustainable development (sections 3(2)(a) and (f)); equitable access to environmental resources (section 3(2)(d)); the polluter-pays principle (section 3(2)(j)); the precautionary principle (section 3(2)(k); the preventative principle (section 3(2)(l); and the country's cultural and national heritage must be protected and respected (section 3(2)(g)) for the benefit of current and future generations. These principles – both individually and collectively – provide the foundation and application of the public trust doctrine (Blackmore 2015). Any policy that the Minister may contemplate for the regulation of the use and protection of the environment (and the wildlife therein), would need to consider and apply these principles, as well as be advised on the nature of such policy by the Sustainable Development Advisory Council (Advisory Council) (section 7(b)(i) of EMA). It is also the function of the Advisory Council (established in terms of section 6), to advise the Minister on:

the conservation of biological diversity, access to genetic resources in Namibia and the use of components of the environment in a way and at a rate that does not lead to the long-term decline of the environment, thereby maintaining its potential to meet the needs and aspirations of present and future generations (section 7(b)(ii)).

The inclusion of both 'conservation of biological diversity' and 'access to genetic resources' into a single function of the Advisory Council suggests that the Namibian legislature purposefully intended that these two domains were not to be treated as mutually exclusive uses of the environment. This function, therefore, reinforces the obvious notion that biodiversity would contain genetic resources that may be of value to people. The legislature also recognized that access and use of the genetic resources may have a concomitant impact on the Minister's obligation to conserve the country's biodiversity. Here, the Advisory Council would

need to consider whether negative impacts can be reasonably avoided or mitigated – so as to render such impacts negligible or non-existent. Furthermore, this function conjoins the Advisory Council to advise the Minister whether proposed or existing access and use of genetic resources complies with the provisions of the Nagoya Protocol, and, in particular, whether such use results in a net benefit for the conservation of the country's biodiversity.

Neither the EMA nor the functions of the Advisory Council separate wildlife from biodiversity or the environment. As such, the wildlife which is susceptible to intensive and selective breeding would need to be considered in a similar manner to other components of biodiversity. The concluding component of this function of the Advisory Council draws on the sustainable-use provisions adopted by the CBD and the 1987 Brundtland Report that underpins it. This means that the Advisory Council is to ensure and advise the Minister that all use of biodiversity or the country's genetic resources is sustainable – *i.e.* future generations would be assured of the same opportunity to enjoy these resources as the current generation. In stating this, the legislature, through drafting the Act, underscored the tenet that private ownership of elements of biodiversity (*e.g.* wildlife) is not absolute, and that any benefits that may arise from taking possession of and owning components of this resource, are subject to the fiduciary or public trust duty of the state. As observed with the provisions of the Nagoya Protocol and other guiding policies, the onus of proof lies with any person seeking to access (or any organ of state seeking to grant access to) the country's genetic resources – particularly when read with the principles for environmental management, to show that such use would not compromise the integrity of the country's biodiversity or the environment. Finally, the onus lies with the Advisory Council to determine whether intensive and selective breeding reasonably constitutes accessing and making use of the country's genetic resources, and to advise the Minister to make known such determination. Given the silence of the Parker judgment on the relevant wildlife-use policies, it is uncertain whether the Advisory Council has advised the Minister on such.

It is also a requirement of the Advisory Council to advise the Minister on 'appropriate methods of monitoring compliance with the [environmental management] principles' (section 7(b)(iii)). In providing this advice, it would be common cause to expect the Minister to set in place the mechanisms

to determine whether the environmental management principles have been complied with by various organs of state dealing with matters concerning the environment – as well as to act when reasonable compliance is not achieved. Furthermore, it would be incumbent on any official making a decision or issuing permits, licences, registrations, approvals, permissions and exemptions (see section 83 of the Ordinance) or environmental clearance certificates (sections 34 and 37 of EMA) – to make evident the consideration and application of the environmental management principles. Equivalent provisions are provided for in section 3 of Lesotho's Environment Act, where the 'Director shall ensure that the principles of environmental management [...] are observed.' Countries like South Africa and Swaziland have relied solely on the public (*via* appeal or a request for a review) or the courts to hold the organs of state accountable for not reasonably applying the respective countries' environmental management principles in decisions affecting the natural environment. In addition, in accordance with the tenets governing the public trust doctrine and the state's fiduciary duties thereto, the environmental jurisprudence of both Swaziland (section 57(6) of the 2002 Environment Conservation Act) and South Africa (section 32 of the NEMA) grant various protections to a person seeking relief on behalf of, *inter alia*, the environment where the principles of environmental management have not been applied. The monitoring of the application of environmental management principles is – by either the state or the public, as is demonstrated below – seen as a fundamental requirement of the application of the public trust doctrine.

The Advisory Council may advise the Namibian Minister for the Environment on 'the need for, and initiation or amendment of legislation, on matters relating to the environment' (section 7(b)(iii)). Such advice may include the revision or replacement of the Ordinance, amendment of the EMA, or the adoption of specific Regulations to regulate or in some cases prohibit certain use. The latter option (prohibition) is particularly relevant where the use of the environment stands to have a significant (*i.e.* non-trivial) residual negative impact, and this impact is likely to persist at least beyond the foreseeable future or validity of any authorization granted. Such legal mechanisms not only enable the Minister to have greater administrative and punitive control of the environment, but they may also grant, in circumstances of good cause, exemp-

tion from compliance with various provisions of the law. Such circumstance may include the self-administration where there is a need for perfunctory compliance, or self-regulation, such as that indicated in Article 20 of the Nagoya Protocol.

While compliance of self-administration with legal provisions may be easily affected and monitored – given its complexity, the same may not necessarily apply to self-regulation. In its essence, self-regulation may be voluntarily employed where an industry recognizes that their use of wildlife may have significant impacts on that resource, on other components of biodiversity, or the environment as a whole. Under such circumstances, the incentive for the industry would lie in avoiding potentially onerous regulation by the government, or having the burden of existing regulation reduced (Blackmore, 2017b). The advantage for government is that the effort (and hence cost to the state) required to monitor the achievement of effective self-regulation is considerably less, and that such a system often achieves a significantly higher standard than that achieved under traditional regulatory or compliance surveillance by government (Short & Toffel, 2010; Gestel, 2005). The consideration of self-regulation by government – in fulfilment of its fiduciary duties – not only requires a legal mechanism to implement such, but also careful consideration of whether the intended use of wildlife is truly sustainable, in that the proposed mitigation (or avoidance) of impacts is reasonably achievable.

Public trust doctrine

The prime objective of the EMA is to ensure sustainable use of the environment, and the Ordinance strives to achieve the same with a component of the environment: wildlife. Various provisions of the EMA, as indicated in the above analysis, provide for and uses terminology commonly associated with the public trust doctrine. Formal adoption of the public trust doctrine may be motivated as a simple extension of the evolution of the concept through the African multilateral agreements. Defining the scope of the doctrine may be through academic debate and the testing of application in the courts, or the scope may be formally defined by way of policy which may be given effect by incorporation into the country's environmental jurisprudence. The latter enables the state to direct the nature of the scope by drawing on contemporary use and understanding of the doctrine – either regionally or globally.

The origin of the public trust doctrine has its roots in the Roman common law notion of *res omnium communes*, which prevented various natural resources (e.g. waterways, seashores) from being alienated – and thereby limiting public use thereof (Feris, 2012). The role of the state as the prime trustee or custodian of these commonly held resources was introduced into Anglo Saxon-derived western legal systems primarily *via* the Magna Carta – where forests and the game therein were held by the Crown for the benefit of current and future subjects (Conway, 1984). Since that time, the doctrine has been argued to include the broader environment and the various components thereof, where there is a general vested interest of people. The process of incorporating biodiversity into the doctrine – by way of judicial argument particularly in the United States of America – was an arduous and at times uncertain task, but has derived a solid, yet growing, understanding of the nature and scope of the doctrine in those country's contexts. In contrast, Brazil, Canada, Ecuador, India, Kenya, Nigeria, Pakistan, South Africa, Swaziland, the Philippines, Uganda (Blumm & Guthrie 2012), and perhaps other countries, have explicitly incorporated the doctrine into their respective constitutional or environmental jurisprudences. This incorporation renders nil any debate on whether the country has adopted or inherited Roman or customary law that provides for the public trust doctrine and the state's fiduciary duties to protect the natural environment.

The public trust doctrine is founded on the understanding that certain natural resources are vulnerable to unsustainable exploitation or irreversible damage or ineffective management, by both private and communal owners (Sagarin & Turnipseed, 2012). In such circumstances, these resources are held in trust (the trust entity) by the government, which in turn must manage both the consumptive use and protection, in order to achieve intra-generational (*viz.* current generation) and inter-generational equity (*viz.* future generations) (Sagarin & Turnipseed, 2012; Weiss, 1992). This fiducial responsibility transforms ownership from being absolute – to one that is conditional. The strength of the doctrine lies in its inherent ability: (a) to adapt to new challenges facing the environment by being the vehicle through which emerging science is given effect to protect the environment or components thereof; and (b) to be applied to all scales and facets of the environment – *i.e.* from an allele to a metapopulation of a species of wildlife,

to high sea governance, and from an assemblage of species and habitats to viewscapes and sense of place (Blackmore, 2017a; Babcock, 2015; Sagarin & Turnipseed, 2012). The public trust doctrine has also been seen as a powerful tool, particularly with regard to the exploitation of biodiversity and wildlife or in the case of disinterested or uninformed government officials – to counter politically expedient decisions or where parochial and profit-vested interests (that tend to benefit a select few) predominate at the expense of the integrity of the trust entity (Treves *et al.*, 2017).

Definitions and interpretations of the public trust doctrine vary from country to country. The most influential interpretation has been that posed by Sax, who stated that 'central substantive thought' in public trust litigation is '[w]hen a state holds a resource which is available for the free use of the general public, a court will look with considerable scepticism upon any government conduct which is calculated either to reallocate that resource to more restricted uses or to subject public uses to the self-interest of private parties' (Sax, 1971). Simply put: 'it is a principle purpose of government to promote the interests of the general public rather than to redistribute public goods from broad public uses to restricted private benefit' (Sax 1971). Judges Nyamu, Ibrahim and Emukule in their Kenyan judgment in *Waweru v Republic* (2007) described the essence of the public trust as being the 'State, as trustee, is under a fiduciary duty to deal with the trust property, being the common natural resources, in a manner that is in the interests of the general public'. While the contemporary understanding of the public trust doctrine is that it applies generally, it may be tailored for a specific purpose, in order to apply to one component of the environment (Bruskotter, 2011). For example, the U.S. Fish and Wildlife Service embraces the Wildlife Trust Doctrine which obligates the state trustee to exercise its power over wildlife 'for the benefit of the people, and not [...] for the advantage of the government as distinct from the people or for the benefit of private individuals' (*Geer v Connecticut*, 1896). Irrespective of the definition adopted, when laid bare, the public trust doctrine comprises the following core components:

- '(a) human health and wellbeing is inextricably linked to the natural environment and the provision of environmental products and services,
- (b) the environment (the public trust entity) needs

- to be described and quantified by at least the trustees and known by the beneficiaries,
- (c) environmental decision-making should not compromise the potential opportunities or health and wellbeing of others or further generations, and therein the concept of intra- and inter-generational equity is embraced,
 - (d) certain components that constitute the environment cannot be alienated into private ownership or irreversibly lost,
 - (e) trustees of the environment are bound by fiduciary obligations to safeguard the environment and are accountable to the public for decisions taken or not taken, and
 - (f) there is a clear separation of the roles and responsibilities of the trustee (the government) and the beneficiaries (the people)

(See, for example: Sax, 1971; Bruskotter & Treves, 2011; Blumm & Guthrie, 2012; Sagarin & Turnipseed, 2012; Wood, 2013; Hare & Blossey, 2014; Torres Bellinger, 2014; Babcock, 2015; Blackmore, 2015, 2017a).

The public trust doctrine may thus be used as the Rosetta Stone, either by way of common law or its formal incorporation into Namibian statute environmental law – to evaluate and decide on any use of the environment that is, in particular, not regulated by law. It forms the platform for government to exercise its fiduciary duties to ensure that the environment is used in a manner that is in the best interest of current and future society, and it is not harmed. Its strength lies in its ability to adapt to the forever changing needs of society, while ensuring that the integrity of the trust entity remains intact (Babcock, 2015; Kundis, 2010). The public trust doctrine also provides society a 'powerful and compelling legal framework to support legal actions and other initiatives that are aimed at compelling government to abide by its fiduciary duties to act in the best interest of society (Torres, 2014).

CONCLUSION

The Namibian Nature Conservation Ordinance is ill-equipped to help the Namibian government exercise a precautionary approach to preventing the sale of selectively bred and intensively managed wildlife from a farm in the country. The ramification of this discovery is that the Namibian government is not empowered to prevent traditionally large farms, in excess of 1000 ha, and functioning as extensive wildlife systems, from being divided into significantly smaller enclosures in which game may be intensively managed and selectively bred to derive traits not common in extensive wildlife systems. The precedent judg-

ment described above raises the concern that an accelerated establishment of facilities for the selective breeding and intensive management of the country's wildlife, may have significant negative impacts on the broader natural environment, as well as on Namibia's reputation as a wild, fair chase hunting and game viewing destination.

It is uncertain whether the EMA was considered prior to the issuing of the restrictive permit discussed above, but, it is evident that, this Act provides a necessary if not essential foundation for the Namibian government to exercise its fiduciary wildlife-trust duties. The Act further provides the foundation, through the actions and advice of the Advisory Council, to set in place a wildlife policy that addresses the accessing of genetic resources by way of selective breeding and intensive management of wildlife. Here, principles regulating such access may be drawn from various multilateral agreements that apply, and in particular the Nagoya Protocol, Protocol on Wildlife Conservation and Law Enforcement, and the Maputo Convention. Caution is, however, raised that the definition of biological diversity in the EMA, although identical to that provided in the CBD, may be read in a manner which is contrary to the CBD and the principles regarding the conservation of biodiversity. Here the definition of biological diversity in the Act, when read in isolation of these multilateral agreements, does not take into consideration the spatial variability of biodiversity across the Namibian landscape. It may be argued that the definition – in the absence of other preventative provisions in the Act – specifically provides for the notion that enhanced genetic or other aspects of diversity is more desirable than that which is naturally occurring. Such arguments, however, place at risk species in an area or a habitat within the country that are traditionally of low genetic or species diversity.

To conclude, Namibia finds itself embedded in a deep African history of wildlife conservation. Such a history, together with that which evolved in the West, may be drawn upon as a foundation to formally establish the application of the public trust doctrine. This doctrine provides the state with a powerful tool, not only to guide the establishment of wildlife policy, but also to objectively consider the desirability of current uses of the environment, and, in particular, selective breeding and intensive management of wildlife – as well as other potential uses which may undermine the integrity of this resource.

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