# The potential impact of sustainable use of biodiversity resources on permanent sovereignty in SADC

# 25754130

Mini-dissertation submitted in partial fulfilment of the requirements for the degree *Magister Legum* in Environmental Law and Governance at the Potchefstroom Campus of the North-West University

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**APRIL 2015** 



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# **Acknowledgements**

I would like to put on record my sincere thank you to my supervisor Mr Niel Lubbe. I am extremely thankful and indebted to him for sharing expertise, sincere and valuable guidance during the process of writing this dissertation. His input in my work has made me a better person academically and I have learnt a lot through it all and it is things I will be using in future academic endeavours.

I would also like to thank my parents for their support in my pursuit to get an LLM. Mom and Dad you guys are my anchor; you gave me hope when I wanted to give up through my illness, because you wanted me to succeed. I would not have made it this far without your love, support and encouragement. Words cannot express how much I appreciate you and love you. Thank you.

I would like to thank my brothers and sisters Mantsane ,Bibi and Libuseng. My friends who are now my family Lindewla, Pakiso,Lucia,Tito,Ithabeleng and others. You guys are wonderful you were always there for me when I need you the most. I will never forget the way you helped me put this together even when I nagged you at odd hours to come help me. I thank you for your prayers and helping me get back on my feet while I was sick and waking up did not seem like an option. I would also like to thank everyone who helped me get by when I was sick (Ausi Nyalleng's family) and prayed for me. I would also like to thank the NWU for granting me the opportunity to take my studies further and funding me so as to realise my dream.

A special thanks to my brother **Maema**, you know I would not have made it without you, thank you just does not seem good enough. I love you. Mabutho thank you for the love and support you have given me out through this process I appreciate it a lot and I will never forget.

Lastly I would like to praise GOD for putting success on my name even before I was conceived. What an amazing GOD we serve. Lord you were there during the toughest moments and you made it all possible. Thank you.

This is a dedication to my nieces Karabo and Keabetsoe and my nephew Ntsane, I say to you **Education is the only key to an African Dream.** You should therefore make it your priority to learn and follow in my footsteps. I love you munchies always and forever.

God's plans for our lives are far greater than the plans we have for ourselves-Joel Osteen.

#### **Abstract**

The principle of permanent sovereignty over natural resources (hereafter PSNR) gives states the authority to freely use and dispose, manage and exploit their natural resources, so as to benefit their citizens. On the other hand the concept of sustainable use empowers states to use their natural resources wisely and rationally so as to ensure the use of the same resources by future generations. It is observed that there is a conflict between the two mentioned principles (that is the PSNR and the sustainable use). This study therefore seeks to investigate the extent in which sustainable use of biodiversity resources limits the concept of PSNR in the SADC region, as an area that is highly dependent on biological resources for maintenance of their daily lives and economy. This led to the finding that sustainable use limits the principle of PSNR in the SADC region, in that even though states are allowed to use their natural resources in whatever manner they desire, they should however ensure that they exercise such use rationally so as to benefit both present and future generations. It is therefore important for these principles to balance and work hand in hand so as to be able to achieve protection and conservation of biodiversity while trying to attain development for the SADC countries.

KEYWORDS: Biodiversity, Natural Resources, Permanent Sovereignty over Natural Resources, SADC, Sustainable use.

#### **Abbreviations**

AEO – African Environment Outlook

Algiers Convention – The African Convention on the Conservation of Nature and Natural Resources.

BSP – Biodiversity Support Programme

CBD – Convention on Biological Diversity

CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora

COP - Conference of Parties

EA – Environment Act

FAO – Food and Agricultural Organisation

GBA – Global Biodiversity Assessment

GBO – Global Biodiversity Outlook

GDP – Gross Domestic Product

GMO – Genetically Modified Organism

IAS – Invasive Alien Species

ICCPR – International Covenant on Civil and Political Rights

ICJ – International Court of Justice

ICESCR - International Covenant on Economic, Social and Cultural Rights

IUCN - International Union for Conservation of Nature

MA – Millennium Ecosystem Assessment

MEA – Multilateral Environmental Agreements

MqJICEL – Macquire Journal of International Comparative Environmental Law

NBSAP – National Biodiversity Strategies and Action Plans

PAMS – Protected Areas Management Systems

PSNR – Permanent Sovereignty over Natural Resources

RBAP – Regional Biodiversity Action Plan

RBS – Regional Biodiversity Strategy

REDD+ – Reducing Emissions from Deforestation and Forest Degradation

REP – Regional Environmental Protocols

RFMCBCP-- Regional Fire Management and Cross Border Cooperation Programme

RSAP – Regional Strategic Action Plan

RWS – Regional Water Strategy

SADC – Southern African Development Community

SADCC – Southern African Development Coordination Conference

TFCA - Transfronteir Conservation Areas

UN – United Nations

UNCCD – United Nations Convention to Combat Desertification

UNCLOS – United Nations Convention on the Law of the Sea

UNEP – United Nations Environmental Programme

UNFCCC – The United Nations Framework Convention on Climate Change

UNGA – United Nations General Assembly

WWF – World Wildlife Fund

#### 1.1 Introduction

Biodiversity through its resources sustains life on planet earth.<sup>1</sup> This is because it provides us with provisioning services, regulatory services and cultural services.<sup>2</sup> It is for these reasons that biodiversity should be preserved as it is needed for the sustenance of life as reiterated by Steiner<sup>3</sup> that:

The arrogance of humanity is that somehow we imagine we can get by without biodiversity or that it is somehow peripheral: the truth is we need it more than ever on a planet of six billion heading over nine billion people by 2050.

In simple terms, we as human beings, depend on biodiversity for food stuffs (both from animals and plants), fresh water, energy, health, recreation and regulation of natural disasters.<sup>4</sup> Losing biodiversity affects us socially, economically, culturally and spiritually.<sup>5</sup> Accordingly, biodiversity is of importance to use and therefore states need to regulate the use of biological resources by promoting the sustainable use of such resources, as a way of ensuring that present and future generations may also benefit from the same resources.

#### 1.2 Problem Statement

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Kidd Environmental Law 97. See also WWF 2014 Living Planet Report 4.

Provisioning services provide products obtained from ecosystems like food products, timber, fuel and others. Regulatory services provide benefits obtained from ecosystem processes like controlling of floods, purification of water, pollination of crops and others. Cultural services provide non-material benefits obtained from ecosystems like beautiful landscapes, cultural heritage, recreation and tourism and many others. See also Kidd Environmental Law 97.

<sup>&</sup>lt;sup>3</sup> Convention on Biodiversity (hereafter CBD) *Global Biodiversity Outlook 3* (hereafter GBO) 6.

UNEP 1995 Global Biodiversity Assessment (hereafter GBA) 120.

<sup>&</sup>lt;sup>5</sup> CBD *GBO-4* 7.

The responsibility of using natural resources sustainably befalls all human-beings for the sake of present and future generations as stated by Theodore Roosevelt<sup>6</sup> in his seventh annual message to the Congress in 1907 that:

To waste, to destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness will result in undermining in the days of our children the very prosperity which we ought by right hand down to them amplified and developed.

This depicts the fact that there has always been a need to use nature and its resources in a sustainable way. Thus ensuring that there is preservation and conservation of natural resources for the benefit of present and future generations. The concept of sustainable use is defined as:

The use of components of biological diversity in a way and at a rate that does not lead to the long term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.<sup>7</sup>

This denotes using biological resources in a prudent manner, which will benefit those living presently as well as their descendants, to have an opportunity to also enjoy the fruits of the same resources in future. The term sustainable use is also reiterated in the New Delhi Declaration of Principles of International Law Relating to Sustainable Development (hereafter New Delhi Declaration).<sup>8</sup> It is defined as using natural resources in a manner that takes into consideration the needs of present and future generations. Sustainable use, as captured in the New Delhi Declaration, places a duty

Roosevelt 1907 http://www.pbs.org.

A 2 of the CBD 1992. See also S 1 of the *National Environmental Management: Biodiversity Act* 10 of 2004.

This was done at a conference held in India New Delhi in 2002.

on the state to prevent wasteful use of natural resources.<sup>9</sup> This introduced a recurring trend on the significance of using natural resources sustainably.

Biodiversity resources encompass a wide variation of living things on the planet.<sup>10</sup> Article 2 of the CBD<sup>11</sup> defines biodiversity as:

the variability among living organisms from all sources including *inter alia* terrestrial marine and other aquatic ecosystem and ecological complexes of which they are part this includes diversity within species, between species and ecosystems.

Examples of biodiversity include insects, nematode, bacteria, fungus, plants, animals and ecosystems such as (rivers, wetlands and forest).<sup>12</sup> Biodiversity is therefore a very comprehensive concept encompassing all living organisms and biological processes on earth. Biodiversity is however threatened by a number of things like climate change, land degradation, over population, unsustainable harvesting of natural resources and urbanisation, to mention a few.<sup>13</sup>

Biodiversity is specifically important in the Southern African Development Community (hereafter SADC)<sup>14</sup> region as it is needed for the sustenance of the livelihood of the greater majority of the SADC citizenry.<sup>15</sup> In the SADC region, approximately 50% and above of the Gross Domestic Product (hereafter GDP) emanates from primary sectors of production for instance agriculture, mining, forestry and wildlife.<sup>16</sup> Between 40% and 85% of the people in the SADC region live in the rural areas and these people depend

<sup>9</sup> Principle 1.2 of the New Delhi Declaration 2002.

<sup>10</sup> CBD *GBO*-4 25.

<sup>&</sup>lt;sup>11</sup> CBD 1992.

Anon 2010 http://www.cbd.int.

CBD GBO-4 24. See also UNEP 2002 Global Biodiversity Assessment and WWF 2014 Living Planet Report 11.

SADC is a regional economic community that was established in 1992 and it currently has 15 member states.

SADC Regional Biodiversity Strategy (hereafter RBS) 2.

SADC RBS 2.

highly on biodiversity for their daily survival.<sup>17</sup> Furthermore the SADC region has four biodiversity hotspots,<sup>18</sup> making the conservation of biodiversity in SADC region of critical importance.

Closely linked to the use of biodiversity, is the principle of state sovereignty. The principle of sovereignty allows states to govern their territory according to their own rules and policy without any interference from any other foreign states. <sup>19</sup> In SADC, sovereignty is an important concept since the SADC countries had previously been colonised by European powers. Post colonialism, African Countries had the need and desire to use their natural resources for their own country's benefit and development. <sup>20</sup> This need led to a greater appreciation and regard for the principle of sovereignty authority.

The concept of permanent sovereignty over natural resources (hereafter PSNR) is traced to the *United Nations General Assembly Resolution* 1803 (XVII)<sup>21</sup> as a declaration that the right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised, in the interest of their natural development and wellbeing of the people of the state concerned.<sup>22</sup> The PNSR concept simply means that states have at their disposal the power to use their resources however they see fit for the benefit of their citizens. As time progressed states recognised that they needed to work together so as to protect the environment.<sup>23</sup> This is where limits to the PSNR emerged, as stated in the *Stockholm Declaration*. Principle 21 thereof lays down that states have sovereignty over natural resources and a corresponding responsibility not to cause damage to the environment of other states or

<sup>17</sup> SADC RBS 2.

Further details on this will be given in Chapter 2 of this study.

Schrijver Sovereignty Over Natural Resources: Balancing Rights and Duties 1.

Chirisa National Identity and the Question of Sovereignty in the SADC Region Bloc114-124.

This is a 1962 Resolution.

Schrijver Sovereignty Over Natural Resources: Balancing Rights and Duties 3.

Sands Principles of International Environmental Law 237.

areas beyond their national jurisdiction. Permanent sovereignty also serves as one of the cornerstones of statehood and it is therefore crucial in post-colonial SADC.

The preamble of the CBD recognises the fact that states have sovereign rights over their own natural resources, thus highlighting the importance of PSNR. It goes further to state that the conservation of biological diversity is a common concern of human kind. This draws a picture that even if states are at liberty to use and exploit their natural resource as they see fit, such states have the responsibility to promote the conservation of biodiversity as it belongs to all of us as human beings.<sup>24</sup> This therefore translates in states having the responsibility for conserving their biodiversity and using natural resources in a sustainable manner not only for the state concerned, but for the good of human kind.

From the foregoing an apparent conflict arises between sustainable use of natural resources and PSNR. The conflict being a possible restriction on the PSNR by the principle of sustainable use. This study proposes to analyse the extent to which sustainable use of biodiversity resources limits or may limit the concept of PSNR in the SADC region. One of the SADC objectives, as stated in article 5 of the SADC Treaty, is the achievement of sustainable use of resources and the protection of the environment. Article 4 of the SADC Treaty describes the principles that guide SADC in order for it to accomplish its mission statement and one of the principles refers to sovereign equality of all member states. It is therefore apparent that biodiversity conservation and state sovereignty are important in the SADC region.

On one hand the principle (sustainable use) stipulates that natural resources should be used reasonably so as to be able to preserve some for future generations and also be able to provide for the present generation, but on the other hand the other principle

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Principle 1.3 of the *New Delhi Declaration* 2002.

(PSNR) specifies that states can use and dispose of their natural resources as they please. The question is therefore, to what extent does the sustainable use of biodiversity resources limit the concept of PSNR in the SADC region.

# 1.3 Research Methodology and Framework

The study will be characterised by a literature study whereby primary sources (including legislation and case law) as well as secondary sources (including law journals, books and electronic sources) will be consulted. Chapter 2 will be a discussion of biodiversity and its importance in the SADC region. Chapter 3 will be a discussion on sovereignty from the perspective of SADC and a discussion on the impact of sustainable use on PNSR. Chapter 4 will be an analysis of the legal framework governing sustainable use and sovereignty in the SADC region and chapter 5 will be the conclusion and possible recommendations.

# 2 Biodiversity and its importance in SADC

#### 2.1 Introduction

As stated earlier, biodiversity reinforces the work of ecosystems on which human beings rely on for food, fresh water, health and recreation and protection from natural disasters.<sup>25</sup> Its loss is detrimental to human beings and thus biodiversity should be preserved for human survival.<sup>26</sup> This is due to the fact that some biological resources could be used up to the point of extinction if their sustainable use is not promoted. Hence they will no longer exist, so that those living presently and more specifically

See chapter 1 at para 1.2 above

See chapter 1 at para 1.1 above

future generations can no longer benefit from them. At present in the SADC region the most vulnerable people are those who live the subsistence way of life as they depend on biological resources for their daily lives. This chapter discusses what biodiversity is, its importance (specifically in the SADC region), why and how it is lost and lastly how it can be preserved.

# 2.2 What is biodiversity?

The word biodiversity comes from the word biological diversity and is defined under the CBD as stated above in Chapter 1.<sup>27</sup> It is basically a term used to describe the variety of life on earth. Biodiversity consist of three components which are genetic diversity, species diversity and ecosystem diversity.<sup>28</sup> Genetic diversity encompasses the variation of genes within a species, species diversity involves the variation of species within the region and ecosystem diversity refers to the variety of ecosystems within a region.<sup>29</sup>

### 2.3 Importance of biodiversity in SADC region.

SADC is said to be very rich in biodiversity.<sup>30</sup> South-Africa is number three in the list of the most biologically diverse countries in the world.<sup>31</sup> Madagascar has rich endemic species, Malawi has large number of freshwater species, Zambia and Tanzania are popular for birds and butterflies and Botswana has the biggest elephant population in Africa.<sup>32</sup> Biological diversity is therefore of great importance in the SADC region as

See chapter 1 at para 1.2 above

A 2 of the CBD 1992. See also Sands *Principles of International Environmental Law* 499.

Sands Principles of International Environmental Law 499.

<sup>30</sup> SADC *RBS* vii.

Kidd Environmental Law 98.

Anon Date Unknown http://www.sadc.int. See also the SADC *RBS* 32.

people who live in the SADC countries depend on biodiversity for fresh water supply, food, warmth, shelter and medicine among others.<sup>33</sup>

Also the fact that out of thirty four recognised hotspots worldwide four of these are found in Southern Africa,<sup>34</sup> which are the Cape Floristic Region, Succulent Karoo and Maputo, Pondoland, Albany, Madagascar and the Indian Ocean Islands, makes Southern Africa a place of interest when it comes to biodiversity issues. Biodiversity hotspots are those identified regions of the world with the richest and most threatened reservoirs of plants and animals life on earth.<sup>35</sup> These biodiversity hotspots carry the most vulnerable species which may be extinct if not conserved and protected. However due to certain manmade activities, whether directly or indirectly, biodiversity is threatened and lost in the process, which means that the valuable biological resources that came from biodiversity and which man benefit from also become extinct.<sup>36</sup> The sustainable use of these biological resources is therefore crucial and should be borne in mind as the preamble of the CBD reinforces that the protection, enhancement and preservation of biodiversity is a common concern to human kind.<sup>37</sup>

# 2.4 What causes biodiversity loss?

The Millennium Ecosystem Assessment<sup>38</sup> (hereafter MA) states that:

Over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands for food, freshwater, timber, fibre and fuel. This has resulted in a substantial and largely irreversible loss in the diversity of life on earth.

See Chapter 1 at para 1.1 above.

Anon Date Unknown http://www.cars.fr.

UNEP Africa Environment Outlook (hereafter AEO-3) 10.

<sup>&</sup>lt;sup>36</sup> CBD *GBO*-4 8.

See also Principle 1.3 of the *New Delhi Declaration* 2002.

World Resources Institute MA-Synthesis 1.

The MA thus shows that biodiversity resources have the remarkable value of sustaining human life on earth, which is a very fundamental function. However due to human activities biodiversity is still threatened. Habitat loss, unsustainable use and over exploitation of resources, climate change, invasive alien species and pollution are some of the threats to biodiversity resources as stated by state parties to the CBD.<sup>39</sup> The MA gives an example that about 10%-30% of the mammal, bird and amphibian species are threatened to extinction due to human activities.<sup>40</sup> This shows that the number of species on the planet is reducing.

#### 2.4.1 Habitat loss

The Oxford Dictionary<sup>41</sup> defines habitat as, "the natural home or environment of an animal, plant or other organism." Habitat loss therefore occurs where the natural environment of an animal or plant is destroyed. This destruction normally occurs through human activities such as deforestation, land use change, physical modification of rivers or water withdrawn from rivers, damage to the sea floors due to trawling and others. Deforestation process causes damage and loss to those organisms whose natural habitat is in the forests, to a point where species are destroyed in the process or they become extinct because they can no longer adapt to the new habitat without trees. Forests are very important as they harbour at least 50% of the world's biodiversity. This therefore means that biodiversity whose natural habitat is the forest is lost once the process of deforestation occurs and there is even extinction of some species in that process.

Urbanisation which involves the preparing of land for the building of cities and roads also causes habitat loss as some natural habitats of some species are modified in order

Wetang'ula 2009 http://www.o.s.is.

World Resources Institute MA-*Synthesis* 4.

Hornby 2010 Oxford Advanced Learners Dictionary.

Beyerlin and Marauhn *International Environmental Law* 192.

World Resources Institute MA-*Biodiversity Synthesis* 8.

<sup>&</sup>lt;sup>44</sup> Pimm and Raven 2000 *NATURE* 843-845.

Hens and Boon 2003 http://meko.vub.ac.be.

to fit in new settlements and town buildings.<sup>46</sup> Also where this happens a lot of species lose their habitat and those that cannot adapt to the new conditions, even if not destroyed in the process, die and are likely to become extinct. This is why habitat loss is listed as a threat to biodiversity.<sup>47</sup>

### 2.4.2 The unsustainable use and over exploitation of resources.

The term sustainable use refers to a duty placed on countries to use their resources in a manner that takes into consideration the needs of future generations.<sup>48</sup> This means that the current generation as custodians of natural resources need to use them in a sustainable way. This will ensure that future generations are able to benefit from such resources as well.<sup>49</sup> Overexploitation of natural resources through over fishing, over hunting and over harvesting shows that there is unsustainable use of natural resources, which threatens the life of biodiversity as a whole.<sup>50</sup>

# 2.4.3 Climate change

The United Nations Framework Convention on climate change <sup>51</sup>(hereafter UNFCCC) defines climate change as:

A change of climate which is attributed directly or indirectly to human activity, that alters the composition of the global atmosphere and which in addition to natural climate variability observed over comparable time periods.

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Czech "Urbanisation as a Threat to Biodiversity: Trophic Theory, Economic, Geography and Implications for Conservation Land and Acquisition" 9.

Czech "Urbanisation as a Threat to Biodiversity: Trophic Theory, Economic, Geography and Implications for Conservation Land and Acquisition" 9.

A 2 of the CBD.

Beyerlin and Marauhn *International Environmental Law* 82.

Hens and Boon 2003 http://meko.vub.ac.be.

<sup>&</sup>lt;sup>51</sup> UNFCCC 1992.

Climate change affects the distribution of species that may thus be threatened if the climate change changes this distribution.<sup>52</sup> It may become very difficult for species in an area where there has been climate change to adapt, which may lead to their loss and possible extinction.<sup>53</sup> This will keep on occurring as climate change is an ongoing process accelerated by human activities, which means species will always keep adapting to the new weather patterns and some maybe lost in the process. This is why climate change is also considered to be a serious threat to biodiversity.<sup>54</sup>

# 2.4.4 Invasive Alien Species

Invasive alien species is a species foreign to an ecosystem causing damage to the endemic and indigenous resources.<sup>55</sup> A practical example is that of Lake Victoria which is a home to cichlid fishes (which are native there) later on there was an establishment of the Nile Perch<sup>56</sup> which devoured on the native species in Lake Victoria and could cause their extinction by chewing all the native species.<sup>57</sup> Such introduction of a foreign species in the territory of another can thus cause damage and loss to the species in that particular territory that is why invasive alien species are also considered to be a threat to biodiversity.

#### 2.4.5 Pollution

Pollution is the introduction of contaminants into the natural environment that causes adverse change.<sup>58</sup> It may affect biodiversity negatively to a point of extinction of some

Strydom and King Fuggle and Rabies's *Environmental Management in South-Africa* 1056.

Strydom and King Fuggle and Rabies's *Environmental Management in South-Africa* 1062. See also Anon 2006 http://www.globalchange.umich.edu.

World Resources Institute MA-*Biodiversity Synthesis* 10.

Wittenberg and Cock Invasive Alien Species: How to Address One of the Greatest Threats to Biodiversity: A Toolkit of Best and Management Practices 5.

It was put in the lake on purpose in order to promote sports fishing.

Anon 2006 http://www.globalchange.umich.edu.

Gray 2012 http://www.tropical-rainforest-animals.com.

species.<sup>59</sup> For example acid precipitations, which have major effects on crop production in countries like Lesotho, Mozambique and Swaziland because of South-Africa's industrial air pollution.<sup>60</sup>

#### 2.4.6 Others

Population growth also threatens biodiversity in that, the more people there are, the more natural resources they are going to need to use.<sup>61</sup> This therefore leads to over exploitation of resources which at times cannot be replaced in a manner comparable to usage, therefore some of these resources are used to extinction. Currently there are about 7 billion people<sup>62</sup> on earth. This number increases yearly hence the demand on biodiversity and its resources which mankind depend on for the sustenance of life also increases.

# 2.4.7 Synopsis

As seen from the discussion above, biodiversity is threatened by many factors of which some are human induced while others are not. It is important for states to preserve and use their resources sustainably for their benefit as well is that of future generations. The SADC countries recognise that the above mentioned threats to biodiversity lead to its loss in the SADC region as a whole. The SADC *RBS* therefore promotes that there should be enhancement, restoration and management of biodiversity. This problem may be addressed by conservation among other things, including the sustainable use of biodiversity. Conservation methods to this effect will be discussed below.

<sup>&</sup>lt;sup>59</sup> Kidd *Environmental Law* 143. See also the SADC *RBS* 46.

Tarr and Tarr Southern Africa: An overview of the environment 7.

See Chapter 1 at para 1.2 above.

United Nations Department of Economic and Social Affairs Population Division 2014 http://www.worldmeters.info.

SADC RBS 2.

# 2.5 Why should biodiversity be conserved?

Conservation is the act of preventing something from being lost or damaged or destroyed. Hence conservation of biodiversity relates to the protection of natural resources from threats of extinction and loss. Also biodiversity provides ecosystem services which support human life for instance pollination, water purification and moderation of floods, among others. Therefore the fact that biodiversity is a common concern for all, shows why it is important for it to be conserved by everyone. Scholtz for is of the opinion that the concept of custodial sovereignty can achieve this better than PSNR. He is of the opinion that the PSNR principle as shown in article 3 of the CBD is an obsolete concept which does not acknowledge that the natural environment knows no borders. Scholtz also identifies the fact that the PSNR principle creates an obligation of states to respect other state's sovereignty over natural resources, there is thus a requirement of cooperation. He however proposes the use of the term custodial sovereignty when it comes to biodiversity, which states:

That the state is the trustee of its global environmental resources, and that other states have an expectation that the relevant state will protect these resources. Other states are burdened with the duty to support the custodial state to fulfil its obligations. The custodial state is still entitled to exploit its resources in accordance with its (permanent) sovereignty, but the latter is restricted by the expectations of other states. The sovereignty of the custodial state further enables it to deter unwanted aggression by other states regarding its resources. <sup>69</sup>

This refers to a situation where states are aware that they hold nature's resources within their territory in trust for members of the global community, and hence such a custodian state has the responsibility to protect these resources. Resources under the custodial

Hornby 2010 Oxford Advanced Learners Dictionary.

lsland Press MA Toolkit 8.

The preamble of the CBD. See also Principle 1.3 of the *New Delhi Declaration* 2002.

<sup>67</sup> Scholtz 2005 *MgJICEL* 9-30.

<sup>68</sup> Scholtz 2005 *MqJICEL* 9-30.

Scholtz 2005 MqJICEL 9-30.

principle will still be used freely by the state but limited by the fact that other states could expect such states to use nature's resources sustainably, bearing in mind that the resources are held in trust.<sup>70</sup> The inhabitants of the earth therefore have to act collectively and cooperate in order to achieve sustainable use of natural resources.<sup>71</sup>

#### 2.5.1 Methods of conservation

According to the CBD there are two kinds of conservation. *Ex-situ* conservation and *in-situ* conservation. *Ex-situ* conservation, "means the conservation of components of biological diversity outside their natural habitats." This is by taking endangered species and threatened species from their natural habitat into another safe zone which may have the same characteristics as their previous habitat, where such species will be protected. Some examples are botanical gardens, zoos, gene banks and captive breeding programmes.

*In-situ* conservation is defined as:

Conservation of ecosystem and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species in the surroundings where they have developed their distinctive properties.<sup>73</sup>

This denotes the protection of biodiversity within a place where such species normally resides and preserving it there. Such areas are normally declared protected areas.<sup>74</sup>

This is different from the public trust doctrine which has a national or local application where natural resources are put under the custodianship of the state for its people. It is usually a property law concept. Whereas custodial sovereignty has an international application where the state is the custodian of global environmental resources and other states expect it to protect those resources for the good of mankind. See Kidd *Environmental Law* 11.

Weiss 1992 American University International Law Review 19-26.

A 2 of the CBD.

A 2 of the CBD.

According to A 2 of the CBD means a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives.

These two mentioned methods of conservation are common worldwide and also in the SADC region. It should be noted that every single person should contribute to preservation of biodiversity as it was once stated by Kofi Annan<sup>75</sup> that:

The preservation of biodiversity is not just a job for the governments, international and non-government organisations. The private sector and each and every individual have a role to play in changing entrenched outlooks and ending destructive patterns of behaviour.

#### 2.6 Conclusion

This chapter has been a reflection of what biodiversity is, which was said to be a variation of life on earth ranging from animals, to plants, organisms and processes on earth. Biodiversity is seen as important in the SADC region as most people living in these countries, live in the rural areas where they highly depend on biological resources for their daily lives. <sup>76</sup> Biodiversity conservation is a common concern <sup>77</sup> to human beings and therefore biodiversity should be used in a sustainable way for the good of mankind. This is to keep it continuing with all the important services<sup>78</sup> it grants human beings, for both present and future generations.<sup>79</sup> These biological resources also help in the boosting of the economy of SADC countries as it is through them that these countries have major industries that deal with such resources through production and trade. As it has been seen above, 80 people in the rural areas highly depend on natural resources thus leading to over exploitation. It is therefore important for governments to reduce rural area poverty by creating conservation areas, where there is promotion of matters relating to the importance to preserve, conserve and protect natural resources.<sup>81</sup> Such ideas should present solid, long lasting incentives so that they can become socially sustainable. These ideas should also be able to support poverty alleviation initiatives in

Anon Date Unknown http://www.businessandbiodiversity.org.

<sup>&</sup>lt;sup>76</sup> SADC *RBS* 2.

The preamble of the CBD.

See Chapter 1 at para 1.1 above.

Weiss 1992 American University International Law Review 19-26.

See Chapter 2 at para 2.3 above.

CBD Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review 29.

rural areas while at the same time benefiting natural resources as well. However this alone will not reduce destructive resource patterns use, as the well-off fraction of the community use their money to also exploit natural resources to get richer. Therefore, the wealthy people's unsustainable use of natural resources needs to be addressed by the same idea of promoting and conserving biodiversity. It should be noted that biodiversity is also threatened by numerous factors like climate change, population growth and others. It is for this reason that biodiversity should be preserved whether in or outside its natural habitat.

3 Sovereignty: a SADC perspective

#### 3.1 Introduction

We live in a world where states are in control of, and have authority over their territories, their citizens, resources and activities within their countries. However this has not always been the case in Africa more particularly SADC, as countries in this region were previously colonised. This chapter will address what sovereignty is and what its importance in the SADC region is. This will be done by tracing the history involved up to the point where the SADC countries were able to attain independence from their colonial masters and were rendered to be sovereign. This Chapter will further address the term sustainable use and finally conclude with how sustainable use impacts the concept of PSNR in the SADC region.

#### 3.2 SADC: An Overview

SADC countries since the 1970's, have embarked on the road of regional cooperation for survival. In 1980, the nine Southern African countries namely Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Zambia, Tanzania and Zimbabwe formed

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CBD Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review 29. CBD Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review 29.

the Southern African Development Coordination Conference (hereafter SADCC).<sup>84</sup> After its establishment the SADCC had four prime objectives<sup>85</sup> which were:

- To reduce member state dependence, particularly but not only on apartheid South-Africa:
- To forge links to create genuine and equitable regional integration;
- To mobilise member state resources to promote the implementation of national, interstate and regional policies; and
- To concert action to secure international cooperation within the framework of the strategy for economic liberation.

Later on SADCC further reorganised itself into SADC in 1992 by signing the *SADC Treaty*. At present SADC consists of 15 members states after the Republic of South Africa, Democratic Republic of the Congo, the Republic of Seychelles, Mauritius, Madagascar and Namibia were accepted into the organisation.<sup>86</sup> Some of SADC's objectives<sup>87</sup> are to:

- Evolve common political values, systems and institutions:
- Promote and defend peace and security;
- Promote self-sustaining development on the basis of collective self-reliance and the interdependence of member states;
- Achieve complementarily between national and regional strategies and programmes;
- Promote and maximize productive employment and utilisation of resources of the region;
- Achieve sustainable utilisation of natural resources and effective protection of the environment; and
- Strengthen and consolidate the long standing historical, social and cultural affinities and links among people of the region.

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Sirota 2004 Chicago Journal of International Law 343.

Anon Date Unknown http://www.sadc.int.

Anon Date Unknown http://www.sadc.int.

A 5 of the SADC Treaty.

The above SADC objectives reflect the fact that mobilisation and sustainable utilisation of natural resources for the benefit of countries should be taken into consideration. This is because the SADC member states realise that they will attain their development through proper and equitable use of their natural resources.

# 3.3 Sovereignty and its importance in SADC

State sovereignty infers that states manage their territorial affairs using their own rules, policies and legislation. Africa was colonised prior to the 1880's when European countries took control of the African territory so as to gain access to the rich natural resources of the region. This rush for colonies was labelled the 'Scramble for Africa' by the London newspaper *The Times*. What led to the scramble for Africa started with the British imperialism, which was a mission started by the British so as to achieve economic and political control over the entire world, from Africa, America to Asia. The colonised areas would only trade with their colonial masters. What then followed was the industrial revolution, which started in Britain between the 1860's and 1880's where it was discovered that iron and steel could be used in industries for the production of various products. Britain could no longer meet the demand of producing finished goods as there was a shortage of raw materials. Since the Industrial Revolution should not only experienced in Britain but also in countries like Germany, France and Belgium this led to competition between states, which also led to them competing for colonies in Africa. Since competition was tight between the European countries trying to find land

See Chapter 1 at para 1.2 above.

Afigbo et al The Making of Modern Africa 343.

<sup>90</sup> Collins and Burns A History of Sub-Saharan Africa 265.

Michalopous and Papaioannou 2011 The Quarterly Journal of Economics 1.

<sup>&</sup>lt;sup>92</sup> Collins and Burns *A History of Sub-Saharan Africa* 265.

Griffin The Industrial Revolution Interpretations from 1830 for the Present 1. See also Collins and Burns *A History of Sub-Saharan Africa* 265.

<sup>94</sup> Stokes Europe and the Modern World 25.

The first and the second industrial revolution.

<sup>&</sup>lt;sup>96</sup> Collins and Burns *A History of Sub-Saharan Africa* 265.

in Africa to expand their territories, so as to have access to resources and market.<sup>97</sup> In 1884 so as to prevent eruption of war,<sup>98</sup> the Berlin Conference was held to intervene with regards to dividing Africa into spheres of control or rather for the political geographical map of Africa.<sup>99</sup> The conference was held basically to sort out political partitioning of Africa.<sup>100</sup> For instance the British controlled states like the modern day South-Africa,<sup>101</sup>Botswana<sup>102</sup> and Zimbabwe.<sup>103</sup> While the Germans ruled over Namibia<sup>104</sup> and Malawi<sup>105</sup>, the French colonised Madagascar<sup>106</sup> and Gabon.<sup>107</sup> The Belgians controlled the Democratic Republic of Congo.<sup>108</sup>

These European powers did not only take control of the African territories, but they also took control of the African resources for their own benefit. Among the resources they would find are the forests, rubber, vegetable oils, gold and diamonds. Africans did try to resist the European rule which deprived them of access to their inherent right to natural resources especially valuable ones like diamonds and gold. It however took a while before they (Africans) could succeed and rule over their own territory after attaining their own individual independence. This reflects on how important sovereignty is to these previously colonised African countries, as they were able to take back control of their land and resources. They were also able to rule over their own territories according to their own desires and what they regarded as beneficial for their countries.

<sup>&</sup>lt;sup>97</sup> Collins and Burns A History of Sub-Saharan Africa 265.

Michalopous and Papaioannou 2011 *The Quarterly Journal of Economics* 1.

Easterly and Levine 1997 *The Quarterly Journal of Economics* 9. See also Iliffe *Africans: The History of the Continent* 195.

<sup>100</sup> Iliffe Africans: The History of the Continent 193.

lt was divided into Cape Colony, Basutoland, Natal, Zululand, Orange-Freestate and Pondoland.

lt was referred to as British Bechuanaland.

lt was referred to as Rhodesia.

lt was referred to as German South-West Africa.

lt was referred to as Nyasaland.

lt is still Madagascar.

It was referred to as French Congo.

lt was referred to as Congo-Freestate.

Anon Date Unknown http://historywithmrgreen.com.

Acemoglu, Johnson and Robinson 2001 *American Economic Review* 1375.

As a result of these past challenges SADC member states take pride in their independence.<sup>111</sup>

#### 3.4 PSNR in SADC

PSNR is an international environmental principle that stipulates that states have sovereign rights over their natural resources. It gradually developed after World War II, a period where most states started gaining their independence from their colonial masters. These newly formed states wanted to state clearly and firmly that they can take care of their own territorial affairs, and that they will use their natural resources and benefits therein, in a manner that will help them attain social and economic development. This was to be done without any interference from foreign entities or states, and doing otherwise would be a contradiction of the PSNR principle. 114

The PSNR originates from many resolutions passed by the UNGA, <sup>115</sup> more especially *Resolution 1803 (XVII)*- Permanent Sovereignty Over Natural Resources, <sup>116</sup> which recognises the inalienable right of all states to freely dispose of their natural wealth and resources in accordance with their national interests and on respect for economic independence of states. This means that only a sovereign state and its nationals are in principle the only and legitimate beneficiaries of natural resources found within the bounds of their territory, and that no other state or entity can interfere with this state's right.

Sirota 2004 Chicago Journal of International Law 344. See also Saurombe 2012 PELJ 456.

Sands Principles of International Environmental Law 237.

Scholtz 2005 MgJICEL 23.

Schrijver Sovereignty Over Natural Resources: Balancing Rights and Duties 1.

Hofbauer *The Origin and Evolution of the Principle of Permanent Sovereignty Over Natural Resources* 10. For example UGNA Res 626 (VII)- Right to Exploit Freely Natural Wealth and Resources 1952 and UNGA Res 1515(XV) Concerted Action for Economic Development of Economically Less Developed Countries 1960.

United Nation General Assembly (hereafter UNGA) *Resolution 1803 (XVII)* of 1962.

Schrijver<sup>117</sup> is of the opinion that understanding the concept of PSNR is the result of a combination of a set of rights and duties which he summarises as:

On the side of the rights it was necessary to consider, the right to dispose freely of natural resources, the right to explore and exploit natural resources freely, the right to regain effective control and to compensation for damage, the right to use natural resources for national development, the right to manage natural resources pursuant to national environmental policy, the right to an equitable share in benefits of trans boundary natural resources, the right to regulate foreign investment, the right to expropriate or nationalise foreign investment and the right to settle disputes on the basis of national law. On the side of duties, in turn, the following should be borne in mind, the exercise of permanent sovereignty for national development and the well-being of the people, respect for the rights and interests of indigenous peoples, the duty to co-operate for international development, the conservation and sustainable use of natural wealth and resources, the equitable sharing of trans boundary natural resources, respect for international law and fair treatment of foreign investors; and obligations related to the right to take foreign property.

The above quote means that it should be appreciated that states have the right to use, explore, exploit, manage and dispose of the natural resources the state freely has available in terms of their national legislation. Since every right has a responsibility attached to it, the state has an equal responsibility to use such natural resources for its benefit to achieve social and economic development. This should be done while respecting indigenous people and sharing resources in between borders with others states. More importantly the state has a responsibility to preserve and to use natural resources sustainably.

This symbolises the importance of striking a balance between the PSNR principle, as a right that states have and the sustainable use principle as a responsibility they have in the exercise of the PSNR principle. The PSNR is "a legal right that has been accepted by some international tribunals as reflecting customary international law." Customary international law is made up of two components, that is: states

Sands Principles International of Environmental Law 238.

Military and Paramilitary Activities in and against Nicaragua (Nicaragua v U.S) 1986 ICJ 14 100. See also Schrijver Sovereignty Over Natural Resources: Balancing Rights and Duties 373.

<sup>&</sup>lt;sup>118</sup> UNGA *Resolution 1803 (XVII)* of 1962.

general practice over a long period of time and *opinio juris* which is the subjective element that shows a state's consent to a legally non-binding recommendation.<sup>120</sup>

The PSNR principle has been incorporated in many international instruments like the *Stockholm Declaration* of 1972,<sup>121</sup> and *Rio Declaration* of 1992.<sup>122</sup> It was first used in a convention held in 1966 in the *International Covenant on Civil and Political Rights* (hereafter ICCPR) and likewise in the *International Covenant on Economic, Social and Cultural Rights* (hereafter ICESCR) of 1966, and it should be remembered that these are binding instruments as opposed to the resolutions. The PSNR principle also features in CBD article 3. The inclusion of the PSNR in the above mentioned conventions gives strong evidence to the fact that the PSNR is recognised and accepted as a customary international law principle.

# 3.5 The Principle of Sustainable Use

Resources are the spine of every economy and provide two basic functions of raw materials, which are production of raw materials for goods and services and the provision of environmental services.<sup>124</sup> It is therefore important to use biological resources in a sustainable way, for it to stay this way resources are normally classified into the following:

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The Case Concerning Armed Activities in the Congo ( DRC v Uganda) ICJ Reports 2005 168.

Principle 21 which reads as follows; "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

Principle 2 which reads as follows; "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."

A 1(2) reads as follows, "All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic cooperation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence."

Mensah and Castro Sustainable Resource Use and Sustainable Development: A Contradiction 6.

- Non-renewable and non-recyclable resources such as fossil fuels;
- Non-renewable but recyclable resources such as minerals:
- Quickly renewable resources such as fish;
- Slowly renewable resources such as forests;
- Environmental resources such as air, water and soil; and
- Flow resources such as solar and wind energy.<sup>125</sup>

Depletion<sup>126</sup> of biodiversity, threatens its existence which will mean the benefits or functions of resources will not be available as they will be depleted. Renewable resources are those resources which are replaced naturally and can be used without the risk of being depleted. They can however be depleted when "extraction exceeds renewal rate." Environmental resources cannot be depleted but their quality can be reduced by pollution. This therefore means sustainable use is the utilisation of natural resources in a sustainable manner thus guaranteeing their prolongation so that future generations also benefit from the same resources. 128

There are various ways in which sustainable development is defined but the most common definition is that one from the Brundtland Report<sup>129</sup> which is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." States must thus develop economically and socially in such a way that minimises the effects of their activities, which if not done properly could essentially lead to the costs being borne by future generations, which would be against the concept of sustainable development.

<sup>125</sup> Mensah and Castro Sustainable Resource Use and Sustainable Development: A Contradiction 6. 126

It is the reduction of something (in this instance natural resources) by a large amount so that there is not enough left.

<sup>127</sup> Mensah and Castro Sustainable Resource Use and Sustainable Development: A Contradiction 6.

<sup>128</sup> A 2 of the CBD 1992. See also Beyerlin and Marauhn International Environmental Law 82.

<sup>129</sup> World Commission on Environment and Development 1987.

Sands<sup>130</sup> identifies that sustainable development is an embodiment of four elements of which one of them is the aim of exploiting natural resources in a manner which is sustainable or appropriate (sustainable use). From the foregoing it can be seen that sustainable use is an integral part of sustainable development. The *New Delhi Declaration* also recognises sustainable use as an essential part of sustainable development. The *New Delhi Declaration* defines sustainable use as the management of natural resources in a rational way that provides for the needs of present and future generations.<sup>131</sup> The Declaration further imposes a duty on states, companies and civil society to avoid wasteful use of natural resources.<sup>132</sup> It should be remembered that even though The *New Delhi Declaration*<sup>133</sup> is a soft law instrument, it is an agreement without immediate international binding force but still carrying some authority.<sup>134</sup> It is therefore very influential.

# 3.6 Impact of sustainable use on PSNR in SADC region

This study seeks to determine the extent in which sustainable use of biodiversity limits the concept of permanent sovereignty in the SADC region. This is because of the apparent conflict between the two concepts, as one talks about the authority to use natural resources in whatever manner a state sees fit without any interference from outside states (the PSNR principle). While on the other hand the principle of sustainable use determines that the use of natural resources should be done in a manner that is not wasteful, bearing in mind that future generations are going to use the same resources for their survival. Accordingly this means that the present

Sands Principles of International Environmental Law 253.

A 2 of CBD defines sustainable use as, "the use of components of biological diversity in a way and at a rate that does not lead to the long term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations."

Principle 1.2 of the *New Delhi Declaration* 2002.

New Delhi Declaration 2002.

Olowu International Law: A Textbook for the South Pacific 47.

generations have to use natural resources wisely so that future generations can benefit also from such resources. 135

PSNR concept was promoted by previously colonised countries in their struggle for political self determination, <sup>136</sup> and economic development. This ensures that people living in developing countries benefit from the exploitation of natural resources in their jurisdictions. 137 This is why in the pursuit of economic sovereignty or independence developing countries seek to protect themselves by declaring the principle of non-intervention in the economic arena by asserting the right to possess and freely dispose of their natural resources. 138

Notwithstanding the PSNR principle, as time progressed it became important for the environment to be protected through conservation and proper use of natural Early traces can be seen in the Convention on Fishing and resources. Conservation of Living Resources of the High Seas of 1958. 139 Article 2 thereof states the following:

As employed in this convention, the expression conservation of the living resources of the high seas, means the aggregate of the measures rendering possible the optimum sustainable yield from those resources so as to secure a maximum supply of food and other marine products. Conservation programmes should be formulated with the view to securing in the first place a supply of food for human consumption.

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<sup>135</sup> Weiss 1992 American University International Law Review 19-26.

<sup>136</sup> Hofbauer The Origins and Evolutions of the Principle of Permanent Sovereignty Over Natural Resources 2.

<sup>137</sup> Schriver Sovereignty Over Natural Resources: Balancing Rights and Duties 3.

<sup>138</sup> The preamble and A 5 (1) (a) and (g) of the SADC Treaty.

Which was replaced by the UN Convention on the Law of the Sea 1982 (hereafter UNCLOS), was the first formal or legal recognition to the conservation and sustainable use of natural resources. It should however be noted as Judge Weeramantry in the Gabčikovo-Nagymaros Project case stated, that the issue of sustainable development is not a mere concept but a normative value. Which means that even before the UNCLOS there were already established principles relating to sustainable use and conservation of natural resources.

The above mentioned article illustrates recognition of the importance of the preservation and sustainable use of living resources ensuring their continuance. As a result there was a need to strike a balance between economic development and environment preservation and protection, which was finally done through the establishment of the concept of sustainable development, which encompasses the principle of sustainable use. <sup>140</sup> In the same light the *African Charter on Human and People's Rights* 1981 <sup>141</sup> (hereafter Banjul Charter) is also important because it has provisions that allow states to freely dispose their wealth and natural resources in the interest of their people in order to achieve development.

The concept of PSNR is limited by a few international law principles for instance the no harm principle, which stipulates that states have the right to exploit the resources within their territory, but they should make sure that their activities do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. It should however be noted that the focus of this study is on the principle of sustainable use as one of the principles that potentially limit the PSNR.

PSNR is a principle that hits close to home when it comes to the SADC region. This is due to the fact that the PSNR was established, in order for previously colonised countries to take charge of their natural resources. This was so that they can achieve social and economic development, through utilisation of their resources. <sup>143</sup> It is relevant to SADC as all of the SADC countries were previously colonised countries and they had to assert their right over their natural resources so as to reach a state of development.

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This was shown in the *Gabčakovo- Nagymaros Project ( Hungary v Slovakia )* ICJ Reports 1997 para 140 where the court was of the view that sustainable development is an expression of the "need to reconcile economic development with protection of the environment."

A 21 of the *Banjul Charter* 1981.

Principle 21 of the Stockholm Declaration and also Principle 2 of Rio Declaration.

See Chapter 3 at para 3.6 above.

The SADC region recognises the importance of natural resources especially when it comes to the economy leading to economic growth of the individual countries. 144 Member states of the SADC community acknowledge how crucial, "improved utilisation stewardship of natural resources" 145 is so as to promote sustainable development. They also appreciate that the unsustainable extraction and mismanagement of natural resources could have adverse consequences for the region as a whole. 146

SADC helps its member states to deal with sustainable use of natural resources through capacity building and regional integration. Significant natural resources found in the SADC region are water, wildlife and minerals. SADC helps protect such resources. It further helps persuade regional cooperation, programmes, protocols and initiatives. 147 Examples will be made below including: forests, wildlife, Transfronteir Conservation Areas (hereafter TFCAs) and water. They will be addressed so as to give a clear picture on what SADC is doing in the pursuit of sustainable use of natural resources. These examples of biodiversity are those that are being conserved as the key biodiversity resources and major components of the environment, which should be sustainably managed for the benefit of SADC as a region.

#### 3.6.1 Forests

This is another area of focus by SADC as mentioned earlier (in chapter 2) forests are a source of energy as they are used as fuel to provide heat and for provision of cooking. They are also used as medicine and as shelter as necessities of people

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SADC RBS iii.

<sup>145</sup> Anon Date Unknown http://www.sadc.int.

<sup>146</sup> A 5 and A 6 of the SADC Treaty.

SADC RBS iii.

living in the rural areas in the SADC countries.<sup>148</sup> Another advantage of forests is that they act as sinks, to absorb the carbon-dioxide that is emitted into the atmosphere through various human activities which would be adverse to the environment and therefore aggravate climate change, forests therefore mitigate<sup>149</sup> effects of climate change.<sup>150</sup> The SADC countries are of the view that forest management promotes proper forest use and this should be done through "coordination in utilisation and long term enhancement of forest resources."<sup>151</sup>

The SADC countries adopted the *Protocol on Forestry* in 2002. This was a result of recognising their responsibility to conserve forests and to use forest resources sustainably and wisely. The *Protocol on Forestry* has the following objectives:<sup>152</sup>

- To promote the development, conservation, sustainable management and utilisation of all types of forests and trees;
- Promote trade in forest products throughout the region in order to alleviate poverty and generate economic opportunities for the peoples of the region; and
- Achieve effective protection of the environment and safeguard the interests of both the present and future generation.

It can be seen that the aim of the *Protocol on Forestry* is to ensure that forest resources are used in a way that will help promote development in the SADC region and more importantly to promote sustainable use of forest resources in order to secure such resources for future generations.

Siguard and Luhanga SADC Sub-Regional Workshop on Forest and Tree Genetic Resources 41-

This is an effort to reduce or prevent greenhouse gas emission.

Food and Agriculture Organisation (hereafter FAO) The State of the World's Forest Genetic Resources 21.

Anon Date Unknown http://www.sadc.int. See also Siguard and Luhanga SADC Sub-Regional Workshop on Forest and Tree Genetic Resources 41-42.

A 3 of the *Protocol of Forestry* 2002.

The PSNR principle over forests as natural resources is encapsulated in Article 4(2) which states:

State parties shall have accordance with the Charter of the United Nations and the principles of international law, the sovereign right to use their forest resources to meet their environmental and sustainable development needs and responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environments and forest resources of other states.

While the principle of sustainable use is covered in Article 4(3) which states that:

State parties shall protect, conserve and develop their forests and ensure that forest resources are used in a way and at a rate that does not lead to the long term degradation of forests thereby maintaining the potential of forests to meet the needs of present and future generations.

Article 4(2) of the SADC Protocol on Forestry, shows the importance of sovereignty over the use of forests by states so as to attain state development. It also goes further to state that this right should be exercised in a way that will not cause harm to the environment and forest resources of other states. Article 4(3) incorporates the principle of sustainable use of forest resources, which emphasises the significance of the conservation of forest resources.

The above mentioned articles confirm that the PSNR principle does not stand alone. It has to work in collaboration with other related principles like the sustainable use principle which therefore puts limits on the PSNR and shows that it is not absolute. SADC also has some forestry programmes and plans which deal with the management of fire in the SADC region. One of them is the *Regional Fire Management and Cross Border Cooperation Programme* (hereafter RFMCBCP). The aim of this programme is to control forest fires in the region, which result in

forest and vegetation degradation and biodiversity loss.<sup>153</sup> Biodiversity found in the forests is therefore protected. These activities fall under the management of the *Food, Agriculture and Natural Resources Directorate*.<sup>154</sup>

There is also a programme referred to as *Reducing Emissions from Deforestation* and *Forest Degradation*<sup>155</sup> (hereafter REDD+) which is an initiative of the United Nations (hereafter UN) implemented in the SADC region. This is a programme established with the aim to help prevent climate change. In this programme developing countries are given incentives for the protection, management and proper use of their biological forest resources.<sup>156</sup>

#### 3.6.2 Wildlife

The importance of wildlife in the SADC region is that wildlife provides things like food and clothing for the people living in this region. Wildlife is a component of biodiversity. Wildlife preservation inside their natural or outside their natural habitat attracts tourists to come and see diverse wildlife, this means that it also contributes to the tourism sector. Conservation and sustainable use of wildlife is therefore a priority for the SADC countries, this is why they adopted the *Protocol on Wildlife Conservation and Law Enforcement* in 1999 (hereafter *Protocol on Wildlife*). This protocol was created with the objective 158 of establishing in the SADC region, common approaches to the conservation and sustainable use of wildlife resources

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SADC RFMCBCP 4.

Anon Date Unknown http://www.sadc.int.

SADC is currently working on a REDD+ programme which will deal specifically with climate change in this region. Redd+ programme is a mechanism whereby countries that are successful in reduction their rates of emission through improved forest protection, sustainable forest management and encouragement of carbon stock methods would be eligible to receive benefits on the basis of carbon credits saved to mitigate climate changes, support adoption effects and improves the livelihood of local impoverished people. See also SADC RFMCBCP 6.

Anon Date Unknown http://www.sadc.int.

Wetang'ula 2009 http://www.o.s.is. See also Anon Date Unknown http://www.sadc.int.

A 4 of the *Protocol on Wildlife* 1999.

and the implementation of enforcement of laws governing such resources. This shows that the utilisation of wildlife resources in a way and at a rate that does not head to the long term decline of wildlife species is a priority in the SADC region. The preamble of this protocol also upholds the PSNR principle in the management of wildlife. It however states that member states have a corresponding responsibility to conserve and use sustainably wildlife resources.

At an international level the SADC countries have acceded to the *Convention on International Trade in Endangered Species of Wild Fauna and Flora of* 1979<sup>159</sup> (hereafter CITES) as it protects wildlife and plantation from the exploitation through trade. The protection of wildlife is achieved by regulating its trade thus protecting it against over exploitation.<sup>160</sup> This re-emphasises the relationship between PSNR and sustainable use.

3.6.3 TFCA's

A TFCA is<sup>161</sup>:

a component of a large ecological region that straddles the boundaries of two or more countries encompassing one or more protected areas as well as multiple use areas.

TFCA's promote regional cooperation in biodiversity preservation, ecosystems, landscapes and shared wildlife management. TFCA's have shared natural and cultural resources. TFCA's are usually found in areas visited by tourists, therefore they help in the generation of income which boosts the social and economic

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<sup>&</sup>lt;sup>159</sup> CITES 1979. All the SADC member states are parties to this convention, see at http://www.cites.org.

Beyerlin and Marauhn *International Environmental Law* 184.

A 1 of the *Protocol on Wildlife* 1999.

development of SADC as a region. 162 The resources found in these areas are managed for the benefit of people around those TFCA's. TFCA's are relevant to this study as they are managed for the sustainable use and conservation of biodiversity. 163 TFCA's are tools used for biodiversity conservation therefore promoting sustainable use of biodiversity where there are threats. In order to maintain TFCA's SADC member states need to cooperate irrespective of their PSNR as biodiversity does not know political boundaries. In order to avoid this problem the CBD through article 3 recognises the PSNR principle, this is however limited by the responsibility to ensure that activities do not cause damage to the environment of other states beyond the limits of national jurisdiction. 164 Another limitation on the PSNR principle is placed by the recognition of the CBD that conservation of biodiversity is a common concern to humankind. This therefore puts a responsibility on states to act in a way that would help maintain biodiversity conservation as a common concern to mankind in a TFCA, when exercising their sovereign right. 165 Examples of these areas are the Okavango-Zambezi TFCA and the Limpopo TFCA.

## 3.6.4 Water

Water is a source of life. It is a very important commodity that helps sustain life on planet earth. In the SADC region water is used for agricultural purposes like irrigation, domestic purposes like drinking, washing, cooking, bathing and sanitation. Water is also an integral part of ecosystem services and it is required to maintain

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The preamble of the *Protocol on Wildlife* 1999. See also Mugadza *Biodiversity Conservation Through Transfrontier Conservation Areas (TFCAS) and the Rights of Local Communities: Reconciliation Through Sustainable Development 8.* 

Mugadza Biodiversity Conservation Through Transfrontier Conservation Areas (TFCAS) and the Rights of Local Communities: Reconciliation Through Sustainable Development 5.

A 3 of the CBD 1992.

Mugadza Biodiversity Conservation Through Transfrontier Conservation Areas (TFCAS) and the Rights of Local Communities: Reconciliation Through Sustainable Development 11.

The Protocol on Share Watercourses 2000. See also the Regional Strategic Action Plan for the Water Sector (hereafter RSAP III) iv.

those services.<sup>167</sup> This is why water resources need to be secured to sustain biodiversity and natural ecosystem.<sup>168</sup> It is for these reasons that water quality and water availability are important in the SADC region.

The above mentioned water uses are usually seen competing for the available water resources. An example could be the fact that in a highly agricultural industry water is used in high quantities for the promotion of that industry while other areas suffer and receive very little water quantities. In some countries where water is used in the industrial sector this could lead to food insecurity. Water availability is also threatened by climate change and population growth. In the same light of influence on the water resource, water quality is affected even if still available, to a point where the water may not be used for consumption or domestic use.

The SADC countries recognised the importance of the management of water resources for sustainable, integrated and coordinated development, utilitarian, protection and control of national and trans-boundary water resources. The instruments that the SADC uses to address these issues are the *Revised Protocol on Shared Watercourses* of 2000 and the *Regional Water Strategy* (hereafter RWS) of 2006 and a series of RSAP (which is currently on version three). The *Protocol on Shared Watercourse* is a legal instrument necessary for the implementation of water resources management at a SADC regional level, under which bilateral and multilateral agreements between water course states may be developed. Its objective is to promote cooperation for judicious, sustainable and coordinated management, preservation and use of shared watercourses so as to act towards

SADC RSAP III 1.

SADC Regional Water Policy v.

Earle and Malzbender Water and the Peaceful, Sustainable Development of the SADC Region 2.

Swatuk The New Water Architecture in Southern Africa Reflections on Current Trends 1.

Swatuk The New Water Architecture in Southern Africa Reflections on Current Trends 5.

SADC Regional Water Policy vii.

Anon Date Unknown http://www.sadc.int.

SADC *RWS* Chapter 1.

the SADC's agenda of regional integration and poverty alleviation.<sup>175</sup> Equitable and reasonable utilisation of a shared watercourse which connotes sustainable use is the central theme to the *Protocol on Shared Watercourses*.<sup>176</sup>

On the other hand the *RWS* tries to promote and focus mainly on equitable, sustainable, integrated and coordinated development, utilisation, protection and control of national and trans-boundary water resources in the SADC region.<sup>177</sup> Due to their geographical position some SADC countries have shared water courses,<sup>178</sup> it is therefore also important to manage the water resources in those areas. Due to the sharing of the water courses the SADC countries share 15 river basins and they are managed by 12 river basin organisation.<sup>179</sup>

## 3.7 Conclusion

This chapter shows that the PSNR principle is a principle that addresses the concerns of social and economic development in developing countries which were previously colonised. It bestows on them the right to freely use, exploit, explore and dispose of their natural resources. Sustainable use is also defined as the conservation and rational use of biodiversity resources. Even though the principle

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A 2 of the *Protocol on Shared Watercourses* 2000.

A 7(a) and (b) of the *Protocol on Shared Watercourses* 2000.

SADC *RWS* Chapter 1.

lt is defined as "as a water course passing through or forming the border between two or more watercourse states." A 1 of *Protocol on Shared Watercourses* 2000.

They are the Buzi watercourse shared by Mozambique and Zimbabwe. The Congo watercourse shared by the Democratic Republic of Congo, Cameroon and the Central African Republic. The Cuvelai watercourse and Kunene watercourse shared by Angola and Namibia. The Incomati and Umbeluzi watercourse shared by Mozambique, South-Africa and Swaziland. The Limpopo watercourse shared by Mozambique, Botswana, South-Africa and Zimbabwe. The Okavango watercourse shared by Angola, Botswana, Namibia and Zimbabwe. The Orange Senqu watercourse shared by Botswana, Namibia, Lesotho and South-Africa. The Pungwe and Sabi watercourse shared by Mozambique and Zimbabwe. The Ruvuma watercourse shared by Mozambique and Tanzania. The Zambezi watercourse shared by Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe.

See Chapter 3 at para 3.3 above.

of PSNR and sustainable use are independent principles, they are inter-related. On the one hand the PSNR principle provides for social and economic development which is attained by the exploitation of natural resources, on the other hand the sustainable use principle provides for environmental protection. Therefore a common understanding in the application of these principles was supposed to be reached.

The sustainable use principle limits the principle of PSNR in the SADC region, to the extent that it prescribes that states can use their natural resources in whatever manner they prefer, but they (states) should ensure that there is equitable use of such resources so that the resources in question can also benefit future generations in the manner they are benefiting the present generations (which is the principle of intergenerational equity).<sup>181</sup> In this way states attain their economic development and the biodiversity resources are also protected from possible extinction. This therefore emphasises that the PSNR principle is not absolute.

The significance of these two principles in the SADC region draws its basis on the fact that most people in the SADC countries rely on natural resources for their survival, <sup>182</sup> and that over half of the SADC countries GDP is based from primary industries which deal with the production and enhancement of natural resources. <sup>183</sup> This signifies that natural resources are an economy boost. It is therefore important that the SADC countries use these natural resources for the benefit of present and future generations while respecting each other's sovereignty. <sup>184</sup>

Weiss 1992 American University International Law Review 19-26.

See Chapter 2 at para 2.1 above.

See Chapter 2 at para 2.3 above.

See Chapter 3 at para 3.3 above.

# 4 An analysis of the legal framework

### 4.1 Introduction

This study has by far shown the importance of biodiversity, why it should be used wisely, 185 and how this impacts the PSNR principle in the SADC region. 186 It is therefore important to analyse how this is achieved through the SADC legal framework. There are various instruments that the SADC countries are party to for the protection and management of biodiversity and they will be discussed below, the African Convention on the Conservation of Nature and Natural Resources (hereafter Algiers Convention), the SADC Treaty, SADC RBS, Regional Biodiversity Action Plan, the Protocol on Wildlife Conservation and Law and Enforcement (hereafter the Protocol on Wildlife), the SADC Protocol on Fisheries, the Protocol on Shared Watercourses and the Protocol on Forestry congruently.

# 4.2 Regional Law

4.2.1 The African Convention on the Conservation of Nature and Natural Resources 1968 (hereafter Algiers Convention)

At the Regional level there is the *Algiers Convention*, which was signed in 1968 and entered into force in 1969, however it was later revised and signed in 2003, so as to bring in aspects of sustainable development which embodies sustainable use. It has however not yet entered into force. It will only enter into force once it has been ratified by 15 African States as shown in Article XXXVIII of its text.<sup>187</sup> The implication when a treaty has not entered into force, is that the minimum number of states have not

See Chapter 2 para 2.3 above.

See Chapter 3 para 3.6 above.

lt should also be noted that only nine SADC countries are parties to this convention.

consented to be bound by the treaty. This is therefore an indication that the *Algiers Convention* as revised does not yet have legal force and effect. The 2003 convention's preamble shows recognition of state parties to the fact that as stated in the *United Nations Charter*, states have the sovereign right to exploit their own natural resources so as to satisfy human needs according to their own legislation. The preamble also highlights in it the importance of conservation, protection and sustainable utilisation of natural resources, so as to satisfy human needs according to the carrying capacity of the environment.

# Article II thereof states its objectives as:

- To enhance environmental protection;
- To foster the conservation and sustainable use of natural resources; and
- To harmonise and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes.

This shows that environmental protection and conservation are very significant globally and to Africa as a continent. The African countries seek to take steps through the *Algiers Convention* so as work together to achieve sustainable use of natural resources, so they can be able to provide social and economic development for a lengthy period of time where the present and future generations will benefit. <sup>189</sup> In order to fulfil the convention's objectives state parties agreed to take effective measures to promote conservation, protection, sustainable utilisation and development of land and soil, <sup>190</sup> water, <sup>191</sup> vegetation cover, <sup>192</sup> species and genetic diversity <sup>193</sup> and protected species <sup>194</sup> while taking into consideration the best interest of human beings. State parties

Anon Date Unknown http://treaties.un.org.

A III (3) of the *Algiers Convention*.

A VI of the *Algiers Convention*.

<sup>&</sup>lt;sup>191</sup> A VII of the *Algiers Convention*.

A VII of the *Algiers Convention*.

A VII of the Algiers Convention.

A X of the *Algiers Convention*.

therefore agreed to adopting policies, plans and programmes that will carry on the mandate of using the resources wisely and protecting them.

Even though the preamble of this convention reiterates the fact that states have the sovereign right to exploit their own resources pursuant to their environmental and developmental policies, this right is however not absolute. This is where then the PSNR principle is limited by that of sustainable use. The only downfall of this convention as mentioned above is that it has not yet entered into force. This means that the spirit the convention was adopted to carry on, of expanding its scope to cover issues of sustainable use cannot be implemented as yet and it is thus left without force. It is as good as non-existent.

# 4.2.2 The SADC Treaty

At the sub- regional level, the *SADC Treaty* is the instrument that has led to the establishment of SADC. It is a very significant document in the SADC region, which lays down all the objectives the SADC community aims to accomplish. The preservation and protection of natural resources has always been one of the SADC objectives mentioned in Article 5(g) which states that SADC wants to attain sustainable use of natural resources and effective protection of the environment. SADC member states wanted to do this with understanding that all members have sovereign equality. <sup>196</sup> SADC countries acknowledge the importance of their individual sovereignty, which means that they have sovereignty over their natural resources and they can exploit and use them in whatever manner they desire. Their individual sovereignty was important to them as states as they have a common feature of having been colonised previously. <sup>197</sup> They however sought to develop socially and economically, so as to realise sustainable use of natural

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See Chapter 4 at para 4.2.1

A 4 (a) of the SADC Treaty.

See Chapter 3 at para 3.3 above.

resources and effective protection of the environment under such sovereignty. The only way they would be successful in conservation and sustainable utilisation of biological resources in the region would be through trans-boundary cooperation between member states. Such cooperation is what the *SADC Treaty* is all about. It is also seen in this context that the principle of sustainable use thus limits the concept of PSNR by demanding that natural resources be used in a way that is sustainable. Article 25 further reiterates the fact that natural resources in the SADC region should be used in an effective and cautious way. It is from the *SADC Treaty* that all plans, actions, programmes and strategies for the conservation and equitable utilisation of natural resources are drawn from and they will be analysed below.

### 4.2.3 The SADC RBS

The RBS is a policy-document created under the mandate of the *SADC Biodiversity Support Programme* (hereafter BSP) in 2006. The RBS lays down a structure for cooperation of biodiversity issues that transcend national boundaries. This is because biodiversity is very important in the SADC region as almost half of the SADC countries GDP comes from the primary industries whose produce comes from biodiversity and also citizens who live in rural areas depend on biological resources for their daily lives.<sup>200</sup> It is thus important to recognise that successful preservation and sustainable utilisation of natural resources in the SADC region depends on trans-boundary cooperation.

The RBS has four objectives which are to:

 Provide guidelines that build the region's capacity to implement provisions of the CBD;

See Chapter 3 at para 3.4 above.

<sup>&</sup>lt;sup>199</sup> A 5(1) (g) and A 5(2) (h) of the SADC Treaty.

See Chapter 1 at para 1.1 above.

- Provide a framework for obtaining regional consensus on key biodiversity issues;
- Act as a vehicle for forming partnerships with development partners on transboundary biodiversity issues; and
- Provide a framework for cooperation between member states with relevant multilateral environmental agreements such as the *United Nations Convention to Combat Desertification* (hereafter UNCCD) the *UNFCCC*, the *Law of the Sea*, *CITES* and the *Ramsar Convention on Wetlands*.

The above mentioned objectives show that SADC member states identified biodiversity issues as important. They will thus cooperate by forming partnerships with developed states when dealing with trans-boundary biodiversity issues. This will be so as to promote conservation and sustainable use as laid down in various international treaties dealing with biological resources (more specifically the CBD). The *RBS* identifies eight major constraints<sup>201</sup> to biodiversity conservation and its sustainable use and as a way of addressing this problem it lays down strategies on how these can be dealt with.<sup>202</sup> The RBS is an instrument that fosters cooperation within the SADC region. It shows how countries can work hand in hand to address issues of biodiversity conservation and sustainable use, by sharing information and technology among themselves.<sup>203</sup>

The SADC *RBS* basically deals with how biodiversity should be managed and treated at both international and regional level. It also states that SADC members should work together in order to achieve biodiversity conservation and its sustainable use. Since some of the biodiversity issues transcend natural boundaries, and it (biodiversity) and

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The first constraint is the high pressure and demand on biodiversity and agricultural land due to rigid options to making a living from agriculture and natural resource exploitation. The second constraint is that there are insufficient biodiversity inventory and monitoring systems knowledge and inability to deal with biodiversity information. The third constraint is that there are not enough incentives for biodiversity conservation and its sustainable use. The fourth constraint relates to the fact that people know so little about biological resources. The fifth constraint is that there are no proper forums, be it institutional or legal frameworks that specifically deal with biodiversity initiatives. The sixth constraint is low level of funding and inconsistency for the implementation of biodiversity programmes. The seventh constraint is the insufficient measures of research and development approaches from biodiversity initiatives. Lastly another constraint is the lack of ways to management of genetically modified organisms (hereafter GMOs) and Invasive Alien Species (hereafter IAS).

<sup>&</sup>lt;sup>202</sup> SADC *RBS* 5.

SADC RBS 1.

the environment are huge factors when it comes to growth and development of the region a frame-work for cooperation was necessary.<sup>204</sup> Thus in trying to achieve sustainable use, the PSNR principle is limited, in that even though states have the right to use and exploit their natural resources as they want to. They have to ensure that they do this bearing in mind that they have to use those resources wisely.

# 4.2.4 The Regional Biodiversity Action Plan (hereafter RBAP)

The *RBAP* is a document whose development was initiated by the International Union for the Conservation of Nature (hereafter IUCN) and adopted in 2013. It is basically a tool used to facilitate the implementation of the *RBS*.<sup>205</sup> It has four main objectives which are:

- To improve the governance framework for biodiversity conservation and management;
- To promote sustainable use of biodiversity for improved economic growth and poverty reduction;
- To enhance biodiversity conservation and management systems; and
- To respond to and address the impacts of climate change and energy development on biodiversity.

The *RBAP* therefore introduces ways in which sustainable use and conservation could be better implemented and have communities that depend on natural resources involved in such programmes that promote sustainable use. Such communities can also be taught on how to adapt to climate change and how to address energy development on biodiversity. This in turn emphasises the importance of the concept of sustainable use, which limits the PSNR principle by recognising that even though states have the right to exploit their natural resources they should do that considering the reasonable use of natural resources so as to benefit both current and future generations.

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SADC RBS 2.

Anon Date Unknown http://www.sadc.int.

## 4.2.5 The Protocol on Wildlife.

Wildlife resources have been seen to be very important in the SADC region, as they affect the region's economic development and environmental protection.<sup>206</sup> The framework for conservation and sustainable use of wildlife in the region was established through the *Protocol on Wildlife* on the 18<sup>th</sup> August 1999, and it entered into force on the 30<sup>th</sup> November 2003.<sup>207</sup>

The preamble of this protocol states that member states have the sovereign right to manage their wildlife resources (this entails the PSNR principle). Nevertheless, the preamble further states that the state has the corresponding responsibility to use sustainably and conserve those wildlife resources. This provision clearly shows the fact that the sovereign right states have over their wildlife resources is subject to some limitation of having to use wildlife resources in a sustainable way. This thus means that the PSNR principle is not absolute. Conservation of biodiversity and economic development in the SADC region shall be achieved through conservation and sustainable use, <sup>208</sup> which are the central theme of this protocol. It is also through cooperation that this can be achieved.

## 4.2.6 The SADC Protocol on Fisheries.

This protocol was established in 2001 and entered into force in 2003. The preamble of this protocol acknowledges the significance of fisheries in the socio-economic wellbeing and livelihood of the people in the SADC region, more specifically food security and

Anon Date Unknown http://www.sadc.int.

<sup>&</sup>lt;sup>206</sup> See Chapter 3 at 3.6.2.

A 3 (1) and also A 4 (a) and (b) of the *Protocol on Wildlife*.

poverty alleviation. The SADC countries saw that it is imperative to work together at the sub-regional level in the pursuit of sustainable use of living aquatic resources for the continued benefit of the people of the region.<sup>209</sup>

The key objective of this protocol is to promote responsible and sustainable use of the living aquatic resources. On the other hand it also promotes and enhances food security and human health, again it safe guards the livelihood of fishing communities and to ensure that future generations benefit from these renewable resources. The PSNR principle is provided for in many international instruments but not in this protocol. However as the PSNR principle applies to state's resources in general it also covers fishery resources, so it is impliedly part of the protocol. Hence, having provision on sustainable use means that such provisions will still put a limit to the concept of PSNR in that states have the sovereign right over living aquatic resources, by exploiting, managing or using them in whatever manner they wish. States however still have a responsibility to use such living aquatic resources in a way that will enable their community members as well as their descendants to benefit from aquatic living resources in the future.

## 4.2.7 The Protocol on Shared Watercourses.

It has been mentioned that the SADC region has a number of water resources<sup>214</sup> shared between the SADC countries themselves.<sup>215</sup> They therefore saw the need to establish

Anon Date Unknown http://www.sadc.int.

A 3 of *Protocol on Fisheries*.

A 3 (a) of *Protocol of Fisheries*.

A 3 (b) of *Protocol of Fisheries*.

A 3 (d) of *Protocol of Fisheries*.

See Chapter 3 at 3.6.4.

See Chapter 3 at 3.6.4.

a legal framework by adopting the *Protocol on Shared Watercourses* on the 28<sup>th</sup> August 1995 which was revised on the 7<sup>th</sup> August 2000.<sup>216</sup> The objective<sup>217</sup> of this protocol is:

To foster closer cooperation for judicious sustainable and co-ordinate management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.

This can be achieved by advancing the sustainable, equitable and reasonable utilisation of shared watercourses. This serves to show that sustainable use of watercourses is an important aspect which needed to be addressed by SADC countries. States that have watercourses in their territory are expected to use the shared watercourses in a reasonable way, so as to ensure that current and future generations will benefit there from. States with watercourses need to use water reasonably, and they are expected to cooperate in the protection and development of watercourses. Even though states have sovereignty over their water resources in their territories and such sovereignty rights should not be infringed, the concept of sustainable use affects this right. This is by stating that watercourses should be used in a sustainable way so that even future generations may be able to benefit from the watercourses in their lifetime. This thus stresses that the PSNR principle is limited by the concept of sustainable use.

# 4.2.8 The Protocol on Forestry.

This protocol was adopted in 2002 but entered into force in 2009,<sup>222</sup> after the realisation that, in order to achieve development and economic growth in the SADC region there has to be sustainable utilisation of natural resources and effective protection of the

Anon Date Unknown http://www.sadc.int. See also *Revised Protocol on Shared Watercourses* 2000.

A 3 of Protocol on Shared Watercourses.

A 3 (b) of Protocol on Shared Watercourses.

A 7 (a) of Protocol on Shared Watercourses.

A 7 (b) of *Protocol on Shared Watercourses*.

A 3 of Protocol on Share Watercourses.

Anon Date Unknown http://www.sadc.int.

environment.<sup>223</sup> In this regard emphasis is put on forests as they are said to hold intrinsic value and played an important role in the functioning of the earth's ecological systems and maintenance of all forms of life,<sup>224</sup> hence their sustainable utilisation is essential, so as to benefit both present and future generations.<sup>225</sup> As earlier mentioned,<sup>226</sup>sustainable utilisation of forests as natural resources is one of the core objectives of this protocol and is emphasised in Article 4(3) which shows that forests should be used wisely and conserved so that they benefit both current and future generations.

Article 4(2) further declares the sovereign right of the SADC countries to use their forest resources to meet their environmental and sustainable development needs. The fact that the sovereign right mentioned in the above mentioned article<sup>227</sup> is subject to environmental and sustainable development puts a restriction on how far a SADC country can exercise such a right. As previously mentioned,<sup>228</sup> sustainable use is a component of sustainable development, in this instance as a result it means that sustainable use is supposed to be considered when using forest resources. This consequently puts a limit on the concept of PSNR.

## 4.3 Conclusion

This chapter has been a discussion on how the PSNR principle and the sustainable use principle are reflected in legislative documents (looking mainly at treaties and their protocols, regional strategies and plans) so as to facilitate the management of biodiversity in the SADC region. Regionally and sub-regionally the instruments that are adopted, try to carry the spirit of sustainable use and SADC state parties cooperate with

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The Preamble of the *Protocol of Forestry*.

The Preamble of the *Protocol of Forestry*.

A 3 of *Protocol of Forestry*.

See Chapter 3 at para 3.6.2 above.

A 4 (2) of the *Protocol of Forestry*.

See Chapter 3 at para 3.5 above.

each other while they are still respecting their individual sovereignty. These two principles co-exist and in their application both respected in order to achieve conservation and sustainable use of natural resources, to hopefully have future generations benefit from them as much as the present generation have and are still benefiting. It can therefore be concluded through the analysis of the legal framework that the PSNR principle is not absolute. The PSNR principle is limited by the concept of sustainable use, to the extent that states are allowed to freely use and dispose their natural resources as long as they do this sustainably for the successful conservation of biodiversity and protection of the environment.

## **Conclusions and Recommendations**

#### 5 Introduction

This chapter attempts to establish the extent in which sustainable use of biodiversity limits the PSNR principle in the SADC region. These two theoretical concepts, sustainable use and PSNR were scrutinised and looked at carefully so as to establish their individual roles in the SADC region. This was done to later examine how these concepts are supposed to work together so as not to undermine the value and importance of one principle over the other. This Chapter is a summary of the findings of this study and possible recommendations on how the SADC countries can exercise the PSNR principle in a fashion that will allow for the sustainable use of natural resources easily.

# 5.1 Findings

Post colonialism the PSNR principle is found to have its origins as a vessel for developing states to strengthen their economic position, by ensuring non-interference by colonialist states in their affairs. 229 This principle thus makes provision for independent states to be protected from interference of their economic sovereignty due to the property rights and or contractual rights claimed by other states or foreign companies.<sup>230</sup>

As earlier mentioned the PSNR principle gives rise to rights and duties of states when dealing with natural resources.<sup>231</sup> In the exercise of such rights, states have corresponding duties and or responsibilities to ensure that the environment is protected. This is where limits to the exercise of the PSNR principle begin to arise, as the global community recognises the need to work together to protect the environment. This is due to the fact that environmental issues are not confined to political borders. For instance trans-boundary pollution can occur in one area and then have its adverse effects felt in another place. This is what happened in the Trail Smelter<sup>232</sup> case which laid down the no harm principle.<sup>233</sup> This decision thus put some limitation on the PSNR principle.

In light of the right to free disposal, exploitation and use of natural resource a problem arises.<sup>234</sup> In that the single idea of exploitation of natural resources raises a concern that such resources will be depleted, this is if they are not used in a sustainable way.

<sup>229</sup> See Chapter 3 at para 3.4 above.

<sup>230</sup> See Chapter 3 at para 3.4 above. It is however noted that there arises a conflict between the PSNR principle and other principles like pacta-sunt servanda (which means agreements have to be observed) acquired rights, self-determination, the duty to cooperate for development and the right to development.

<sup>231</sup> See Chapter 3 at para 3.4 above.

<sup>232</sup> Trail Smelter Case (United States v Canada) 1941 Un Rep Int'L Arb Award.

<sup>233</sup> This principle points out to the responsibility of states to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. This is what is in Principle 21 of the Stockholm Declaration. See also Chapter 4 at para 4.1.1 above.

<sup>234</sup> See Chapter 3 at para 3.6 above.

Meaning that the usage of resources by present generations will affect the ability of future generations to use the resources so they can also meet their needs.<sup>235</sup>

The PSNR principle is enshrined in numerous international instruments, <sup>236</sup> it thus moved from the non-binding instruments (considered to be soft law documents) to binding documents as part of the conventions (considered to be hard law). <sup>237</sup> The PSNR principle later on attained the status of being a customary international law principle as confirmed by various judgements but reference is specifically made to the *Case Concerning Armed Activities on the Territory of the Congo (Democratic Republic of the Congo V Uganda)* as it was one of the first cases that declared the PSNR as such. <sup>238</sup>

This study has showed that as time progressed the PSNR principle evolved from being a rigid principle that declared non-interference in the use of natural resources, to a not so rigid principle that is affected and limited by other principles such as sustainable use in this instance. In its evolution it had to accommodate the developments of international law. Principles of international environmental law are thus seen to limit the international concept of PSNR. The sustainable use principle is defined in the CBD as maintaining fair distribution of resources and opportunity for this generation and the next generation. The sustainable use principle also forms part of various international environmental agreements are from the international, regional, and sub-regional levels, consequently rendering it to be a legal rule. Sustainable use reflects the minimum requirements of installing rational management plans which cater for the long term resource planning and cooperating for joint international monitoring systems.

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See Chapter 3 at para 3.6 above.

See Chapter 3 at para 3.4 above.

See Chapter 3 at para 3.4 above.

<sup>238</sup> See Chapter 3 at para 3.4 above

See Chapter 3 at para 3.4 above.

See Chapter 3 at para 3.6 above.

See Chapter 3 at para 3.5 above.

For example A 10 of the CBD and the preamble of the *Algiers Convention*.

Beyerlin and Marauhn *International Environmental Law* 118.

See Chapter 3 at para 3.5 above.

Like the rest of the global community, the SADC countries acknowledge that ensuring that there is access to natural resources through long term management plans of using natural resources wisely is significant. Developing countries<sup>244</sup> can achieve this by engaging in efforts of promoting environmental protection and conservation as natural resources are the back bone of every economy.<sup>245</sup>

The most significant finding of this study is that the principle of sustainable use does limit the PSNR principle in the SADC region. This is to the extent that every time the PSNR principle is exercised by the SADC member states, such states are mandated to bear in mind to use natural resources prudently, by the sustainable use principle as shown throughout this study.<sup>246</sup> As earlier mentioned, biodiversity resources contribute significantly to the SADC region's GDP and are used to support the livelihood of the poor citizens in the SADC countries.<sup>247</sup> The sustainable use of these biodiversity resources then restricts the concept of the PSNR in the SADC region. This is also through the acknowledgement that successful conservation and sustainable use of the region's natural resources relies on trans-boundary cooperation. Therefore in order for the SADC countries to attain social economic development they cannot act on their own by exercising the PSNR as a pure concept. They need to cooperate when dealing with biodiversity issues as these biological resources transcend national boundaries. This will thus ensure that the current SADC community and their future generations benefit from such natural resources. This indicates that the use and application of these two principles (PSNR and sustainable use) are linked and they need to work hand in hand so as to achieve sustainable development for the SADC community as a whole. This study has illustrated that sustainable use in the SADC region does erode on the PSNR principle. It thereby influences the PSNR principle by putting limits to it, therefore rendering the PSNR principle not absolute.<sup>248</sup>

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Including the SADC countries.

See Chapter 3 at para 3.5 above.

See Chapter 3 at para 3.6 above.

See Chapter 1 at para 1.2 above.

See Chapter 3 at para 3.6 above.

## 5.2 Recommendations

In order to change the traditional approach when dealing with the PSNR principle, so as to strike a balance between it (PSNR) and sustainable use, it is recommended that the concept of custodial sovereignty be used instead of PSNR when referring to shared natural resources. Custodial sovereignty relates to the notion of conservation being a common concern of human kind as stated in the preamble of the CBD. This does not mean that PSNR is not important. It only means that the PSNR principle is not an absolute concept and it should be balanced against the notion of common concern of human kind.<sup>249</sup> This interpretation will lead to a more clear understanding of the PSNR principle that acknowledges the significance of co-operation and inter-dependence of the global community in achieving sustainable use of shared natural resources. This reinforces the fact that there is a mutual duty on the global community to act collectively in the management of natural resources so as to achieve sustainable use, as natural resources do not know political boundaries.<sup>250</sup>

This is why under custodial sovereignty a state acts as the custodian of natural resources in its territory. Such state therefore has obligation to protect natural resources, breaching this obligation could cause harm to the global environment. The concept of custodial sovereignty therefore has a more flexible nature encompassing sustainable use as opposed to the PSNR principle which is a bit rigid and needs sustainable use to limit it. The concept of custodial sovereignty should thus be accepted in international law as it seems to address modern global environmental challenges. Custodial sovereignty should be used in international instruments relating to the use of

<sup>&</sup>lt;sup>249</sup> Scholtz 2005 *MgJICEL* 9-30.

See Chapter 2 at para 2.5 above.

See Chapter 2 at para 2.5 above.

<sup>&</sup>lt;sup>252</sup> Scholtz 2005 *MqJICEL* 9-30.

Scholtz 2005 *MqJICEL* 9-30.

natural resources. This way it (custodial sovereignty) will begin to be more accepted and its implications understood by the international community (specifically states in this instance). It is however acknowledged that the fact that international instruments are only binding to those signatory to them, this may present a challenge of some states not taking heed of the importance in application of the concept of custodial sovereignty if they are not parties to such conventions.

## 5.3 Conclusion

The influence of the sustainable use principle on the PSNR principle is very important as it basically safe guards the use of natural resources in a sustainable manner. It mandates the state within its sovereignty to respect natural resources. It also reminds the state that since the natural resources are important for sustaining human life, it is therefore really important to have human beings living presently to use natural resources rationally. In order for their descendants to also have the opportunity of benefiting from the same resources they are currently benefiting from, as the international community seeks to promote the concept of sustainable development. Sustainable use as a principle of sustainable development is therefore an international concern, where the international community has to work hand in hand in order to achieve it. This can only be achieved with cooperation of the SADC countries, as they have similar resources and others migrate between their borders, thus allowing them to be at the disposal of different countries. Another way to accomplish sustainable development is through the restriction and limitation of the PSNR principle which is what happens in the SADC region as indicated by this study.

# **BIBLIOGRAPHY**

### Literature

Afigbo et al The Making of Modern Africa

Afigbo AE et al *The Making of Modern Africa* 2<sup>nd</sup> ed (Longman Group UK 1986)

Beyerlin and Marauhn International Environmental Law

Beyerlin U and Marauhn T *International Environmental Law* (Hart Publishing, North America 2011)

Birnie and Boyle International Law and the Environment

Birnie P and Boyle A *International Law and the Environment* 2nd ed (Oxford University Press New York 2002)

Bowman and Redgwell International Law and the Conservation of Biological Diversity

Bowman M and Redgwell C International Law and the Conservation of Biological Diversity (Kluwer Law International The Hague Netherlands 1996)

CBD Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review

CBD Linking Biodiversity Conservation and Poverty Alleviation: A State of Knowledge Review 2010

Collins and Burns A History of Sub-Saharan Africa

Collins RO and Burns JM *A History of Sub-Saharan Africa* (Cambridge University Press 2007)

Czech "Urbanisation as a Threat to Biodiversity: Trophic Theory, Economic, Geography and Implications for Conservation Land and Acquisition"

Czech B "Urbanisation as a Threat to Biodiversity: Trophic Theory, Economic, Geography and Implications for Conservation Land and Acquisition" (Paper Presented in the Proceedings of a Symposium at the Society for Conservation Biology 2004 Annual Meeting)

Earle and Malzbender Water and the Peaceful, Sustainable Development of the SADC Region

Earle A and Malzbender D Water and the Peaceful, Sustainable Development of the SADC Region (African Centre for Water Research Cape Town South Africa 2007)

Hofbauer The Origin and Evolution of the Principle of Permanent Sovereignty Over Natural Resources

Hofbauer JA *The Principle of Permanent Sovereignty Over Natural Resources* and Its Modern Implications (LLM- Master Degree Thesis University of Iceland 2009)

Hornby 2010 Oxford Advanced Learners Dictionary

Hornby AS Oxford Advanced Learners Dictionary (Oxford University Press 2010)

lliffe Africans: The History of the Continent

Iliffe J *Africans: The History of the Continent* 2<sup>nd</sup> ed (Cambridge University Press 2007)

Kidd Environmental Law

Kidd M *Environmental Law* 2<sup>nd</sup> ed (Juta Cape Town 2012)

Mensah and Castro Sustainable Resource Use and Sustainable Development: A Contradiction

Mensah AM and Castro LC Sustainable Resource Use and Sustainable Development: A Contradiction (University of Bonn 2004)

Michalopoulos and Papaioannou 2011 The Quarterly Journal of Economics

Michalopoulos S and Papaioannou 2011 "The Long-Run Effects of the Scramble for Africa" The Quarterly Journal of Economics

Mugadza Biodiversity Conservation Through Transfrontier Conservation Areas (TFCAS) and the Rights of Local Communities: Reconciliation Through Sustainable Development

Mugadza AT *Biodiversity Conservation Through Transfrontier Conservation Areas (TFCAS) and the Rights of Local Communities: Reconciliation Through Sustainable Development* (LLM-dissertation NWU 2012)

Olowu International Law: A Textbook for the South Pacific

Olowu D *International Law: A Textbook for the South Pacific* (CD Publishing Washington 2010)

Pimm and Raven 2000 NATURE 843-845

Pimm SL and Raven P "Biodiversity extinction by numbers" 2000 NATURE 843-845.

Sands Principles of Environmental Law

Sands P *Principles of Environmental Law* 2<sup>nd</sup> ed (Cambridge University Press New York 2003)

Saurombe 2012 PELJ 456

Saurombe A "The Role of SADC Institutions in Implementing SADC Treaty Provisions Dealing with Regional Integration" 2012 PELJ 454-48

Scholtz 2005 MgJICEL 23

Scholtz "Animal Culling: A Sustainable Approach or Anthropocentric Atrocity" 2005 MqJICEL 9-30

Schrijver. Sovereignty Over Natural Resources: Balancing of Rights and Duties

Schrijver N Sovereignty Over natural Resources: Balancing of Rights and Duties (Cambridge University Press New York 1997)

Siguard and Luhanga "SADC Sub-Regional Workshop on Forest and Tree Genetic Resources"41-42

Siguard P and Luhanga J "SADC Sub-Regional Workshop on Forest and Tree Genetic Resources" in Forest Genetic Resources No.28 FAO 2000 41-46

Sirota 2004 Chicago Journal of International Law 343.

Sirota B "The SADC's Troubled Past and Its Desired Future" 2004 Chicago Journal of International Law 343-353

Stokes Europe and the Modern World 1870-1983

Stokes J and G *Europe and the Modern World* 1870-1983 2<sup>nd</sup> ed (Longman Group England 1984)

Strydom and King Fuggle and Rabies's Environmental Management in South-Africa

Strydom HA and King ND Fuggle and Rabies's Environmental Management in

South-Africa 2<sup>nd</sup> ed (Juta Cape Town 2009)

Swatuk The New Water Architecture in Southern Africa Reflections on Current Trends

Swatuk LA The New Water Architecture in Southern Africa Reflections on

Current Trends (Department of Political and Administrative Studies University of

Botswana 2002)

Weiss 1992 American University International Law Review 22

Weiss E B 1992 "In Fairness to Future Generations and Sustainable Development" American University International Law Review 19-26

Wittenberg and Cock Invasive Alien Species: How to Address One of the Greatest Threats to Biodiversity: A Toolkit of Best and Management Practices Wittenberg R and Cock MJW 2001 Invasive Alien Species: How to Address One of the Greatest Threats to Biodiversity: A Toolkit of Best and Management Practices CAB International

World Resources Institute 2005 Millennium Ecosystem Assessment

World Resources Institute 2005 Millennium Ecosystem Assessment "*Ecosystems* and Human Well-being- Biodiversity Synthesis" Washington DC

#### Case law

Trail Smelter Case (United States v Canada) 1941 Un Rep Int'L Arb Award

Case concerning armed activities in the Congo (Democratic Republic of Congo v Uganda) ICJ 2005 168

Military and Paramilitary Activities in and against Nicaragua (Nicaragua v U.S) 1986 ICJ 14 100

#### **International Instruments**

African Convention on the Conservation of Nature and Natural Resources (1968)

Convention on Biological Diversity (1992)

Convention on the Conservation of Migratory Species of Wild Animals (1979)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (1979)

Convention on Fishing and Conservation of the Living Resources of the High Seas of (1958)

International Covenant on Civil and Political Rights (1966)

International Covenant on Economic, Social and Cultural Rights (1966)

New Delhi Declaration of Principles of International Law Relating to Sustainable Development (2002)

Rio Declaration on the Environment and Development (1992)

SADC Protocol on Forestry (2002)

SADC Protocol on Wildlife Conservation and Law Enforcement (1999)

SADC Revised Protocol on Shared Watercourses (2000)

SADC Regional Biodiversity Strategy (2006)

SADC Regional Water Strategy (2006)

SADC Treaty (1992)

Stockholm Declaration on the Human Environment (1972)

United Nations Framework Convention on Climate Change (1992)

#### **Internet Sources**

Anon Date Unknown http://www.sadc.int

Anonymous Date Unknown About SADC http://www.sadc.int [date of use 27-May-2014]

Anon Date Unknown http://www.sadc.int

Anonymous Date Unknown Biodiversity http://www.sadc.int [date of use 28-May-2014]

Anon date Unknown http://www.southafrica.info

Anonymous Date Unknown The Southern African Development Community http://www.southafrica.info [date of use 05-july-2014].

Anon 2006 http://www.globalchange.umich.edu

Anonymous 2006 Threats of Biodiversity http://www.globalchange.umich.edu [date of use 07-July-2014].

Anon Date Unknown http://www.mnr.gov.on.ca

Anonymous Date Unknown Threats to Biodiversity http://www.mnr.gov.on.ca [date of use 07-July-2014].

Anon Date Unknown http://www.businessandbiodiversity.org

Anonymous Date Unknown Biodiversity Quotes http://www.businessandbiodiversity.org [date of use 08-July-2014].

Anon date Unknown http://www.sadc.int

Anonymous Date Unknown History and Treaty http://www.sadc.int [date of use 23- July-2014].

Anon Date Unknown http://www.historywithmrgreen.com

Anonymous Date Unknown The scramble for Africa http://www.historywithmrgreen.com [date of use 18- September-2014].

Anon Date Unknown http://www.environment.gov

Anonymous Date Unknown Genetic Resources http://www>environment.gov [date of use 25-August-2013].

Anon Date Unknown http://www.cites.org

Anonymous Date Unknown What is CITES http://www.environment.gov [date of use 26- August 2013].

Anon 2014 http://www.myfwc.com

Anonymous 2014 Highly Migratory Species http://www.myfwc.com [date of use 01-September-2014]

Chirisa 2011 http://www.dounia.risti.net

Chirisa I 2011 National Identity and the Question of Sovereignty in the SADC Regional Bloc: Rhetoric Experiences and the way Forward. http://www.dounia.risti.net [date of use 27-May-2014]

Hens and Boon 2003 http://meko.vub.ac.be

Hens L and Boon EK 2003 Causes of Biodiversity Loss: A Human Ecological Analysis http://meko.vub.ac.be [date of use 23-April-2015]

Lowe et al 2000 http://www.is.sg.org

Lowe S et al 2000 100 of the World's Worst Invasive Alien Species A Selection form the Global Invasive Species Database http://www.is.sg.org [date of use 23-April-2015]

Roosevelt 1907 http://www.pbs.org

Roosevelt T1907; The Conservation of Natural Resources http://www.pbs.org [date of use 02-July-2014].

Shah 2014 http://www.globaluses.org

Shah A. 2014 Environmental Issues http://www.globaluses.org [date of use 03-July-2014].

Wetang'ula 2009 http://www.o.s.is.

Wetang'ula G.N. 2009 Biodiversity Conservation and Loss: International Legal Mechanism for Management http://www.o.s.is.[date of use 03-April-2015]