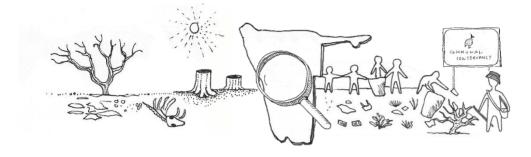


# TEACH for ESD



# ENVIRONMENTAL ISSUES IN NAMIBIA

# **OVERVIEW**

Having a thorough understanding of the global environmental crisis is essential for ESD educators – it is the 'big picture'. However, these environmental problems affect every country differently – **how do they impact Namibia?**How do they threaten *our* ecosystem services?

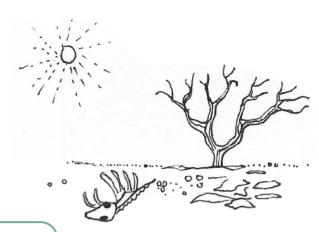
Adjusting **our focus from 'global' to 'local'**, here we delve into some (by no means all) of the main **environmental issues** that are relevant to Namibia:

- CLIMATE CHANGE
- LAND USE CHANGE
- POLLUTION
- WATER SCARCITY
- BIODIVERSITY LOSS

As we look at the **challenges** of each environmental issue, we need to examine the underlying socio-economic influence, interconnectedness of the issues – the wicked problems - and recognise that our **responses** must address these as part of the solution. Responses are diverse such as policy, education, advocacy, local actions and financing.

# 1. CLIMATE CHANGE

Due to Namibia being a semi-arid country, it is acknowledged as one of the **countries most vulnerable** to the impacts of climate change. A global temperature increase of 1.5°C is predicted to impact Namibia in many ways, including longer and more regular heat waves.



RESOURCE CHECK

See the infographic **Namibia is Heating Up** and the *NASA* database which shows a **Climate Time Machine**.

A change in climate for our country's already **extreme weather** patterns will have severe implications on the environment, population and the economy. Even though Namibia is one of the lowest greenhouse emitters globally, our CO<sub>2</sub> emissions have gradually increased since Independence.

In 2019, Namibia produced **1.67 t** of CO<sub>2</sub> emissions/ person. The world average was **4.72 t**.
OUR WORLD IN DATA



The What Global Warming of 1.5°C and Higher Means for Namibia factsheet gives a detailed overview of impacts predicted for the country.

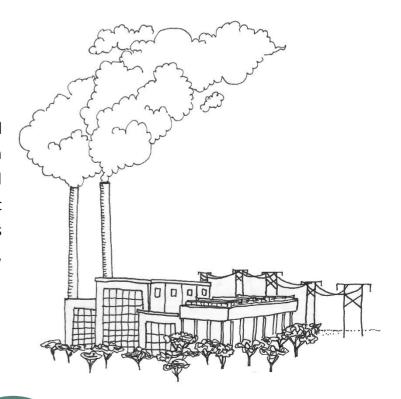
RESOURCE CHECK

For an overview of the entire region, see Climate Risk and Vulnerability: A Handbook for Southern Africa.

# 1.1 CHALLENGES

### **ENERGY SECURITY**

Namibia heavily relies on **non-renewable fossil fuel energy** for the production of electricity, in transportation and throughout the industrial sectors. Many rural communities are still left without modern forms of energy, such as electricity, and collect firewood for cooking, contributing to **deforestation**.



### **ECONOMIC DEVELOPMENT**

Namibia depends on its natural resources for development and economic growth. The impacts of climate change already affect many of these sectors, which in turn has begun to have a **ripple effect** throughout the economy. This may stunt economic growth, thereby putting further pressure on generating the finances for sustainable responses to climate change on a national level, but also by local businesses and private individuals.



Read up on the impacts of climate change on our economy in the research article:

Climate Change and Global Warming in Namibia.







### **FOOD PRODUCTION & WATER RESOURCES**



During the last drought (2012-2020), Namibia's vulnerability to the lack of rainfall directly impacted communities nationwide, ensuing in the loss of crops, livestock and wildlife. These droughts will increase and become more severe with the impacts of climate change. **Without a shift in food** production systems, farmers will be **ill-equipped** to cope with climate change impacts in the years to come, which threatens all of our food security.



Watch these short video clips from **Think Namibia** about **Climate Change** and **Climate Smart Agriculture**.





### **EDUCATION**

Communities across the country often **lack access** to climate change education, which is crucial to make sustainable resource-use decisions from a ground level. In addition, many political and investment **decisions are made without taking climate change** into consideration, questioning the comprehension of the issue in higher decision-making levels as well.



As educators we also may not fully understand the science behind climate change. This article *Teaching Climate Change* (pgs. 4-13) in *American Educator* gives a good, understandable explanation that can also be used to teach secondary school learners.



How well
do you
understand
the science
behind climate
change?

### 1.2 RESPONSES

Namibia's responses to the climate crisis are aimed towards mitigating (reducing) greenhouse gases and/or towards adapting to the effects of climate change.



Watch the 30-minute documentary from the Ministry of Environment, Forestry and Tourism on **Namibia's National Response to Climate Change** to learn about the country's actions.

#### **POLICY**

From the initial national commitment in 1995 when Namibia signed the United Nations' Framework Convention on Climate Change (UNFCCC), there have been consistent political steps taken to address



Change Committee (NCCC). This includes the National Climate Change Policy (2011) and its Strategy and Action Plan (2013-2020), which aim to develop the adaptive capacity of the Namibian population. Then a year later, the Disaster Risk Management Act (2012), which specifically addresses events that occur as a result of climate change.



To learn more, review the National Climate Change Strategy & Action Plan



For a background and timeline of Namibia's Climate Change responses on a political level see pgs. 4-6 in *Commemorating 20 Years of Tackling Climate Change in Namibia, 1995-2015*.

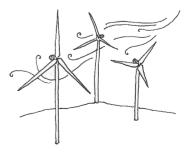
### **ENERGY SECTOR**

Response from the energy sector has been multi-pronged. The Centre for Renewable Energy and Energy Efficiency (CREEE) was established to further Namibia's development in these fields. Initiatives include construction of large **solar electricity parks** that feed into the national grid, as well as initiatives to encourage installation of household systems. In addition to solar, a **wind farm** has been built in the windy area of Lüderitz. Although wide-spread electric vehicle use will still take some time, there are several e-vehicles driving around in Windhoek traffic.





To get a deeper understanding of Namibia's energy sector and the potential for renewable energy, refer to the book **REEE- Powering Namibia** and the **Think Namibia** video and factsheet on **Renewable Energy**.



### FINANCING FOR SUSTAINABLE LIVELIHOODS

Investment in climate resilient agriculture has been one of the focal areas of national government. This has been made possible through the **UN Green Climate Fund** managed by the Environmental Investment Fund (EIF) of Namibia. The multi-stakeholder project, "Namibia Integrated Landscape Approach for Enhancing Livelihoods and Environmental Governance to eradicate poverty" (NILALEG) aims to strengthen integrated landscape management to maintain forests, biodiversity and promote nature-based livelihoods. Various other **green schemes** in rural areas have aimed to integrate climate resilience in their project design and to improve rangeland and ecosystem management practices.



Read the article **NILALEG: Financing for Sustainability in Namibia**, to see how the international funding is being directed to improving sustainable livelihoods.

### **EDUCATION & ADVOCACY**

Climate change education has been an important component for the NGO sector in Namibia. The Think Namibia project was focused directly on **raising environmental awareness** and developed many resources using multiple forms of media including videos, podcasts, posters and books. These valuable resources are highlighted throughout this Toolkit. An earlier capacity building initiative under the Africa Adaptation Programme focused on building Climate Change Ambassadors and developed a set of **region-specific resources** for communities.



Advocacy for environmental justice, especially **climate justice**, is currently only a small part of civil society's response to climate change. The National Youth Climate Change Coalition (NYCCC) is a dominant voice to protest against climate destructive decisions.



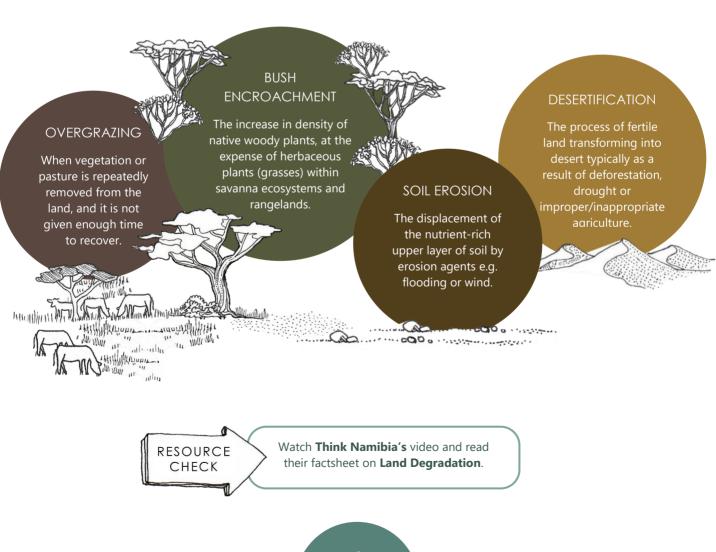
# 2. LAND USE CHANGE

The term 'land use' refers to how an area of land is used by humans. **Land use change** is the process whereby an area of land is converted from one use to another – including the transformation of natural areas into 'useful' human areas, e.g. savanna grasslands being replaced by croplands or urban settlement. In Namibia, some of the main land use changes are due to **agriculture**, **wood harvesting**, **mining and urbanisation**. As we transform natural areas, we are losing their biodiversity and the ecosystem services they provide.

### 2.1 CHALLENGES

### UNSUSTAINABLE AGRICULTURAL PRACTICES

In Namibia, much of the land use change has been in the form of **natural land converted** to agricultural land – both crop and livestock. To clear land for agriculture, many trees are cut down causing deforestation and habitat loss. Poor livestock management in vast areas has led to overgrazing, bush encroachment, soil erosion and desertification.



### **WOOD HARVESTING**

Wood remains the main energy source for about 60% of Namibian households. In the Zambezi region particularly, 80% of all dwellings are made from wood and 96% of people there depend on wood for fuel. In addition to land clearing for agriculture, there is also a **significant increase in clear cutting** of old forests for commercial timber export - all contributing to deforestation.



To better understand land use change in a local context, read the study of *Land Use Change in Zambezi*. Also check out the presentation on the **State of Forestry in Namibia** to inform yourself on the environmental impacts.



### MINING

Namibia's mining sector is a heavily regulated industry; however, its environmental impacts include permanent scarring of the landscape, intense water usage, high volumes of wastewater and potential contamination of soil and water sources. Due to the boom in the construction industry, there is also a significant increase in **sand-mining** nationwide. Sand is a non-renewable resource and its mining is mostly unregulated resulting in several significant environmental concerns including hazardous open pits and soil erosion in the middle of residential areas.



For a more in-depth understanding of the issue, read **pgs. 15-18** about sand-mining in *Depleting Natural Capital*.

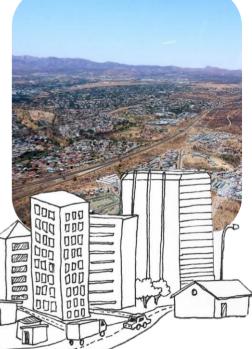


### URBANISATION

Urbanisation is the movement of people from rural to urban areas. In Namibia, many people move to larger towns and cities as these offer more job opportunities and access to more services. Municipalities and local councils have been challenged to meet the needs of this **rapidly increasing urban population**; especially for land and affordable housing. Many people end up living in informal settlements where they have little to no access to sewerage systems, waste disposal facilities, electricity and/or clean drinking water. Already, more than half of Namibia's population now resides in urban areas.



Housing in Namibia:
Rights, Challenges and
Opportunities
gives a broad perspective
on this issue.



### 2.2 RESPONSES

Namibia's response to land use change to date is varied. Responses need to address past injustices and, therefore, balance development needs and social justice with environmental protection. These responses aim to apply the principle of sustainable utilization and are often linked closely to climate change responses.



# ENVIRONMENTAL MANAGEMENT ACT

(Act No. 7 of 2007)

Under the custodianship of the Ministry of Environment, Forestry and Tourism (MEFT), it has made provision for establishing regulatory functions of government including the Environmental Commissioner, Environmental Impact Assessments and Clearance Certificates and the Sustainable Development Advisory Council (SDAC).



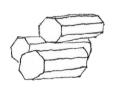
Read the user-friendly Guide to the Environmental Management Act.

### **CONSERVATION AGRICULTURE & RANGELAND MANAGEMENT**

Policies, such as Conservation Agriculture and the National Rangeland Management Policy & Strategy, together with training programmes are being implemented to improve climate adaptation whilst increasing economic output of land.

Extensive scientific research aims to develop improved practices and sustainable, value-added products from Namibia's dry climate farmland, such as the charcoal and bush-to-fodder industries, which use encroacher species. It also includes industrial companies, such as Ohorongo Cement and Namibian Breweries, who are using bush biomass for energy purposes. The De-bushing Advisory Service (DAS) is a national information platform that provides technical and monitoring support.





However, as with most sustainable development issues, there are trade-offs. Solutions to one problem may lead to new problems that are often only seen later. Research towards successful rangeland restoration, climate change mitigation and the management of an upscaled bush biomass sector is being done.



For a great example of how Namibia has turned the bush encroachment issue into a productive and positive initiative, watch the video **Turning Bush into Fodder – Bush Control Namibia.** 



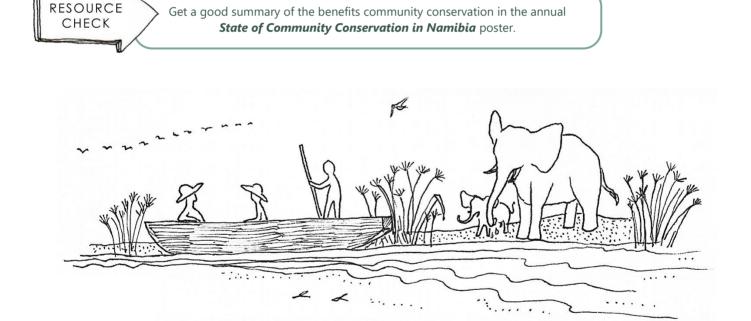
Read the **Policy Brief - Greenhouse Gas Assessment of Bush Control and Biomass Utilisation in Namibia** to gain a clear understanding of how bush biomass is used in Namibia and appropriate bush control practices whilst still sustaining socio-economic activities.

The Conservation Agricultural programmes aim to achieve more sustainable and climate change resilient farming methods. There have been varying levels of success in this regard.



### COMMUNITY BASED NATURAL RESOURCE MANAGEMENT (CBNRM)

Namibia is a pioneer in Community Based Natural Resource Management (CBNRM) and prides itself in having more than **40% of the land under conservation protection**, including communal land. The now well-established communal conservancy system in Namibia has brought direct benefits to thousands of rural Namibians and has given economic value to nature conservation through ecotourism and regulated trophy hunting. NACSO, an umbrella body, provides coordination, reporting and support.



As with the communal conservancies, the community forests are well-established and are run by a management committee. One of the many benefits is the sustainable utilization of forest resources, including the wood crafters sector.



### SUSTAINABLE TOWN PLANNING

As much as urbanisation can be a challenge, it can also **offer a solution to further land use change**. As populations live closer together, Namibia can become more efficient in providing services such as transportation, education, health care and food.



Windhoek, as Namibia's capital city and most burdened with unsustainable urban sprawl, has embarked on the "Move Windhoek: its Sustainable Urban Transport Master Plan". Other municipalities, such as Swakopmund, have placed efforts into **improving town planning**.



On a smaller, yet increasing scale, Ebikes4Africa has developed a locally-made **e-bicycle** and operates an e-bike delivery service in Windhoek.

Other projects from NGOs and CBOs include community gardens, Community-led Total Sanitation (CLTS) campaigns, neighbourhood watch programmes and entrepreneur start-up hubs. Such **innovations** are required for Namibia to meet the various needs of urban residents.



# 3. POLLUTION

Pollution is any **harmful or poisonous substance** introduced into an environment. There are many different forms of pollution such as land, water, air, light and noise, which are often interlinked with one another. Pollution contributes directly to the environmental crisis and causes health risks for humans.

# 3.1 CHALLENGES

### LAND POLLUTION



As more of the population adopts modern lifestyles that are wasteful, more waste is produced. **Solid waste** is produced by both industries (the producers of consumer items) and households (the end consumer). This waste ends up in landfills (which release the greenhouse gas methane) if it is not recycled; or it is simply littered, causing pollution.

**Plastic pollution** especially is an issue as it does not degrade. It affects our local ecosystems and, on a global scale, it causes a crisis for marine ecosystems, e.g. microplastics that are mistaken for food.



Check out the poster on **The Challenge of Plastics in Namibia** and **pgs. 16 and 18** of **The Ocean Atlas.** 



### AIR POLLUTION

In Namibia, air pollution is a more localized problem and does not compare to the scale of other countries. Nevertheless, by depending on coal-produced electricity and using road traffic for most transportation purposes, we are contributing to air pollution. Contributors to **poor air quality** in Namibia include food processing and solid waste burning. On a household level, indoor open fire cooking and heating is a significant **health hazard**, especially for women and children.

### **LIGHT & NOISE POLLUTION**

As Namibia becomes more urbanised and crime continues to be a problem, more lights that are brighter and **unshielded** are installed. This causes light pollution, which is disruptive to surrounding habitats. In areas with bars and shebeens - often illegal - noise pollution has become a pressing problem, which goes unchecked due to **insufficient regulations**.

### LIGHT POLLUTION

Artificial light in the night environment that is excessive and/ or misdirected.

### WATER POLLUTION

Large scale water pollution is caused by fertilizers, untreated sewage and inappropriate dumping of oil and hazardous waste. On a smaller scale, and most often in rural areas, water sources may be polluted due to everyday activities, such as washing laundry directly in rivers.



Watch Think Namibia's Water Pollution video and read their factsheet.

## 3.2 RESPONSES

Responses to pollution have concentrated more on the urban areas, but are mostly unresolved on a national scale. Most of these responses have been focused on solid waste pollution, with only limited initiatives focused on the other forms of pollution.

### **POLICY**

The Ministry of Environment, Forestry and Tourism has developed a **National Solid Waste Management Strategy** and have introduced legislation to ban all plastic bags in national parks, as well as a levy of 50 cents per shopping bag nationwide. Several municipalities have also developed solid waste plans to better manage their landfills.



Read the **National Solid Waste Management Strategy**.

These policies are a first step in addressing a growing problem, but with only a small positive impact as most consumers still take a plastic bag – even though they must pay!

### **ZERO-WASTE**

The creation of pollution is easy; however, once there, its removal requires financial and human resources. The concept of **zero-waste** therefore aims to not even create the problem in the first place.

# ZERO WASTE

Redesign of products to ensure re-use and thereby prevent waste.

Inspired by the international zero-waste movement, a handful of zero-waste shops have opened up in Windhoek and Swakopmund, where locals can buy unpackaged produce and food staples. Some large brand stores have reduced their packaging in their effort to achieve zero waste.

PLASTIC N



### **CLEAN-UP DAYS**

Clean-up days have been a local response for many years. In September 2019, an **annual national clean-up day** was declared. These initiatives have an important impact on national attitude, but usually only a short-term environmental impact, as there are insufficient facilities provided for proper waste disposal and law enforcement.

The Recycle Namibia Forum (RNF) is membership-based organization driven by industry to improve conditions for recycling. RNF has coordinated clean-up campaigns, a school recycling competition and a green directory.





Check out the Recycle Namibia Forum's **Green Directory** and **Clean Up**Campaign Guidelines in section 3 of the Toolkit

### **RECYCLING & WASTE-TO-ENERGY**

There is a small local economy focused on collecting recyclables, as well as, **upcycling**.

Although there are several companies in Namibia focused on recycling, Rent-a-Drum is the largest waste management company in Namibia, with a main **recycling plant** in Windhoek and collecting and sorting plants in Swakopmund and Rundu.

### **UPCYCLE**

To reuse something that is waste to create a product of higher quality or value.



Read the *RNF's* document **Paving the Way for Recycling** to get an overview of challenges in the field.









The Ohorongo cement factory has **found a use for non-recyclable**, low-value plastics and Styrofoam by burning them at high temperatures creating energy for cement production.



Watch the video on **Ohorongo Cement Factory** that uses what would otherwise end up on a land fill or as litter, as an alternative energy source.

# 4. WATER SCARCITY

Namibia is one of the most arid countries in sub-Saharan Africa. Water is scarce due to high evaporation rates and low annual rainfall. Perennial rivers are only found along international borders and are located far from central areas, where there is the greatest demand. As a result, Namibia relies **heavily on groundwater reserves**, both ecologically and economically.

# 4.1 CHALLENGES



### **SUPPLY**

Namibia's water reserves are constantly **under pressure** due to the low recharge rate (only 1%), water pollution and vulnerability to regular drought. The impacts of climate change, such as increased temperatures and wind, further threaten this limited resource due to increased evaporation. Land-use change has reduced the already low groundwater recharge from rainfall. One example of this is the impact of bush encroachment on the recharge rate.



There are still areas in the country that do not have **consistent access** to clean water. Some people walk far distances to collect water; some underground water is too brackish; rainy season interferes with wells; unprotected wells can lead to deterioration of water quality.



Many buildings have old, broken water infrastructure resulting in massive water loss through lack of maintenance, further hampering to sustainably supply the nation with clean water. Unfortunately, lack of education and a general attitude that water should be free causes unnecessary water wasting. Another challenge directly linked to water supply is the provision for adequate sanitation infrastructure.

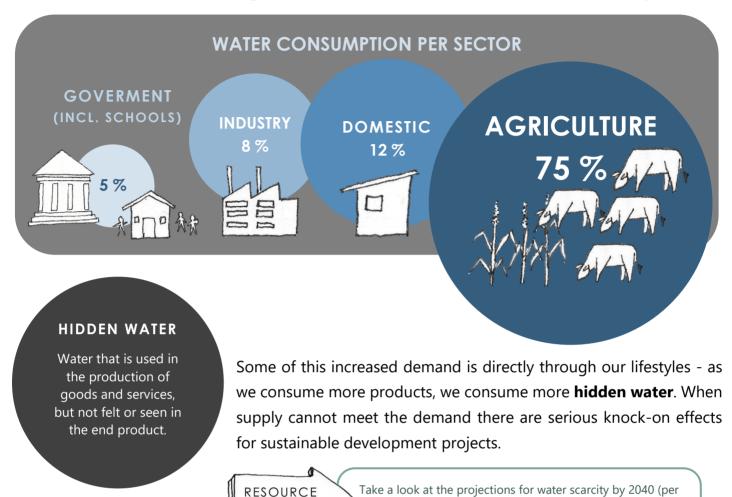


For an overview of Namibia's water status, review the Integrated Water Resources Management -Survey and Status Report.



### **DEMAND**

With development and population growth, the **demand for freshwater** continues to rapidly increase.

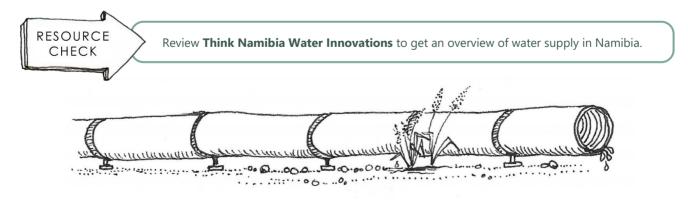


### 4.2 RESPONSES

Overall, access to water has improved since Independence; however, the responses to the challenges have been varied. Water supply and management differs for rural compared to urban areas, as well as between domestic and commercial use. The sector is guided by the Water Resources Management Act (2004) and uses the **Integrated Water Resource Management (IWRM)** approach.

CHECK

country) in the Water Stress Scenarios 2040 World Map.



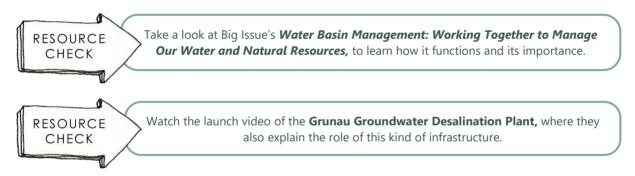
### **URBAN AREAS**

To supply water to urban areas a variety of approaches are used. The **inter-basin transfer schemes** have been developed to transfer water from catchment basins of higher rainfall and groundwater reserves to areas of high demand - where there is typically a lack of water, such as Windhoek. The Goreangab Reclamation Plant in Windhoek has been a pioneer in direct potable **water reclamation**. It is the first city in the world to produce drinking water directly from municipal wastewater; essential to sustain growing urbanisation in the country. At the coast, a portion of the water supplied is from a **reverse osmosis seawater desalination plant**, the largest in southern Africa. The potential of developing this source of fresh water is significant, yet has many physical barriers and environmental considerations.



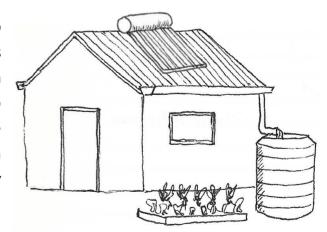
### **RURAL AREAS**

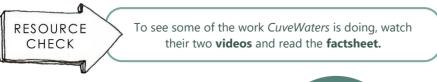
In rural areas, water basin committees have been established to manage their local water resources. These committees involve local residents, local government and the national water authority responsible for the area. Some of these communities have also benefited from localized desalination.



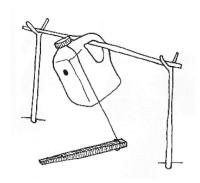
### **AGRICULTURE**

The agricultural sector has adopted practices such as drip irrigation and hydroponics, as highlighted in previous sections, to become more climate resilient. In Northern Namibia, the CuveWaters project did extensive work to support local farmers to use water resources more efficiently from flood waters; they focussed on **extending the water availability** for crops into the dry season through improved storage.





### **TECHNOLOGY & INNOVATION**



There is still much to be done to respond to water efficiency, such as adopting new technologies.

The Covid-19 Pandemic has highlighted the need for innovative responses to supplying sufficient, clean water and sanitation. The Tippy-Tap is an example of how Namibia has quickly adapted to a more sustainable way of managing the limited resource.

### **EDUCATION**

"Water is Life" is a common theme in Namibia's curriculum for school children. Many schools have implemented water saving systems such as water bottles or cups instead of a flowing tap. **World Water Day** is celebrated annually; several competitions to promote water awareness have been conducted, such as the City of Windhoek essay and drawing contest in 2021.



# 5. BIODIVERSITY LOSS

Most of the environmental issues above are connected and eventually contribute to biodiversity loss; this is primarily due to the **loss of habitat**. We often only focus on large 'megafauna' species, such as lion, rhino and elephants, as these capture our attention. However, population changes in one species affects all others in the ecosystem (e.g. deforestation leads to reduced habitat for birds, reptiles and insects).



# BIODIVERSITY LOSS

A decrease in biodiversity within a species, an ecosystem or the Earth as a whole.

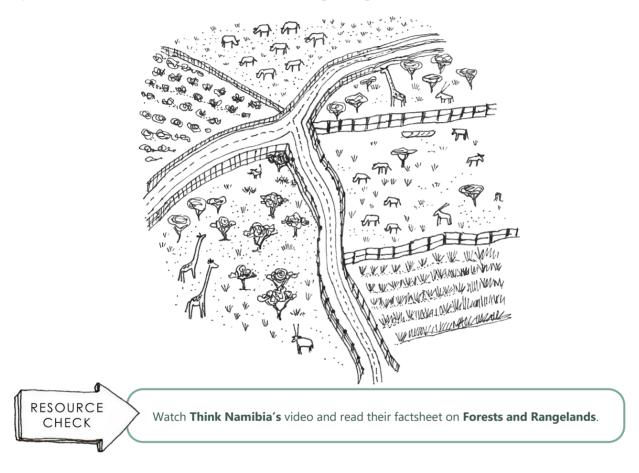


### 5.1 CHALLENGES

The majority of the previously described challenges affect the health of biodiversity. Additionally, there are other direct contributors to biodiversity loss.

#### HABITAT LOSS

Land use change has led to a **decrease** in natural resources and overall habitat loss for Namibia's biodiversity. Fencing off of land has led to additional landscape and habitat fragmentation. Often there is competition between livestock and wildlife for grazing.



**Human-wildlife conflict** (HWC) is of particular concern as many Namibians live in areas together with wildlife. As human populations increase and need more land, this conflict becomes more acute. Conflicts with lions and elephants affect human safety and infrastructure, whilst predators such as cheetahs, leopards and hyenas ever-present a challenge to livestock farmers. The use of poisons and pesticides has intentional or accidental side effects; particularly for vulture populations, which have been seriously affected by poisons.



### **OVEREXPLOITATION**

Overexploitation results from **overconsumption** of a species, e.g. overfishing, overhunting, overharvesting and deforestation. This may be done legally or illegally.



Another threat is **poaching**, either for own consumption (meat) or for profit (wildlife products). The lucrative – and often illegal - international wildlife trade encourages poaching of species such as rhino, pangolins, and various bird and reptile species. Through

corruption, greed and a lack of regulations and/ or enforcement these problems are

exacerbated.

**OVEREXPLOITATION** 

The removal of a species at a rate *faster* than it can naturally replenish.



Read the newspaper articles *The Plight of the*Namibian Pangolin and
Plight of Illegally Traded Birds Highlighted
at Windhoek Show.

### **ALIEN INVASIVE SPECIES**

Alien invasive species are **introduced organisms that alter the environment**. Although the species may have a beneficial purpose, it has a negative effect on other species and the natural resources in the area. The introduction of invasive species may occur on purpose or by accident.

Along our coastline, exotic mussels and barnacles, which have entered our shores on the bottom of ships, are outcompeting our indigenous sea life. Plant species, such as the Mesquite (*Proposis* sp) tree and cacti - as decorative and food plants - have proven to have detrimental consequences for local water resources.



### 5.2 RESPONSES

Addressing biodiversity loss locally and globally demands that we respond to all cross-cutting issues, but we must also respond to the direct causes.

### **POLICY**

The Ministry of Environment, Foresty and Tourism (MEFT) is the main agent of government responsible for the protection of biodiversity; however, it relies on **cross-sectoral support** on most issues.



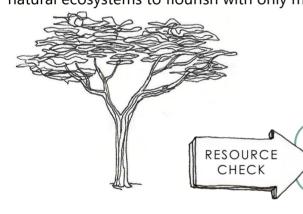
Read the executive summary of *Namibia's Second National Biodiversity Strategy and Action Plan* to find out Namibia's national goals and targets to achieve biodiversity conservation.

### **PROTECTED AREAS**

Namibia has a worldwide recognised approach to land conservation through a system of national parks, communal conservancies, private nature reserves and multi-stakeholder approaches. Namibia has a long history of biodiversity conservation through its system of national parks, including **Etosha National** 

**Park**. These parks play a vital role in providing a safe haven for natural ecosystems to flourish with only minimal disturbance, if any.

Namibia can pride itself in having over 40% of its land under conservation management.



Refer back to the National Parks brochures in Section 1.1 and look at the many maps and summaries in the **State of Protected Areas in**Namibia: A Review of Progress and Challenges.

NATIONAL

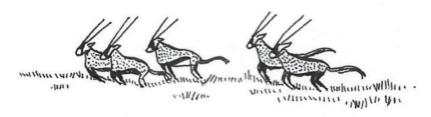
PARK



The establishment of the **communal conservancy legislation in 1996** has been one of the key factors to considerably widen the network of protected areas in Namibia. Guided by a constitution, an elected committee manages the conservancy to sustainably utilise the wildlife in the area. Today there are over 85 registered conservancies.

RESOURCE CHECK

Learn more about how a communal conservancy is structured in *Conservation Namibia's* article on *Namibian Communal Conservancies* 



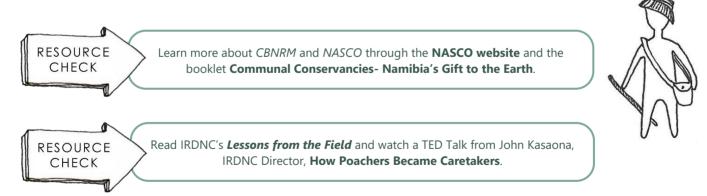
Commercial landowners have also formed conservancies and private nature reserves. One of the largest private nature reserves in southern Africa, the NamibRand Nature Reserve, provides a vital wildlife corridor for desert animals in the Namib Desert. To further develop protected areas, **multi-stakeholder platforms** have been established for like-minded neighbours to improve conservation efforts through combined actions such as fence removal.

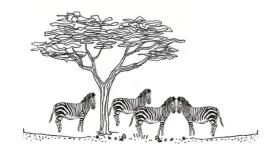


### COMMUNITY BASED NATURAL RESOURCE MANAGEMENT (CBNRM)

Community-based Natural Resource Management (CBNRM) is a form of resource governance that has evolved together with the communal conservancy legislation. CBNRM aims to empower local communities to manage their wildlife and natural resources in a sustainable manner. In Namibia, this has evolved into **eco-tourism and trophy hunting**. It is a significant source of income and depends on a large support network of NGOs and private partnerships. The Namibian Association of CBNRM Support Organisations (NACSO) acts as an umbrella coordinating and networking body.

An essential component of CBNRM is **communal game guards** who are to protect the local biodiversity from poachers, as well as from Human-Wildlife Conflict (HWC).





### **ECO-TOURISM**

Eco-tourism is a **vital financial partner** in the success of conservation in Namibia. It provides a self-sustainable model for communities and private landowners to have nature conservation as a primary form of land-use. This is a win-win for biodiversity conservation if done in a responsible manner. Eco-tourism helps bring funds to the country for many other activities including research, education and wildlife monitoring programmes. Several NGOs receive significant funding for their work through volunteer tourism, which also helps educate local communities.



### **ENDANGERED & THREATENED SPECIES PROTECTION**

The **protection of key species** under threat include rhinos, vultures, pangolins, elephants, giraffe and large carnivores, to name a few. There are many NGOs that have established a variety of responses to challenges faced by these species including direct support to minimise HWC, research to learn more

about their behaviour and ecology and direct wildlife rescue and care. Through strategic partnerships, wildlife crime and trafficking is being tackled to help curb this crisis faced by several species.





Learn more about Namibia's efforts to curb wildlife crime by reading **Operation Blue Rhino** and **What is Being Done to Fight Wildlife Crime in Namibia** by Conservation Namibia.

### **EDUCATION**



Tertiary institutions in Namibia now offer a variety of courses specifically on biodiversity conservation, land management, CBNRM and tourism. In the non-formal sector there are many **environmental education centres** run by government, NGOs and the private sector that provide opportunities for Namibians to visit and learn about biodiversity and land conservation.

Awareness raising campaigns through billboards, newspaper and radio ads have been an important component to combatting illegal wildlife trade and poaching.

RESOURCE CHECK

The **Namibia Chamber of Environment Website** is a portal of information including the Namibian Journal of the Environment that contains a wealth of research articles.

## RESOURCES

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### Think Namibia Resources





<u>WEBSITE, VIDEOS & ARTICLES:</u> These videos and factsheets were produced as part of Think Namibia's national information campaign to educate on topics of environmental awareness, specifically relating to climate change and the country's sustainable development. The links below are to the resources referred to in this *Environmental Issues in Namibia* guide, in order of how they appear in the text. Check out the publications section on the website for many additional resources including podcasts, posters and interviews. **AUTHOR:** Think Namibia (2015-current)

Link: https://www.thinknamibia.org.na/

Climate Change: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 01.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 01.pdf</a>

Climate Change Video: https://vimeo.com/179763238

Climate Smart Agriculture: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 05.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 05.pdf</a>

Climate Smart Agriculture: <a href="https://vimeo.com/180601471">https://vimeo.com/180601471</a>

Renewable Energy: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 09.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 09.pdf</a>,

Renewable Energy Video: https://vimeo.com/180605796

Land Degradation: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 07.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 07.pdf</a>

Land Degradation Video: <a href="https://vimeo.com/180603967">https://vimeo.com/180603967</a>

Water Pollution: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 04.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 04.pdf</a>

Water Pollution Video: https://vimeo.com/180599742

Water Innovations: <a href="https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 02.pdf">https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 02.pdf</a>

Forests and Rangelands: https://www.thinknamibia.org.na/images/projects/enviro/Climate Change Factsheet 08.pdf

Forests and Rangelands Video: https://vimeo.com/180604622

### 1.CLIMATE CHANGE

# Namibia is Heating Up



<u>INFOGRAPHIC:</u> This is a great summary of what the effects of a global temperature rise would be on Namibia and the response at a policy level. It gives ideas on minimize the consequences of climate change.

**AUTHOR:** Climate and Development Knowledge Network (2019)

Link: https://cdkn.org/wp-content/uploads/2020/10/CDKN-Namibia-Map-without-cow-web-ready\_v2.pdf

### Climate Time Machine



<u>WEBSITE:</u> This is a website shows Earth's key climate indicators under the effects of climate change, over time. Explore the site to see the effect on Sea Ice, Sea Level, Carbon Dioxide levels and Global Temperatures. **AUTHOR:** NASA

Link: <a href="https://climate.nasa.gov/interactives/climate-time-machine">https://climate.nasa.gov/interactives/climate-time-machine</a>

# What Global Warming of 1.5 degrees and Higher Means for Namibia



<u>ARTICLE:</u> This article informs on the effects of climate change for Namibia. It illustrates various consequences of different temperature-rise thresholds, and what the implications of these changes will be for the country. **AUTHORS:** ASSAR (2019)

Link: http://www.assar.uct.ac.za/sites/default/files/image tool/images/138/1point5degrees/ASSAR Namibia global warming.pdf

## RESOURCES

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## Climate Risk and Vulnerability: A Handbook for Southern Africa



<u>BOOKLET:</u> This booklet informs on the current state of the climate in Southern Africa, and its effects. It communicates current climate variability, regional scenarios of future climate change and consequential risks. **AUTHOR:** C.L. Davis (2011)

Link: https://www.researchgate.net/publication/236144201 Climate risk and vulnerability A handbook for Southern Africa

# Climate Change and Global Warming in Namibia



<u>RESEARCH ARTICLE:</u> This article talks to the effect of climate change on Namibia's environment, economy, culture, politics and development. Read pages 9-11 to learn of options for economic growth.

AUTHORS: C. Keja-Kaereho and B.R. Tjizu (2019)

Link: <a href="https://www.researchgate.net/publication/332006884">https://www.researchgate.net/publication/332006884</a> Climate Change and Global Warming in Namibia Environm ental Disasters vs Human Life and the Economy

# Teaching Climate Change (The American Educator)



<u>ARTICLE:</u> This headlining article in the journal describes the approach and the importance of teaching climate change to the generation that will have the biggest impact on what the future of the planet looks like. **AUTHORS:** D. P. Shepardson and A. S. Hirsch (2019)

Link: https://www.aft.org/sites/default/files/ae-winter2019-2020.pdf

# Namibia's National Response to Climate Change



<u>VIDEO</u>: This short film puts the Climate Change crisis into the Namibian context and the ways the country is addressing the challenges. This is a great summary of the country's steps towards sustainable development. **AUTHOR**: Ministry of Environment, Forestry and Tourism (2021)

Link: https://www.youtube.com/watch?v=AEanIS4C1 0

### National Climate Change Strategy and Action Plan



<u>POLICY:</u> Read through the main points of this policy and for an informative summary on national climate change strategy, look through the List of figures (page 8) and read the Forward (page 7) and Preface (page 8). **AUTHOR:** Ministry of Environment and Tourism (2013)

Link: https://www.met.gov.na/files/files/National%20Climate%20Change%20Strategy%20&%20Action%20Plan%202013%20-%202020.pdf

# Commemorating 20 Year of Tackling Climate Change in Namibia



<u>BOOKLET:</u> To commemorate 20 years of Namibia's cross-sectoral and dynamic solutions to address the farreaching effects of climate change, this booklet is a great summary of some of the major responses thus far. **AUTHORS:** VARIOUS (Conceptualisation and Co-ordination: L. van Wyk) (2015)

Link: https://namibia.hss.de/fileadmin/user\_upload/Projects HSS/Namibia/Dokumente/bis 2016/20 YEARS OF TACKLIN G CLIMATE CHANGE IN NAMIBIA 1995 - 2015.pdf

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# REEE - Powering Namibia



<u>BOOK</u>: This book illustrates, at a conceptual level, how renewable energy, energy storage and efficient technologies can "drive Namibia's development and create local value." For overview see pg 7-10. **AUTHOR:** D. von Oertzen (2015)

Link: https://www.kas.de/documents/252038/253252/7 dokument dok pdf 42216 2.pdf/090ad1a9-5743-0995-8b9a-63427d017817?version=1.0&t=1539652150694

# NILALEG: Financing for Sustainability in Namibia



<u>ARTICLE:</u> This article outlines the role of NILALEG as an instrumental organisation to financing environmental initiatives in Namibia. It explains why it was started, the vision and examples of the work they will be doing. **AUTHOR:** A. Shikongo (2020)

Link: https://www.namibian.com.na/202639/archive-read/N\$161m-for-integrated-landscape-project

# Let's Act to Adapt: Dealing with Climate Change





<u>BOOKLETS:</u> These booklets, split into regional clusters, are informative resource toolkits to be used by communities (natural resource users) as a step towards making sustainable decisions.

AUTHOR: Integrated Environmental Consultants Namibia (2011)

Link: <a href="http://www.iecn-namibia.com/community-toolkits-namibia.html">http://www.iecn-namibia.com/community-toolkits-namibia.html</a>

### 2. LAND USE CHANGE

# Land Use Change in Zambezi



<u>RESEARCH ARTICLE:</u> This paper explores the socio-economic drivers of land use change. Read the results to see the importance of natural resources to livelihoods, and how land use change is being affected.

AUTHORS: J. M. Kamwi, P.W.C. Chirwa, S.O.M. Manda, P. F. Graz and C. Katsch (2015)

Link: https://www.researchgate.net/publication/274565628 Livelihoods land use and land cover change in the Zambezi Region Namibia

# State of Forestry in Namibia



<u>PRESENTATION:</u> This presentation gives an overview of the environmental implications of the forestry sector in Namibia. It focusses on the issue of deforestation, including examples, and then suggests amendments. **AUTHOR:** C. Brown (2019)

Link: https://n-c-e.org/sites/default/files/2019-07/Presentation%20by%20C%20Brown%20on%20State%20of%20Forestry%20in%20Namibia.pdf

# Depleting Natural Capital



<u>RESEARCH PAPER:</u> This paper explores how, since 2015, Namibia has been losing "natural capital" through mis-governance and maladministration. Read the section on the impacts of sand mining.

AUTHOR: F. Links (2020)

Link: https://ippr.org.na/wp-content/uploads/2020/10/Depleting-natural-capital-web.pdf

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# Housing in Namibia: Rights, Challenges and Opportunities



RESEARCH REPORT: This report explores the pressure on urban and rural areas to accommodate and sustain affordable housing for a growing population. It then goes on to make recommendations based on findings. **AUTHOR:** Institute for Public Policy Research (2018)

Link: https://ippr.org.na/wp-content/uploads/2018/03/IPPR HousingBook PRINT.pdf

## Guide to the Environmental Management Act, No. 7 2007



BOOKLET: The purpose of the guide is for the general public to understand the Act as a whole, and what it means for Namibian citizens and the country as a result of this legislation.

AUTHOR: D. Hubbard (2008)

Link:https://www.met.gov.na/files/downloads/a7e Guide%20to%20the%20Environmental%20Management%20Act%20n o%207%20of%202007%20(GE).pdf

# Turning Bush into Fodder: Bush Control Namibia



VIDEO: This informative video brings awareness to Namibia's bush encroachment issue, including causes and effects. It presents and informs on the pioneer activity of turning bush into fodder.

**AUTHOR:** De-bushing Advisory Service (2019)

Link: <a href="https://www.youtube.com/watch?v=wfCaatiMDV0">https://www.youtube.com/watch?v=wfCaatiMDV0</a>

# Policy Brief: Greenhouse Gas Assessment of Bush Control and Biomass Utilization in Namibia



ARTICLE: This article explains the relationship between bush biomass and bush utilization, and how the management of each affect greenhouse gas emissions. Sustainable policy considerations are suggested.

Authors: M. Seebauer, A. Pinkwart, B Schwarz, C. Hartz (2020)

Link: <a href="https://www.dasnamibia.org/?wpfb">https://www.dasnamibia.org/?wpfb</a> dl=104

### Conservation Agriculture (IPPR)



ARTICLE: For the purpose of informing policy, this paper provides an overview of Conservation Agriculture from definition to benefits and plans to promote this type of practice in Namibia.

AUTHOR: D. Remmert (2020)

Link: https://ippr.org.na/wp-content/uploads/2020/09/IPPR HSF CONAGRI Web-1.pdf

# Comprehensive Conservation Agriculture Programme



<u>VIDEO</u>: This short documentary explains the programme and practice of Conservation Agriculture, how it is being implemented, who is involved and how it is transforming productivity and resilience of the land.

AUTHOR: A. Botelle, GIZ (2019)

Link: https://www.youtube.com/watch?v=-GtyG7RzuPM

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# State of Community Conservation in Namibia



POSTER: This poster is a great summery of what community conservation in Namibia currently looks like. It provides facts of how these conservancies are structure, distributed and details of their running and funding. **AUTHOR:** Namibian Association of CBNRM Support Organisations (2020)

Link: http://www.nacso.org.na/sites/default/files/SOCCR%20poster%20%281%29.pdf

## Namibian Community Forests



ARTICLE: This write up explains what community forests are, how they are structured and how they play such an important in conserving and Namibia's natural forests. It also gives insight to the crucial role forests play. **AUTHOR:** Conservation Namibia (2020)

Link: http://conservationnamibia.com/factsheets/community-forests.php

# Can Urbanisation Help Namibia Adapt to Climate Change?



ARTICLE: This article suggests a move towards urbanisation presents an opportunity to alleviate pressure on farmlands, as well as a potential climate change adaptation through improving impact on natural resources. **AUTHOR:** G. C. Potaieter (2019)

Link: <a href="http://conservationnamibia.com/articles/2019nam-urbanisation.php">http://conservationnamibia.com/articles/2019nam-urbanisation.php</a>

# Moving from Transport Planning to Action



ARTICLE: This article contextualizes the capital city and explains the current transport situation under a rapidly growing population. It outlines Windhoek's plans to implement a sustainable transport system. **AUTHORS:** B. Robinson and R. Fisher (2019)

Link: https://www.transformative-mobility.org/assets/publications/10.-TUMI-City-profile-and-story-Windhoek.pdf

### 3. POLLUTION

# The Challenge of Plastics in Namibia



POSTER: This poster summarises the issue of plastic pollution in Namibia. It highlights the environmental and human affects, those responsible for the issue and outlines some of the plans and solutions to the problem. **AUTHOR:** Namibia Chamber of Environment (2017)

Link: https://n-c-e.org/sites/default/files/2017-04/NCE Plastics in Namibia Poster April-2017.pdf

# The Ocean Atlas



BOOKLET: This publication has facts and figures all to do with the ocean; as a natural resource itself, but also as the source of other resources. For articles relating specifically to ocean pollution, read pgs. 16 and 18. **AUTHORS:** Heinrich Boll Stiftung (2017)

Link:https://www.boell.de/sites/default/files/web 170607 ocean atlas vektor us v102.pdf?dimension1=ds meeresatlas

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# National Solid Waste Management Strategy



POLICY: This policy is in response to the Ministry recognizing the need to improve solid waste management. It aims to ensure regulations, management, funding and actions plans are consistent with national policy. **AUTHOR:** Ministry of Environment and Tourism (2017)

Link: https://www.met.gov.na/files/downloads/43e NSWM%20Strategy.pdf

### Zero Waste Guide



BOOKLET: This guide explains how to transition your lifestyle to being "zero-waste." It covers all wastepotential areas, showing how to be sustainable consumers and producers of organic and inorganic waste. **AUTHOR:** Hennepin (2017)

Link: https://www.hennepin.us/-/media/hennepinus/residents/recycling/zero-waste/zero-waste-guide-2017.pdf?la=en&hash=1A73CA1E68768DB22ACA5BB8B61294AAA6144AEE

# Paving the Way for Recycling



ARTICLE: This is a write up on a study by Recycle Namibia Forum to build a knowledge base with which to assess the extent of recycling in Namibia, the associated challenges, and to develop strategy going forward. **AUTHOR:** Recycle Namibia Forum (n.d.)

Link: https://rnf.com.na/sites/default/files/downloads/EIF-Paving the Way for Recyling.pdf

# Ohorongo Cement Factory



VIDEO: This video shows the Ohorongo cement factory's commitment to Namibia's sustainable development through use of alternative energy production, namely the burning of non-recyclable materials.

**AUTHOR:** One Africa TV (2018)

Link: <a href="https://www.youtube.com/watch?v=YOOagEYLk">https://www.youtube.com/watch?v=YOOagEYLk</a> k

### 4. WATER SCARCITY

# Weak Policies & Conflicting Visions: Drought, Water Shortages and Climate Change



BRIEFING PAPER: This paper highlights disparities between Namibia's water resource management policies and the science informing them; exploring conflict between policies and national agenda on climate change. AUTHOR: D. Remmert (2020)

Link: https://ippr.org.na/wp-content/uploads/2020/03/drought-climate-web-copy.pdf

## Impacts of Bush Encroachment on Groundwater Recharge



ARTICLE: Through years of soil hydrological monitoring in Namibian thorn-bush savanna, this article explores the evidence for the impact of bush encroachment on groundwater recharge, and the consequences of that. **AUTHOR:** De-Bushing Advisory Service (2018)

Link: https://www.dasnamibia.org/?wpfb\_dl=81

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# IWRM Survey and Status Report



REPORT: This paper reports on the status of Namibia's IWRM. It looks at how coordinated the country's development is with sustainable water resource management, without compromising the environment. **AUTHOR:** Desert Research Foundation of Namibia (2009)

Link: https://www.gwp.org/globalassets/global/gwp-saf-files/namibia-iwrm-report.pdf

### Water Stress Scenarios 2040 World Map



INFOGRAPHIC: This infographic illustrates the worldwide projection for water scarcity by 2040. It highlights the importance for awareness now, and strategy implementation to conserve the precious resource.

AUTHOR: Encyclopedia Britannica (2019)

Link: https://cdn.britannica.com/47/204547-050-3132059B/World-map-country-water-stress-scenarios-2040.jpg

### **Erongo Desalination Plant**



BROCHURE: This brochure gives information on the plant and answers some commonly asked questions on the operation. Read to further understand desalination and the role it plays in overcoming water scarcity. AUTHOR: ORANO (2018)

### Water Basin Management: Working Together to Manage Water and Natural Resources



BOOKLET: This publication gives understanding to water basin management, and the how and why Namibia relies on it as a response to water scarcity. See examples of water management in the Namibian context.

**AUTHOR:** The Big Issue Supplement (2004)

Link: http://the-

eis.com/elibrary/sites/default/files/downloads/literature/Basin%20management working%20together%20to%20management working%20together%20t e%20our%20water%20and%20natural%20resources 2004.pdf

### Grunau Groundwater Desalination Plant



<u>VIDEO:</u> This launch video informs on the state of rural access to potable water. The key speakers talk on the issue and how these groundwater desalination operations are an answer to this challenge.

AUTHOR: NBC (2020)

Link: <a href="https://www.youtube.com/watch?v=pLGGFThztvo">https://www.youtube.com/watch?v=pLGGFThztvo</a>

### CuveWaters Videos and Factsheet



VIDEO and FACTSHEET: These videos and factsheet show how CuveWaters empowers and equips communities to better their water resource protection, management and sanitation practices.

**AUTHOR:** CuveWaters (2014) Link: https://vimeo.com/97124645,

Link: https://vimeo.com/90001599

Link: http://www.cuvewaters.net/fileadmin/edit/Downloads/Publications/CuveWaters-Factsheet-RWH-2015.pdf

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### 5. BIODIVERSITY LOSS

# Threats to Namibia's Biodiversity



ARTICLE: This article outlines the major threats to Namibia's biodiversity, animal species and well as plant life. Per threat, it also suggests ways that human population can help overcome these and/or protect biodiversity.

**AUTHOR:** A. liyambula, N. Barry, R. Portas (2020)

Link: <a href="https://www.news-namibia.org/threats-to-namibias-biodiversity/">https://www.news-namibia.org/threats-to-namibias-biodiversity/</a>

# Endangered and Critically Endangered - All 7 Vulture Species That Should Occur in Namibia



ARTICLE: This case study looks at why the vulture population in Namibia has been seriously reduced and what farmers and land managers, as well as the general public, can do about this loss to biodiversity.

**AUTHOR:** A. Ring (2016)

Link: https://narrec.electric.com.na/Articles/Article36.htm

# The Plight of the Namibian Pangolin



ARTICLE: This case study on the Namibian pangolin population looks at how this species has landed on the endangered list. It also explains this negative effect on the ecosystem that pangolins form a critical part of. AUTHOR: H. Denker (2020)

Link: <a href="https://www.namibian.com.na/197726/archive-read/The-plight-of-the-Namibian-pangolin">https://www.namibian.com.na/197726/archive-read/The-plight-of-the-Namibian-pangolin</a>

# Plight of Illegally Traded Birds Highlighted at Windhoek Show



ARTICLE: This article highlights the issue of illegal animal trade, specifically the illegal trading of parrots. It outlines the work of key organisations in action against the activity and how the country can address it. AUTHOR: L. Komen (2012)

Link: <a href="https://www.namibian.com.na/index.php?id=100720&page=archive-read">https://www.namibian.com.na/index.php?id=100720&page=archive-read</a>

### Beware the Aliens



ARTICLE: This article gives an overview of what alien plants are, and the affect they have on landscape and biodiversity. It discusses some of the major invasive species and what can be done to prevent their spread. AUTHOR: B. Curtis (2021)

Link: https://www.news-namibia.org/beware-the-aliens/

# Namibia's Second National Biodiversity Strategy and Action Plan



POLICY: This policy is a reviewed strategy and action plan in response to the Convention on Biological Diversity Strategic Plan including matters of biodiversity management, protection, initiative and awareness. AUTHOR: Ministry of Environment and Tourism (2014)

Link:https://www.met.gov.na/files/files/Namibia%E2%80%99s%20Second%20National%20Biodiversity%20Strategy%20a nd%20Action%20Plan%20(NBSAP%202)%20%202013%20-%202022.pdf

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### State of Protected Areas in Namibia



BOOKLET: This report reviews progress and challenges of the national protected areas of Namibia. It outlines their history, significance, and informs on recent trends, achievements and future conservation plans.

**AUTHOR:** Ministry of Environment and Tourism (2010)

Link: https://www.met.gov.na/files/files/State%20of%20the%20Parks%20Report.pdf

### Namibian Communal Conservancies



ARTICLE: To learn what communal conservancies are, this article explains how they are setup, what they do and their means of operating. Read to understand their important role in the country's conservation efforts. **AUTHOR:** Conservation Namibia (2019)

Link: https://conservationnamibia.com/pdfs/fs-communalconservancies.pdf

### Namibia: Living in Balance with Nature



VIDEO: This video about the NAM-PLACE project explains how protecting natural landscapes is key to protect biodiversity. The national project is presented and their objectives explained.

**AUTHOR:** Global Environment Facility (2015)

Link: <a href="https://www.youtube.com/watch?v=2YLnGgvMNeY">https://www.youtube.com/watch?v=2YLnGgvMNeY</a>

### NASCO Website



WEBSITE: This website is a source of materials, resources and data to learn more about the conservation efforts of Namibia as well as the role of NASCO in connecting communities and conservation organisations. AUTHOR: NASCO

Link: <a href="http://www.nacso.org.na/">http://www.nacso.org.na/</a>

### Communal Conservancies: Namibia's Gift to the Earth



ARTICLE: In recognition of Namibia's conservation efforts through community conservancies, this article highlights the value of the concept and informs on the work of the core organisations/initiatives involved. **AUTHOR:** Namibia Tourism (2013)

Link: https://namibiatourism.com.na/uploads/file uploads/Namibian Conservation Fact Sheet copy.pdf

### Lessons from the Field



BOOK: This book outlines the key work and role of the IRDNC in wildlife conservation. Each chapter focuses on different elements of the organisation's experiences and operations – all worth looking over.

AUTHOR: IRDNC (Ed: M. Jacobsohn) (2011)

Link: <a href="https://www.irdnc.org.na/pdf/IRDNC-Lessons-from-the-Field.pdf">https://www.irdnc.org.na/pdf/IRDNC-Lessons-from-the-Field.pdf</a>

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## How Poachers Became Caretakers by John Kasaona



<u>VIDEO:</u> John Kasaona gives context to the wildlife crisis in Namibia and its causes, and explains how poachers have now become wildlife protectors. He speaks on how this movement proposes a model to the world. **AUTHOR:** TED Ed (2015)

Link: <a href="https://www.youtube.com/watch?v=hoF4FHCbHwU">https://www.youtube.com/watch?v=hoF4FHCbHwU</a>

## Asser Ndjitezeu Talks About Conservation Benefits



<u>VIDEO:</u> Asser Ndjitezeu explains what a conservancy is, its purpose and role in the relationship between wildlife and the community. He describes the CBNRM programme and its significant role in conservation. **AUTHORS:** WWF Namibia, Steve Felton (2018)

Link: <a href="https://www.youtube.com/watch?v=3aFoO9GdwOc">https://www.youtube.com/watch?v=3aFoO9GdwOc</a>

### Eco Awards Namibia Website



<u>WEBSITE</u>: This website shows how the Eco Awards works. Explore the site to understand the benefits of this kind of programme on sustainable tourism and, in consequence, the country and its resources as a whole.

**AUTHOR:** Eco Awards Namibia Link: <a href="https://ecoawards-namibia.org/">https://ecoawards-namibia.org/</a>

# Operation Blue Rhino



<u>PRESENTATION:</u> An initiative against wildlife crime, specifically Namibian rhino poaching, this presentation explains Operation Blue Rhino; who's involved, principals and objectives of their work and the trends so far. **AUTHOR:** Blue Rhino (2020)

Link: https://n-c-e.org/sites/default/files/2020-06/2020 Brochure Blue-Rhino-Identity rgb final 200605s.pdf

## What is Being Done to Fight Wildlife Crime in Namibia?



<u>ARTICLE:</u> This article gives facts and figures on Namibia's efforts to stop/slow the major wildlife crime issue in the country. It presents successes as well as challenges that have been faced so far by the various initiatives. **AUTHOR:** H. Denker (2020)

Link: https://conservationnamibia.com/pdfs/cnam2020-wildlife-crime.pdf

### Namibian Chamber of Environment Website



<u>WEBSITE</u>: To learn more about what the NCE is, it's role and the extensive initiatives they are working on/have set up, explore their website.

**AUTHOR: Namibian Chamber of Environment** 

Link: https://n-c-e.org/