THE IMPACT OF LAND ON THE ‘RIGHT TO ENERGY’ IN NAMIBIA

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Abstract

Energy plays nowadays an essential role for a countries' development and economic growth. Particularly interesting is thereby the case of Namibia. As a young, previously colonized nation, the country is currently working towards economic development. This includes pushing forward its energy sector and increasing the energy distribution. However, despite the efforts, progress is only slow. At the same time, 'land' is a highly critical topic, as the nation is trying to overcome the remnants of its colonial past. With land and energy playing such a big role, chances are high that both might impact each other, thereby affecting the respective progress. This thesis therefore analyses the 'land – energy' situation in Namibia, as well as potential linkages in terms of the 'right to energy' and energy justice.

While the connection of land and energy certainly affects the nations' current development, this is clearly only partly the reason for all the issues. Against that, the more crucial factor hindering the progress is the persistence of Namibia's colonial past. Thus, hysteresis effects and path dependencies strongly impact citizens on a local level, but also the institutional and political decisions. It causes infrastructures like the centralized energy system to remain in force, and colonial ideas and beliefs to still be a large part of peoples' everyday life. In this way, they create a strong inequality in terms of energy, that still go along racial, apartheid lines, ultimately also affecting the 'right to energy'.

Accordingly, in Namibia this 'right to energy' is denied due to these dependencies on historic systems and beliefs. It leads to energy injustice, whereby the people discriminated are the same citizens that were already suppressed during Namibia's past. Thus, rather than benefiting from new innovations or the governments' attempts of restructuring the energy system, many Namibians keep relying on their adopted habits, preventing themselves from progress and the development of a fair energy system. It is thereby the combination of a challenging geographic and demographic context, unsuitable infrastructures, and institutions and beliefs based on past ideas that prevent the energy system from progressing. In this way, the natural land – energy – nexus is aggravated by the persistence of history, blocking both, the countries land reform and energy sector development.

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Notification and Glossary

As this master's thesis addresses several controversial topics, some clarifications are necessary beforehand to avoid misunderstandings or wrong interpretations.

Thus, first and foremost it must be made clear that all expressions used within this thesis are chosen without value or negative connotation. This is particularly the case regarding terms describing people in respect of their different skin colours. This includes terms such as 'black', 'white', or 'people of colour', but also descriptions like 'indigenous' or 'traditional'. None of them is meant to carry a negative connotation or otherwise derogatory meaning. Instead, these terms are solely taken over from other literatures and are a means to better bring across the differentiation and the different treatment of people with distinct skin colours, as it was done during colonialization and is partly even nowadays. It thereby in no way represents my personal opinion. The same is the case when using 'indigenous' or 'traditional', which solely describe long-established, "older" ways of living compared to the often called "modern", industrialized approaches. These terms furthermore do not imply values such as something being "better" or "worse".

The same goes for 'new elite', which is strictly a term that was already given to the white settlers in previous literatures, describing their self-proclaimed status of being superior. Also, all other ideas mentioned, that describe racist behaviour or apartheid beliefs do not represent a personal conviction but solely describe the respective situations and contexts. I apologize if anyone feels offended by any of these terms and want to assure that there is no ill intention behind their use.

Regarding the term 'Developing Country', it is not used to devaluate, but solely to describe a nation that is not yet on an industrialized economic level. Thereby, again no negative connotations or ulterior motives exist. Overall, this paper does not justify any kind of discrimination, racist or derogatory behaviour, but strictly aims to analyse Namibia's energy and land situation, therefore also addressing its colonial past.

Besides that, there are some more terminologies that require a deeper explanation to avoid confusion. Accordingly, 'land grabbing' is used to describe the contentious acquisition of land, by mostly private persons and investors, therewith preventing these areas from their actual purpose, which is oftentimes the support of the local

citizens. (Beekmann 2018) While the term is quite extensive and controversial, with many different meanings, this is beyond the scope of this paper and is therefore not addressed.

Regarding the terms ‘energy justice’ and ‘energy equality’, as well as the descriptions of something being ‘fair’, ‘equal’, or ‘just’ they are each used interchangeably. The same goes for descriptions of something being ‘unjust’, ‘unequal’ or ‘unfair’. While differentiations between all terms would be possible, for simplification purposes this is not done within this thesis.

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ACLRA	Agricultural (Commercial) Land Reform Act
CENCORED	Central North Region Electricity Distributor
Central-RED	Central Regional Electricity Distributor
CLRA	Communal Land Reform Act
EA	Electricity Act
EB	Energy Bill
ECB	Electricity Control Board
EES	Energy Efficient Stoves
EJ	Energy Justice
Erongo-RED	Erongo Regional Electricity Distributor
ESI	Electricity Supply Industry
FLTB	Flexible Land Tenure Bill
GDP	Gross Domestic Product
GSWA	German South West Africa
GWh	Gigawatt hours
HPP	Harambee Prosperity Plan
INDC	Intended Nationally Determined Contribution
IPPP	Independent Power Producer Policy
IPPs	Independent Power Producers
kWh	kilo Watt hours
LRAP	Land Reform Action Plan
MLR	Ministry of Land Reform
MME	Ministry of Mines and Energy
MW	Megawatt
NAD	Namibian Dollars
NamPower	Namibian Power Corporation
NAMREP	Namibian Renewable Energy Program
NCCP	National Connection Charge Policy
NCLAS	Namibian Communal Land Administration System
NDP	National Development Plan

NERAB	Namibia Energy Regulatory Authority Bill
NIRP	National Integrated Resource Plan
NLPB	National Land Policy Brief
NORED	Northern Region Electricity Distributor
NREP	National Renewable Energy Policy
OGEMP	Off-Grid Energization Master Plan
OPO	Ovamboland People's Organisation
PLAN	People's Liberation Army of Namibia
PV	Photovoltaic
PVP	Photovoltaic Pumps
REDMP	Rural Electrification Distribution Master Plan
REDs	Regional Electricity Distributors
REFIT	Renewable Energy Feed-In Tariff
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SD	Sustainable Development
SWH	Solar Water Heaters
SHS	Solar Home Systems
Southern-RED	Southern Regional Electricity Distributor
SRF	Solar Revolving Fund
STEM	Short-Term Energy Market
SWA	South West Africa
SWAPO	South West Africa People's Organisation
SWAWEK	South West Africa Water and Electricity Corporation
TAA	Traditional Authorities Act
TCCF	Technical Committee on Commercial Farmland
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

1. Introduction

Energy plays nowadays an essential role for a countries' development and economic growth. While it is not yet universally acknowledged as a basic human need, it still seems to be a prerequisite for the accessibility and availability of other necessities. (Sanusi and Spahn 2020) However, despite this understanding, in developing countries most rural households still have no access to modern energy systems and therewith to associated basic services. (Tucho 2020) Unfortunately, this potentially has far reaching consequences, as a lack of energy access may not only adversely affect individuals, but also entire nations. Thus, various literatures detected linkages between low electrification rates and a lack of economic participation or political instability. Against that, a successful electrification can uplift a country through new economic opportunities that potentially also benefit the living conditions. (Chiguvare and Ileka 2016)

However, there is only a fine line between both states, leading to many nations suffering from an energy dilemma. While having too much energy might lead to environmental concerns or social burdens, for example through crosscutting infrastructure or harmful resource extractions, not having enough potentially increases poverty levels, causes underconsumption or many other issues. (Sanusi and Spahn 2020) As a result, all over the world, energy is a significant factor for either successful development and economic growth, or stagnation. Due to its unequal availability, it additionally has a high potential for causing conflicts. Thus, it divides the population in people that do have access and people that do not, as well as in countries that can produce and supply energy and others that rely on it. In this way it produces disparities and dependencies that can be misused by the different entities. An example therefore would be a nation with large energy availability that sells its surplus for an excessive price to an energy-poor neighbour that depends on it to meet its needs. Overall, in this way energy causes differences that are increasingly acknowledged as inequalities and hence issues. (Karanikolas and Vagiona 2016)

It caused this topic to become more and more a focus of research and quite recently led to a whole new study area. Thereby, the lack of energy and 'energy poverty' are

perceived as a form of injustice that must be addressed, initiating the field of 'Energy Justice' (EJ). Overall, the EJ literature seems to have a common direction, with most debates focussing on inequalities between different socio-economic or marginalized groups. (Bouzarovski and Simcock 2017) While also spatial differences are addressed, the focus is again mostly on human geography, with papers analysing social and material aspects. (Luque-Ayala 2020) While this already led to various new policies and projects, only few of them were successful in broadly improving the situation. The reason therefore was often identified as an insufficient understanding of the respective interconnections of the energy issue. Thus, many of the projects did not consider the local context in a way to fully incorporate all connections of energy with its surrounding environment. (Tucho 2020)

However, this can cause huge issues, especially, as in the next decades more than US$ 300 trillion are estimated to globally be invested in energy development. (Jenkins et al. 2017) Such amounts of money can cause strong positive changes however, they can also lead to new forms of injustice or intensify already existing ones for example by increasing the unequal energy distribution or access. As a result, analysing the full picture of energy is significant to reveal such issues. (Karanikolas and Vagiona 2016)

According to the literature, one link that has not received sufficient attention, is the connection between energy and spatial aspects of land, going beyond the socio-economic context. While the science of 'geography' generally analyses the spatial behaviour of nature and humans, 'energy' is often the force that drives economic and social development. As a consequence, both areas have a strong likelihood of interacting with each other. (Karanikolas and Vagiona 2016) This was also already recognized in academia, whereby most of the literatures focus on the idea of end-use energy injustice, which mainly addresses socio-economic disparities. In this way they often ignore the more socio-technical aspects and do not sufficiently address the fact that where people live is often as important as their socio-economic status. To do that, rather than focussing on only one aspect, all spatial links between energy and geography must be analysed. (Bouzarovski and Simcock 2017) As the geographies of energy encompass a large field, with energy affecting and being affected by several outside influences, this is a challenging task. (Luque-Ayala 2020)

Looking at the global picture, with around 35 % less energy consumption compared to the world average, Africa is particularly affected by energy poverty. (Sanusi and Spahn 2020) Thus, despite most of its countries having great potential for renewable energies, especially in remote areas many households still do not have the opportunity of using modern energy sources. (Jain et al. 2014) Particularly interesting is thereby Namibia, due to its geography, socio-economic and demographic characteristics, as well as its cultural diversity and history. As a young, previously colonized nation, Namibia is currently working towards economic development. This includes pushing forward its energy sector and increasing the energy distribution. (Jenkins et al. 2019) However, despite the efforts, progress is only slow and there are still many issues that need to be addressed. At the same time, 'land' is a highly critical topic, as the nation is trying to overcome the remnants of its colonialization period. With land and energy playing such a big role, chances are high that both might impact each other, thereby affecting the respective progress. Thus, while Namibia is working on a land reform already for around 30 years, it is nowadays additionally pushing towards an energy transformation. However, both fields seem to only progress slowly, indicating a common factor or connection between land and energy development that potentially blocks the overall progress. (Kruger et al. 2019) For this reason, this paper focusses on the situation in Namibia and the potential connection between land, including physical geography, land ownership and management, and the energy context.

Thereby, suggestions of previous literatures are considered regarding the analysis of the land – energy – nexus. Thus, it is recommended to not only investigate the existence of energy injustices, but also the potential causes and the people responsible. (Bouzarovski and Simcock 2017) Especially for the latter all stakeholders must be considered with their individual interests, goals and demands. (Jenkins et al. 2019) It can give an insight on which basis certain choices were made, whose interests are therewith represented (Kruger and McCauley 2020) and how the steps that are taken consider the different needs. Particularly also on government level, this can give interesting insights in why decisions were made and how they capture the situation. (Jenkins et al. 2017) Additionally, the diversity of backgrounds and thus

opinions and perceptions must be acknowledged. Environmental and social aspects are often strongly connected, causing energy development to take place according to behavioural patterns. A spatial analysis and a geographic framework could therefore reveal important connections with related disciplines. (Munro et al. 2017) As peoples' opinions and views are strongly affected by their history or future development plans, also these aspects must be considered, together with the cultural and social context. (Karanikolas and Vagiona 2016)

Overall, therewith this thesis attempts to analyse the land – energy situation in Namibia, as well as potential linkages in terms of the 'right to energy' and energy justice. Thus, to allow a holistic insight a structural analysis is done along a spatial framework. The first chapters will give an in-depth insight in various aspects of the Republic of Namibia, such as its history, geography and demography, but also its land reform and energy provisioning context. Subsequently, a short introduction of the 'Energy Justice' idea will follow. After taking a look at the Namibian situation, connections are investigated between the energy development and 'land' aspects. The results are then analysed regarding their origin and consequences for the energy development in Namibia as well as in terms of energy justice.

2. The Land Context in Namibia

As mentioned in the introduction, the Republic of Namibia is a young nation with an overall unique situation from every point of view. To investigate the potential connections between land and energy, many factors must therefore be considered. For this reason, the next subchapters aim to give an in-depth insight into the nations' different areas and characteristics, from its physical geography and history, up to the current land reform and energy situation.

2.1 Physical Geography

The Republic of Namibia is situated south of the Equator, on the south-west coast of Africa. Going from north over east to south, it is neighbor to Angola, Zambia, Botswana, and South Africa. On the west side, the Atlantic Ocean stretches, covering the entire countryside. (FAO 2005) While the nation has an almost rectangular form, there is a long narrow extension in the east, called the Caprivi Strip. It derives from

the border drawing during German colonization, when misconception led to the idea of the River Zambezi leading to the Indian Ocean. (Green 2019) Overall, Namibia has a land area of 824,290 km^2, thereby featuring altitudes from 0 m at the Atlantic Ocean up to 2,606 m at the Königstein on the Brandenburg Mountain. (WorldAtlas 2020)

Going from west to east, there are three different topographical zones. Thus, there is the Coastal Desert area which features the Namib Desert, the centrally located Inland Plateau, and the Kalahari Desert with sand dunes and grasslands. The Coastal Desert Region ranges along the coastline, comprising mobile dunes, gravel, and sandy plains. (FAO 2005) It covers a width from 80 km to 130 km, constricted only in the north at the Kaokoveld region. Due to consisting of rocky and sandy stretches of land, with a sparce and fragile cover of flora and fauna, the region is mostly unsuitable for pastoralism or agriculture. (Green 2019)

Against that, the Central- or Inland Plateau covers more than half of the entire country area, ranging from south to north throughout the country. It forms a continuation of the South African Plateau, comprising several mountains, like the Tsaris in the south-west, the Anas in the centre, and the Erongo Massif in the west. (FAO 2005) Their altitudes range from 975 m up to 1,980 m (Green 2019), with landscapes like for example the highland areas. (FAO 2005) Namibia's highest mountain, 'Mount Brand', is located at the western escarpment of the region and forms the main agricultural area of Namibia. This is the case, as the savanna and scrublands are supplied with water from several rivers, including the northern Kunene- and Okavango River and the southern Orange River. In this way, it has a comparatively regular water supply, allowing for highly arable land. Besides agriculture, the region also comprises Namibia's extensive salt pans. (Green 2019)

The last topographic form is then the Kalahari Desert, located at the eastern and southern end of the Central Plateau. (FAO 2005) Its form is quite different on each end, with the east showing a slow transition from the savanna into the desert, and the north presenting rocks and hardpan beneath the sand. The latter is more cultivable, due to increased amounts of precipitation and the availability of rivers. (Green 2019)

Looking at the landscape, from west to east, Namibia features different physical forms. One of them is the beforementioned Namib Desert, which ranges along the Atlantic coast in the Coastal Desert Region. It has a width of around 100 km and consists of rocky stones in the north and south, and more sandy underground in the central part. (Cole and Blij 2007) It is also one of the oldest deserts in the world, with some of the highest dunes globally. Another form is the Great Escarpment at the east end of the Namib Desert, which has a height up to 2,000 m. (WorldAtlas 2020) It is characterised by a highly developed rocky landscape right after the coastal desert, stretching the entire country from north to south. In the central part of Namibia, the Interior Plateau forms a wide, flat landscape, reaching elevations between 1,100 m and 1,700 m. It is the most economic and densely populated area in Namibia, especially towards the north and the Angolan border. However, this fact might also be related to the region's high precipitation levels, allowing land cultivation. (Cole and Blij 2007) Besides that, the most well-known physical feature of Namibia is the Kalahari Desert, which is located east of the Interior Plateau and divides South Africa and Botswana. It is a hyper-arid and sandy region that, despite its lack of rain, is home to more than 5,000 plant species. (WorldAtlas 2020) The last striking landscape form is then the beforementioned Caprivi Strip. It has a comparatively dense environment due to an above-average amount of precipitation. (Cole and Blij 2007) It also contains the Bushveld, which is a flat, sandy region along the Angolan border. (WorldAtlas 2020)

As Namibia is located at the southern border of the tropics, it has notable seasons, with climatic differences depending on the region. Thus, while the humidity is usually low throughout the country, the rainfall increases, from less than 50 mm per year along the coast, to around 250 mm per year in the south and west of the plateau. The central and north parts receive up to 500 mm of rain per year, while the Caprivi Strip and the Otavi Mountains get the most, with around 600 mm of annual precipitation. However, the patterns are very irregular, causing perennial droughts to be common. For this reason, groundwater is often just as important as precipitation, like it is in the north as well as in the mountainous areas of Namibia. While in the Kalahari region rainfall patterns are similar to the plateau, groundwater is less available. Regarding

the climate, the coast is cooled by the Benguela current with quite consistent temperatures. Against that, the Central Plateau and Kalahari region have diurnal patterns, and temperatures between 30°C in summer and less than 10°C in winter. (Green 2019) Besides that, the country is characteristic for having extremely high solar radiation values, ranging among the highest sunlight rates in the world. Thus, Namibia experiences around 300 days of sunshine per year, leading to more than 3,000 hours of sun. Due to this constantly high radiation, it reaches direct insolation values of 2,200 kWh/m^2 to 2,400 kWh/m^2. This strongly affects the interest in solar power production, as on an annual average, these values can generate twice as much energy as for example plants in Germany. (GBN 2020)

Nevertheless, despite Namibia being relatively dry, it has a highly diverse vegetation, consisting of around 64 % savanna, 16 % desert vegetation and approximately 20 % dry woodlands. (FAO 2005) While it is estimated that only around 1 % of the land is actually arable, still, two-thirds of the surface are suitable for pastoralism, with the rest being wasteland, bush savannas, wooded savannas or small forest areas. Whereas the Namib and Kalahari Deserts feature unique ecosystems with highly rare desert plants, the mountain areas are only sparsely vegetated with different types of wood. Against that, the region of the central plateau is typical for scrubland vegetation with many bushes, grasses, and different types of aloe. In the north is the Etosha Pan, which is most common for trees and an important area for game. Though, the latter is also high in number for the rest of the country, nowadays sharing the space with cattle and sheep. Namibia also developed several nature reserves to protect its flora and fauna. (Green 2019) Looking at the utilization of this vegetation, especially the invading bush species in the north are increasingly considered as source for bioenergy generation. Covering an area of around 30 million hectares, they provide a large, still mostly untapped potential. However, especially logistical challenges are currently hindering this approach from being profitable on a large scale. (GBN 2020)

The diverse vegetation of the nation is underlain by a broad range of soils, from relatively fertile to low-quality sandy soils as well as rocks and sandy underground. The most fertile undergrounds are thereby in the north, on the central and southern

plateau and in the Caprivi Strip. However, in the end water is still the decisive feature for the cultivability of the land. This causes more and more issues, particularly in the densely populated, northern areas. Thus, the land there is increasingly overused, causing a lot of tree and bush cover to die, in turn leading to soil compaction or erosion. Since the 20th century, especially in the commercial farming areas, this led to a water table drop of around 30 m. (Green 2019)

Because of this importance of water, the availability of rivers is a major factor for human settlements. The 650 km long Fish River is thereby the most important stream, however, it only has a seasonal flow, drying out during winter. (WorldAtlas 2020) Against that, the permanent rivers are located along the country borders, with the Mashi, the Zambezi, the Kunene and the Okavango River in the north, and in the south the Orange River. While even more streams rise across the plateau, they also dry out in the central part. (Green 2019) Because of this river availability, Namibia is already strongly tapping into its hydropower potential. Main provider is thereby the Ruacana hydropower plant close to the Angolan border, which produces 347 MW of the 594 MW of installed generation capacity. (Kruger et al. 2019) However, due to the seasonality of the water flow, it can only produce its full potential during rainy season, making it less efficient. This is also the case in many other regions, making most of the hydropower potential theoretical. (GBN 2020)

Another physical aspect of Namibia that strongly affected the countries' history, is its enormous richness in minerals and natural resources. Diamonds are thereby the most important good, with outputs amounting between 1.6 and 2.0 million carats a year since 1970. Besides that, Namibia comes second in salt production and fourth in exporting uranium in Africa. It also features several other minerals in different regions, including copper, lead, zinc, fluorspar, and natural gas. (Cole and Blij 2007)

Overall, considering Namibia's physical characteristics it becomes obvious that the landscapes are highly diverse, causing only some of them to be suitable for human settlements or agriculture.

2.2 Human Geography and Demographics

Besides its physical geography, also Namibia's demographic situation is very special. With 2,536,102 people living in the nation in May 2020, Namibia has worldwide the

second lowest population density. As a result, its citizens only represent 0.03 % of the total world population, adding up to only 3 people per square kilometer. 55.2 % of them currently live in urban centers. (Worldometer 2020b) With a population growth rate of around 2 %, both, the rural and urban population are increasing comparatively slow compared to other African countries. However, the urban population rises more strongly, due to people moving to the cities to avoid rural poverty. Another reason for this rural-to-urban migration is that especially the black population was historically for a long time forbidden to live wherever they want. With having more rights since independence, they now migrate and make use of their new freedom. Regarding the distribution, almost half the Namibian population lives in the north and around 15 % reside in commercial ranching areas around Windhoek. Additionally, some 10 % each live in the Greater Windhoek area and the central and southern remnants of the colonial homelands. The rest of the population inhabits the coastal regions and old, inland mining towns. The population age of Namibia is thereby quite young, with two fifth being below 16 years and more than one fourth between 15 and 29 years old. (Green 2019)

Culturally, the Namibian population consists of several tribes and ethnic groups, causing a colorful mix. However, there are certain groups that make up the predominant proportion. Accordingly, nowadays the Ovambo people make up almost half of all Namibians (Pariona 2019) and two thirds of the countries' black population. (Green 2019) They live mainly in the north, divided in 12 smaller tribes. While they nowadays mostly harvest millet and raise livestock, they were originally ruled by a chief, who was responsible for distributing land and re-assigning it after a persons' death. A little more eastern live the Kavango People, who make up around 9 % of the entire population. Other than the Ovambo, they still live traditionally as subsistence farmers. The Namibian law even supports this lifestyle and their right to live under a traditional government, causing them to have a ruling king for each of their five kingdoms. Around 7 % of the Namibians are Damara people and live in the northwest. While there is little known about them, it is assumed that they are descents of gatherers and hunters. Due to their belief in communally owned property, they were forced out of the central part of Namibia by the Nama and Herero. The latter also

make up around 7 % of the population and, like the Nama, arrived from eastern Africa. In Namibia they settled in the central part, due to the best grazing land being there. Up until colonisation, they lived quite separately and without interaction with other tribes. During the German regime, they then initiated the uproar against the occupation, leading to around 80 % of both, Herero and Nama being killed. Besides these main groups, there are also some smaller tribes, like the Caprivian, the San, which are also called Bushmen, the Tswana or the Himba. However, they only amount to a minor part of the population. (Pariona 2019) A rough illustration of the current distribution of these ethnic groups is visible in Figure 1. It shows that most of them still live in the proximity of the regions, to which they were resettled during colonialization. However, as opposed to this period, nowadays there are also numerous people that live and work on farms throughout the country. Unfortunately, this is not visible on the map. Overall, it therefore must be kept in mind that the illustration only provides a rough overview.

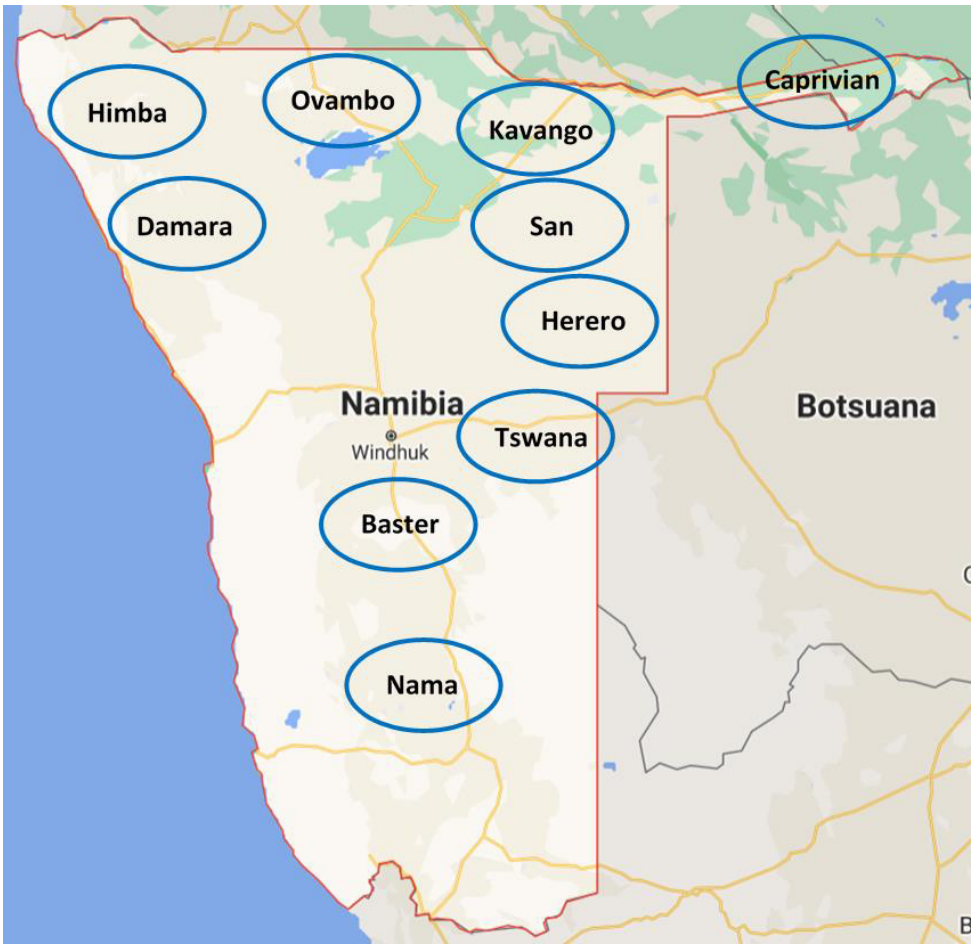

Figure 1: : Rough distribution of ethnicities in Namibia; Figure adapted from Figure "Landnutzung und Bodenschätze in Namibia" in Kößler (2020) and from information gained from Pariona (2019)

The last larger group are the white Namibians from mostly German, British, Portuguese, or African descent. They make up around 7 % of the population. However, like with the other percentages, the number is not 100 % accurate, as the government no longer collects racial data. Nevertheless, the white population mainly lives in the urban centers, mostly owing to their privileged status during the colonial apartheid regime. This prioritization can still be felt today, with especially this white population group still benefiting the most. Thus, despite the land reform trying to redistribute the land, this small number of people still owns almost 50 % of all arable areas, illustrating the long-lasting effects of the apartheid regime. (Pariona 2019)

A similar picture is given in terms of linguistics. Thus, while English is the official language since 1990, only 3 % of the population speak it as their home language. Against that, more than 80 % of all Namibians speak Ovambo. Nama and Damara are spoken by around 6 %, followed by Kavango, Caprivian, Herero and Afrikaans by around 4 % each. However, none of the latter are acknowledged as Namibian native languages. While this again seems to be attributed to the colonial time, it is no major issue, as most Namibians speak at a minimum two or three indigenous and European speeches, thereby preventing language barriers. (Green 2019)

In terms of health, Namibia is one of the African countries with the best health care systems. It focusses on primary health care and prevention, as well as on a nationwide availability of hospitals and doctors. In this way, attempts are made to also provide medical care to the remote, rural areas. However, despite this, there are still several issues that need to be addressed. Accordingly, Namibia is among the countries with the highest number of AIDS infected, despite free antiretroviral treatments since 2003. Also, poverty is a huge issue, leading to malnutrition and high infant mortality being common. Most sensitive to these issues are women and children. However, Namibia is trying to counteract this by empowering especially these groups through access to education, employment, better nutrition and child health opportunities. (Green 2019)

Looking at the economy, as a lower-middle-income nation, Namibia has an above-average gross domestic product (GDP) compared to other African countries.

However, also here are several challenges. One major aspect is for example inequality, as was already shown by some of the previously stated points. Accordingly, Namibia is very slow in reducing and fighting the still existing disparities between “black” and “white”. As a result, it is one of the nations with the most iniquities taking place worldwide. This is also shown by the Gini Index, which is a coefficient specifically aiming to show inequalities. For Namibia, it showed that from 1993 to 2015 there was only a minor improvement of 7 points, changing from 64.6 in 1993 to 57.6 in 2015. In both cases the numbers and thus the measured inequalities on household levels are extremely high, causing the reduction to still be way too low. (World Bank 2019)

Besides that, even though poverty rates have been reduced since independence, still around half of all citizens live below the national poverty line. Looking at the international definitions of poverty, being US$ 3.20 per person per day, in 2018 still 33.7 % lived below that line. 15.5 % even lived below US$ 1.90 per person per day, which was the international poverty line before its adjustment. While there are worse numbers in other African countries, for a lower-middle-income economy, they are still extremely high. Again, women, children, and old people are the most concerned, as well as citizens living from subsistence farming. (World Bank 2019)

A fact contributing to these numbers is, that one out of four Namibians still does not have secure income. If looking only at the black population, even two third of them do not earn enough money and therefore live in extreme poverty. (Green 2019) What is striking is that the numbers even increased over time, with 27.9 % of the working population being unemployed in 2014, and already 34 % in 2016. If only women or the youth are considered, the numbers look even worse. Consequently, due to lack of income most poor citizens in Namibia are dependent on subsistence farming or social support. (World Bank 2019) An aggravating factor for the black Namibians is thereby that even if they find a job, they will be disadvantaged due to a strong disparity in payment between black and white persons. Thus, the income of the latter is usually several times higher. Especially in case of traditional groups, this can cause major social issues, as unemployment and a lack of income can adversely impact traditional social groupings and disorganize their internal structures. Thus, it can lead

to neighborhoods breaking down or cause anomies that characterize townships. This could have far-reaching consequences, as especially the black cultures already experience a shortage of support from government due to lack of acknowledgement on how important traditions are for people's development. (Green 2019)

Looking at the economic situation, due to an ongoing economic recession there is no prospect for these unemployment rates to improve anytime soon. Thus, since around 2017 the economic activities in Namibia declined drastically due to a long-running fiscal consolidation process. While this keeps dragging down the economy, it is only exacerbated by the equally slow performance of the neighboring economies. The latter adversely affects the demand for Namibian exports, in turn causing a drop in the productive sector. Concerned are thereby particularly sectors like mining and manufacturing, which are usually strong and contribute significantly to the countries' GDP. (Green 2019) Thus, mining for example constitutes 30 % of Namibia's GDP. However, interestingly, at the same time the sector comprises less than 10 % of the nations' labour force. (World Bank 2019) On the other hand, the agricultural sector "only" produces 11 % of the GDP, however, simultaneously employs around 35 % of all Namibians. (Green 2019)

Nevertheless, in 2018 there were some signs pointing towards a potential recovery. Thus, the mining sector expanded by 11 % due to increased uranium production in one of the mines. Similarly, the construction sector recovered by around 10 %, mainly due to private sector investments. However, the success was set back again in 2019, when the Republic of Namibia experienced a severe drought, reducing the crop production by around 53 % compared to previous years. The extend of it was so serious, that President Hage Geingob even declared a state of emergency. Thus, more than 500,000 Namibians suffered from food insecurity and shortage of water and around 60,000 head of cattle starved because of lacking grazing lands. Besides that, the extend of this disaster also had strong effects on the nations' economy. Thus, it only amplified already existing issues, like poverty, unemployment, and the spread of diseases. (World Bank 2019) The situation also did not get better in 2020, with the global crisis of Covid-19 taking its toll also in Namibia. (Worldometer 2020a)

Overall, compared to its pre-independence status, the nation developed strongly. Still, there are certain important challenges that it needs to overcome. As many of them seem to be attributed to the countries' colonial history, the following Chapter will look particularly at these past events, especially in terms of land distribution.

2.3 Historical Background

As mentioned before, Namibia's history plays a major role in the country's development and particularly in its still ongoing issues surrounding the land distribution. For this reason, this chapter will provide an extensive overview of the historical events that took place and led to Namibia as it is today.

Looking at the very early beginnings, as descendants of hunters and gatherers the San people were the very first humans coming to Namibia around 25,000 BC. According to rock paintings, they settled down in the southern mountains, forming the oldest ethnic group. The Nama then arrived only around the first century BC, mainly living from livestock farming. Afterwards, it took many more years for other indigenous groups to inhabit the nation. Accordingly, in the 15th and 16th century, nomadic Bantu communities, particularly the Herero arrived in Namibia. Coming from the northeast, they expelled the San from their territories, causing the very first case of displacement. Around the 18th century, they finally settled in the central part, leaving the north for other groups, like the Himba. The Ovambo came from the northern parts of Central Africa around the 16th century, followed by the Orlaam during the 19th century, and shortly after by white farmers, the Boers. On their search for suitable land, the latter pushed the Orlaam from their original settlement, causing another case of land dispossession. (Hackl n.d.) As the Boers came in from the south, new trading routes were opened, bringing in European goods like guns and firearms. While this created a small trading network, it also caused conflicts to get worse due to the usage of these weapons. (Katjavivi 1989)

One major reason for several of these violent conflicts was the demand for land. Thus, it led to first agreements between the Orlaam and the Nama, ensuring the protection of the arable, central grassland from the Herero. The last indigenous group coming to Namibia were then descendants from Boer men and Nama women called the Basters. They were pushed further north through an increasing number of white

settlers coming to Namibia in 1868, eventually funnelling them in the central parts. (Hackl n.d.) Overall, these first cases of human settlement show the strong importance of land already in the early peoples' lives. However, while smaller fights for land were common, large expropriations only started with the arrival of the Europeans.

The very first non-Africans coming to Namibia were thereby two Portuguese explorers, Diogo Cão and Bartholomew Diaz in 1485 and 1486, both not entering far into the country. The latter only stopped for a short period, naming the anchoring place 'Angra Pequena'. Besides that, except for some Dutch explorers in 1670, the first actual settlers penetrating the nation arrived only in the late 1700s. Thereby, they also caused the first European influences. (Katjavivi 1989) Thus, in 1793 Dutch settlers decided to take over control of the Cape Colony and Walvis Bay, the latter being the only suitable region for a deep-water harbour. In 1797 the United Kingdom took over control of the region, finally also deeply penetrating the country after officially claiming the territory of Walvis Bay (Figure 2). Reason therefore was to pre-empt German ambitions in this area and ensure the sole power over the harbour. It was the first official land claim made on parts of Namibia and was followed by first treaties between the locals and the British. (Green 2019)

German South West Africa and the War of Resistance

In 1883 the German trader Adolf Lüderitz came to Namibia and discovered the nations' large diamond deposits. It prompted him to make a deal with the current Nama chief Joseph Frederick of Bethanie, securing him the rights over Angra Pequena, which he soon renamed to 'Lüderitz'. The location thereof as well as of Walvis Bay can be seen in Figure 2, which illustrates the land situation of 1998. Nevertheless, through recognizing the value of Namibia, Lüderitz also triggered the political and economic interest of Germany, leading to the German colonial rule. (Katjavivi 1989) Accordingly, he convinced the German chancellor Otto von Bismarck to claim the region before the British, which was done in 1884. By 1886, together with the British and the Portuguese the borders were established, forming the colony 'German South West Africa'. The coastal area and Lüderitz thereby became German protectorate (Hackl n.d.), initiating the acquisition of large areas of land for the newly

arriving white settlers. (Villiers 2003) However, the indigenous Nama strongly resisted this land claim and first fights arose, subsequently becoming famous as the 'The Hottentot Uprising'. (Hackl n.d.)

Figure 2: Historical map of Namibia showing some landmarks and early settlements of 1998. (Green 2019)

In their protectorate, the Germans gained control through typical colonial tactics. Thus, they used the competition over land and cattle, played different groups against each other and forced the chiefs into signing protection treaties. The latter was also the case in 1885, when the current Herero chief agreed to a treaty, giving the Germans power over an ill-defined area of land. However, because of the land expropriation the Herero's voided the treaty in 1888, leading to bloody conflicts that were resolved with German military force. (Katjavivi 1989) It ended with Germany enacting policies that provided them ownership over more than 22.5 million hectares of land, with another 29 million hectares belonging to concession companies. Accordingly, already at that time only 31 million hectares of land were still under

indigenous control. (Figure 3) Besides that, also the settlement structures were affected, as the Germans started creating reserves for the locals, which were easier to control and left more space for themselves. (Villiers 2003)

However, these tactics caused rising resistance among the indigenous groups, culminating in the Herero's declaration of war on January 12th in 1904 and hence the 'War of Resistance'. Around 100 armed German men were killed, and, after the joining of several other southern and centrally resident indigenous communities, the Herero's took control over most of the central part for around 6 months. However, on August 11th, 1904, the decisive battle was fought, with the Germans not making distinctions between man, women, or children. As a result, thousand Herero were killed, or died when trying to escape through the Kalahari Desert. Most survivors were taken prisoners of war and ultimately died of harsh working conditions. Overall, from then on Herero's were generally banned from the German territory. (Katjavivi 1989) Besides that, also their land was taken over and only further increased the German territory. (Villiers 2003) At the end of 1905, this fight for land led to 75 % – 80 % of the Herero population having been killed. 14,000 of the 16,000 survivors where prisoners in German concentration camps and only few managed to escape to the neighbouring countries. In the time following, German laws then forced many indigenous people to work for them, leading to the implementation of the exploitive system of contract work by 1910. It left the black population as cheap labour force on the now white-owned land. At the same time, also several other, smaller riots against the German occupation took place, led by various of Namibia's indigenous people. However, all of them were violently dissolved. Eventually, this caused the Nama to suffer great losses as well, with 35 % – 50 % of them having been killed by 1911. (Katjavivi 1989)

Nevertheless, also the aftermath of the war and the post-war policies strongly affected people and land in the southern and central regions. Thus, due to the land expropriation, by 1911 almost every piece of good, grazable land was owned by white people. (Figure 3) This in turn motivated even more German settlers to enter the country, leading to the slow destruction of indigenous traditions and community structures. Thus, cattle raising was forbidden, potential leaders were killed and access

to education was denied, causing the indigenous groups to slowly become subservient to the colonisers. (Katjavivi 1989)

South African Administration

However, while this colonization had a huge impact on the land allocation and race differentiation in Namibia, everything changed again after World War I, when South Africa defeated the German forces and took over control in 1915. (Dugard 2019) Thus, after a 'Conference of Peace' in Paris in 1919, the 'League of Nations' was formed, eventually establishing a mandate system according to Article 22 of its Covenant. (Katjavivi 1989) Accordingly, all areas that were previously under German rule but could not yet manage themselves were put under the administration of other nations that had to report back and follow the rules of the League of Nations. German South West Africa was thereby put under the administration of South Africa. (Dugard 2019) At that time, the amount of land owned by black people had dropped from 31 million hectares to only 13 million hectares. (Villiers 2003)

However, rather than managing, now 'South West Africa' (SWA) as predefined, South Africa planned on integrating it fully into its 'Union of South Africa'. Thus, it continued the colonial behaviour, using violence and force for dissolving conflicts with the native communities. Also, land expropriations continued, with even more spaces being taken from the natives, bringing in more and more white settlers. Besides land, the white immigrants were also provided with financial loans and infrastructures, making the migration even more attractive. As a result, by 1926 the number of white people almost doubled compared to that of 1914, despite more than 6,000 German soldiers having left the country. (Katjavivi 1989)

Through managing the country as part of their Union, South Africa also started to discriminate and domineer the indigenous, black people in the same way as it did with its own black population. (Dugard 2019) Thus, the indigenous groups in the southern and central parts were moved to specific reserves for black Namibians, mostly consisting of dry, inhospitable areas of land. Eventually, this left them with only 2 million out of 57 million hectares of land, despite the black people amounting to 90 % of the entire population. In strongly restricting the indigenous movements,

South Africa also ensured itself cheap labour forces. Thus, while the black population had to leave the reserves to earn money, they were only allowed to work in and enter specific areas, depending on their health and capabilities. This led to a new level of exploitation and the beginning of an outcry against the working conditions of contract workers. As a result, in 1958 the 'Ovamboland People's Congress' was formed, eventually leading to the foundation of the 'Ovamboland People's Organisation' (OPO). Its aim was to improve the working conditions in Ovamboland, and, after its renaming to the 'South West Africa People's Organisation' (SWAPO), also everywhere else in the country. Nevertheless, regarding the land distribution, by 1937, almost the entire central and southern region was owned by whites (Katjavivi 1989) and Namibia was an "unofficial" part of South Africa's apartheid regime. (Dugard 2019)

UN Charter Replacing the Mandate System

Nevertheless, after World War II in 1945 an important step was done with the signing of the United Nations (UN) Charter, therewith replacing the League of Nations' mandate system. This was a significant event for Namibia, as it introduced a new trusteeship system. Accordingly, from then on, the administration of territories should take place independently and without harming the locals or their rights. However, while it was expected that the territories are "given back", no real obligations for the administering countries were issued. This in turn was used by South Africa, who continued its plan of incorporating SWA. Thus, in 1946 it formally requested the regions inclusion at the UN General Assembly, however, was rejected and asked to follow the trusteeship system. While South Africa still refused, as a compromise it promised to administer SWA according to the values of the mandate and to submit respective reports. However, this promise changed already three years later, when the 'South African National Party' took over because of apartheid and denied all commitments towards the UN. Instead South Africa even started to apply its racist policies to SWA, therewith starting a several decade-long period of confrontations with the UN and South Africa politically and legally fighting over SWA. (Dugard 2019)

During this time, violent displacements and discriminations continued to take place, leading to several more fights and resistance among the black citizens. In the 1950s,

it caused the formation of various organisations, among others student bodies or political associations. (Katjavivi 1989) However, thereof especially SWAPO played a major role in the newly arising nationalist movements of that time. Thus, they further extended their goals, now fighting for independence, the abolishment of racist policies and the end of contract work. South Africa answered this increasing opposition in 1951, when it officially extended its apartheid policies to South West Africa. (Hackl n.d.)

In December 1959, as a result of violent fights, among others the OPO leader, Sam Nujoma, had to flee the country, taking with him hundreds of followers to prepare for an armed fight. (Hackl n.d.) This also drew the attention of the UN who called on South Africa to enable Namibia's independence. (Katjavivi 1989) However, instead of complying, in 1964 South Africa introduced the Odendaal Plan, on how to best develop South West Africa.

It was clearly along the countries' racist apartheid policies, suggesting the implementation of ethnic homelands that left limited control over land, and caused an even stronger separation between the ethnic groups. The homelands made up only 33 million of the countries' 82 million hectares of land area and exemplified the nations' prioritization of the white settlers. Thus, while the white-owned areas benefited from all types of support schemes, the likes were absent in the black reserves. As a result, while the white sectors developed rapidly, the black population was barely able to self-suffice, with lack of land, money, and public services. Overall, by the end of the land settlements in the 1960s, all areas suitable for commercial farming were given to the white people in power, with the black population being forced in the homelands and reserves. (Villiers 2003) Figure 3 shows the changes in land allocation up until the Odendaal proposal, illustrating the years 1902, 1911, 1937 and 1964. The communal areas thereby represent the mainly black owned areas, whereby the freehold areas illustrate the takeover by the colonizers.

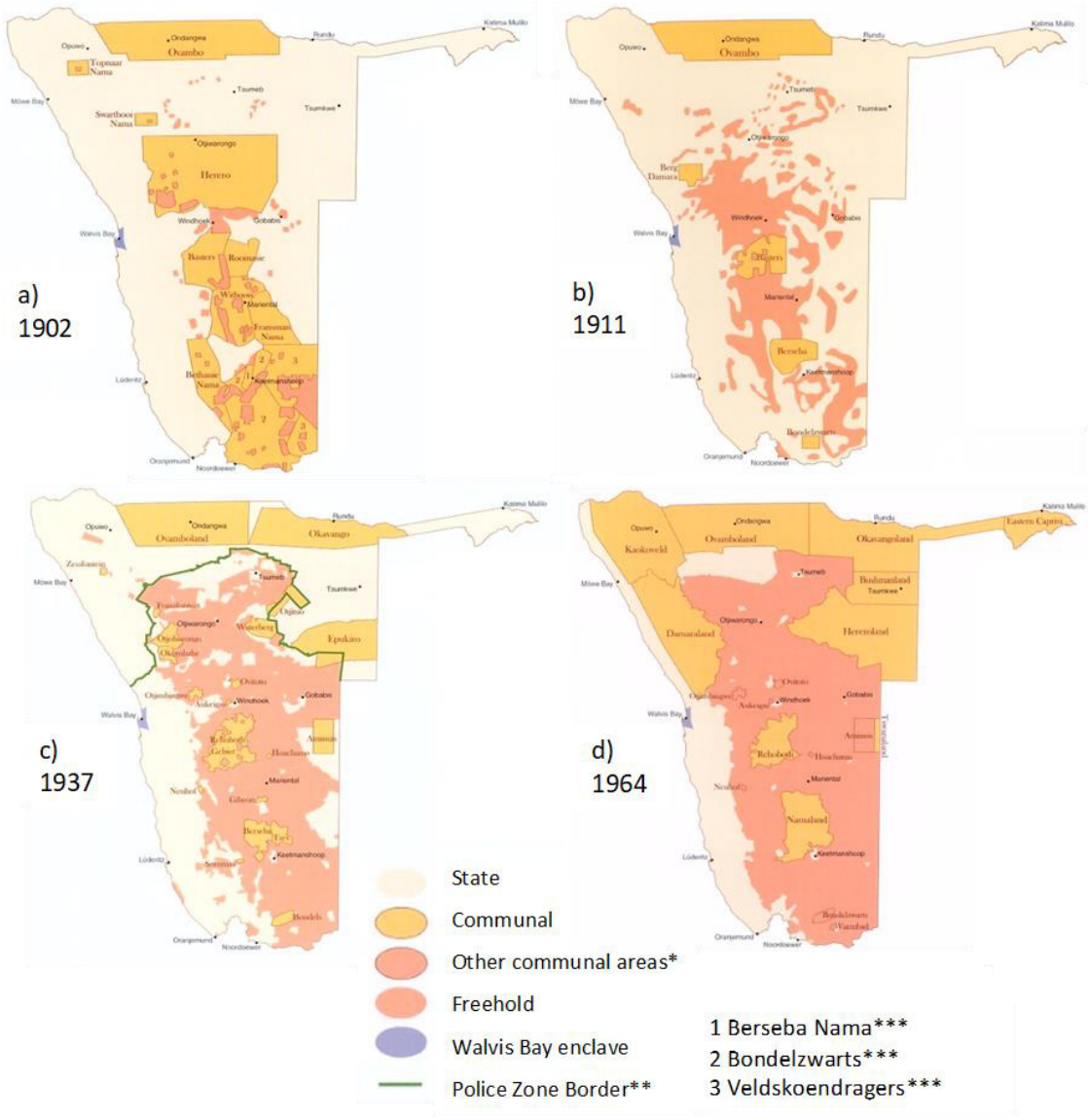

*Figure 3: Changing land allocation in Namibia a) 1902: after start of German colonialization b) 1911: after 'War of Resistance' c) 1937: after South African takeover d) 1964: the Odendaal suggestion; Note: *only d) **only c) ***only a) (Mendelsohn 2003)*

First Authentic Representation of Namibia and Independence

However, the Odendaal plan finally led to the UN withdrawing South Africa's mandate for administering SWA and starting anew tries to get back the control. When South Africa again rejected, the SWAPO officially called for an armed fight against the oppression. (Hackl n.d.) While the first fights in August 1966 led to a declaration of the state of emergency, two years later the UN General Assembly officially renamed 'South West Africa' to 'Namibia'. (Katjavivi 1989) However, fights went on and led to the SWAPO founding the 'People's Liberation Army of Namibia' (PLAN) in 1971. It was

the first organized coalition of freedom fighters that got observer status by the UN in 1973, being acknowledged as the first authentic representation of Namibia. (Hackl n.d.)

With the end of the colonial regime in neighbouring Angola in 1975, the latter started to support the freedom fighters and opened its borders for SWAPO members. The latter increasingly used the protection of Angola to their advantage, eventually causing South Africa to attack across its borders and thus on foreign territory. With this it directly violated UN mandate, causing many South African officials to change sides and join the opposition. Overall, this strongly empowered SWAPOs independence fight while simultaneously increasing the pressure on the South African government to enable Namibia's independence. (Hackl n.d.) Thus, in the same year it caused South Africa to participate in discussions about a new Namibian constitution, which took place at the 'Turnhalle Constitutional Conference'. However, while representatives of 12 different ethnic groups attended the discussions, no political organisations were allowed to participate. As a result, despite the outcome being the formation of a ruling party, the latter was neither acknowledged by the UN, nor by South Africa. (Katjavivi 1989) In 1983, this elected national assembly was dissolved and Namibia again ruled by the 'South African General Administration', in turn causing renewed fights. Overall, only in 1988, South Africa agreed to new dialogues, resulting in a ceasefire and the UN Resolution 435 becoming law by November 1st. In November 1989 new elections took place, with a total majority for the SWAPO and its leader Sam Nujoma as president. With this, also the last South African troops left Namibia and 42,000 refugees could return to the country. The new democratic constitution became effective in February, and on March 21st, in 1990 Namibia became independent. (Hackl n.d.)

POST- INDEPENDENCE

However, even after the victory, there were still remnants of the colonial system, leaving behind a highly racial land distribution. Accordingly, only around 4,500 mostly white farmers owned 43 % of the total agricultural land, while at the same time another 42 % of land area had to house around 15,000 black households. Additionally, restricted tenure regulations prevented the latter from using the land

how they wanted, thereby further limiting their freedom. Overall, this quickly caused a demand for change, initiating the land reform process that is still taking place today. (Villiers 2003) A more in-depth analysis of the Namibian 'Land Reform' will follow subsequently in Chapter 2.4.

Nevertheless, in 1993 Namibia introduced the Namibian Dollar, which was quickly decoupled from the South African Rand. One year later, Walvis Bay was returned from South Africa, giving Namibia power over this important deep-water harbour. (Hackl n.d.) Regarding the political development, both, the SWAPO and Nujoma stayed in power for three legislative periods, getting re-elected in 1994 and 1999. (Green 2019) In 2002, Theo-Ben Burirab was elected as new prime minister with the land reform being his main priority. Accordingly, he initiated a rethinking of current land structures and pushed forward the land reform process, supported by president Sam Nujoma. (BBC 2019) In 2004, also a political change in power took place when SWAPO member Hifikepunye Pohamba became president, getting re-elected in 2009. In 2014 another switch took place, with Hage Geingop wining 85 % of the votes. During all these election and despite occasional critiques and controversial constitutional amendments, SWAPO always stayed main political party. (Green 2019)

In the years after the new millennium Namibia managed to push forward in many fields. Accordingly, in 2006 the national anti-polio-vaccination campaign was launched. One year later, first agreements were made with the Chinese President Hu Jintao, aiming for economic development. In 2011, the discovery of offshore oil reserves marked another economic success. (BBC 2019) However, due to the beforementioned economic stagnation in 2017, in 2018 for the first time, officials were forbidden from travelling abroad to reduce public expenditures. (Shaban 2018) The effects of this economic crisis could also be felt in the last elections in 2019, where Geingop was re-elected only with weak numbers. (Green 2019)

Overall, looking at Namibia's past it becomes clear, that especially the access to, and ownership of land has always been a huge, controversial topic. Nevertheless, with the land reform, first steps have been made towards a redemption of past mistakes. (Green 2019) The next chapter will therefore analyse its development and the effects

on people and the current land situation in Namibia. Figure 4 illustrates a rough timeline of the countries' history, showing some of the most important events.

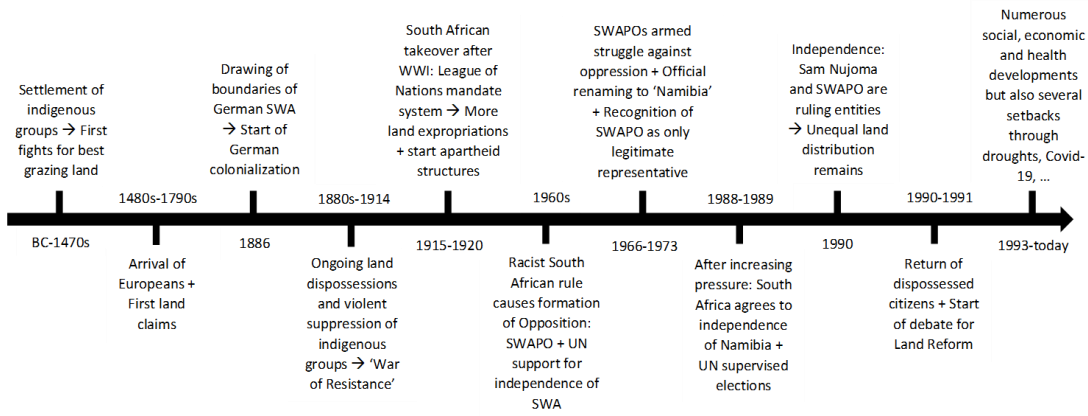

Figure 4: Timeline of some key events and eras of the Namibian history (Source: Personal Collection)

2.4 Land Reform

As mentioned before, one of the major issues after independence was the highly unequal distribution of land, that was left behind by South Africa. However, besides an unequal land distribution, also the land management was divided, with modern legislation applying for commercial areas, while the communal land was ruled through oral agreements with the local chiefs. As a result, the country was split along racial lines with unequal opportunities, often depending on where you lived and how the land was managed. While clear regulations were available for commercial areas, they were often lacking for the communal land, eventually also affecting aspects like the availability of infrastructures, social services, or the access to cultivable land. Overall, it lead to rising demands for the redistribution of the commercial land to its original indigenous owners. (Middleton et al. 2016) These claims were also recognized by the new government, which acknowledged a land reform as a prerequisite for the new republic. Accordingly, with independence in 1990, especially for the purpose of planning and administering the land, the 'Ministry of Lands, Resettlement and Rehabilitation' was founded (USAID 2010), nowadays renamed to the 'Ministry of Land Reform' (MLR) (Melber 2019).

The first step towards a more equal and fair land distribution was then made with the country's Constitution in 1991. Accordingly, it emphasises that every Namibian citizen has the right to own, buy and sell land, as well as to hand it down to their

offspring. It also recognises customary and indigenous rights, stating that customary law is always valid, except it is specifically declared unconstitutional. With that, traditional leaders in most communal areas stayed responsible for the land allocation while being supervised by the newly introduced 'Land Boards'. (USAID 2010) However, especially important clauses of the Constitution had already been developed when the negotiations began in the early 1980s. As a result, they often do not sufficiently address the need to change the racist patterns of land distribution. Instead, socio-economic inequalities are mostly perceived as "default" situation, thereby preventing significant changes from taking place. Thus, mainly white farmers still privately owned around 48 % of the land, while more than 70 % of the population lived on only 35 % of the remaining communal land. (Melber 2019) The latter then had to be managed according to government-structured customary laws. As these were often still based on the old believes and thoughts, they further restricted the land usage. (Harring and Odendaal 2008). The remaining areas were state owned and mainly used for conservation or resource extractions. (Melber 2019) Nevertheless, especially in terms of access to farmland, inequality was high. This was a huge problem, as most of the Namibians lived and still live from subsistence farming, with the commercial farming sector being one of the biggest employers. Especially the poor population was consequently often faced with unemployment and concomitantly poverty. (Werner 1999)

The First Land Conference and the Start of a Land Reform

When after independence the National Assembly met for the first time, it caused the demand for a new land distribution to peak again. (Middleton et al. 2016) In 1991 it led to the first 'National Conference on Land Reform and the Land Question' in the capitol. The five-day event brought together 500 participants from all over the world and led to 24 resolutions being passed by consensus. (Werner 1999) The goal was thereby to change the racist remnants of the past through a comprehensive land reform that would allow socio-economic development for everyone. Thus, redistributing the land and giving more land rights to everyone will cause that the benefits of certain regions and the access to its natural resources become more equal. This in turn will provide more opportunities also for the previously

disadvantaged groups, which can profit from social services, infrastructures, and new economic possibilities due to land access and ownership.

For this reason, the Conference addressed the land distribution as well as the reform of commercial, communal, and urban land. While the resolutions were not politically binding, the event was still important for people to voice their demands. It led to the creation of a policy proposal with the main outcomes guiding the steps of the reform. (Middleton et al. 2016) It was found that because of the complexity of ancestral land claims, finding a common solution would be impossible. Besides that, communal land should be further developed as a cheap way to empower the poor population through shared land access. (Villiers 2003) While the government would keep the final say in resettlement processes, the redistribution of commercial land was recommended on the basis of a 'willing buyer-willing seller' concept. Land taxes were also suggested, as well as the usage of underutilised land owned by absent foreigners for redistribution. The land size and number of farms owned by one person should be limited and the rights of disadvantaged communities in the communal areas strengthened. (Melber 2019) Besides traditional customs, also land tenure rights and the role of traditional authorities was discussed. Overall, the conference achieved a lot of mutual consent, however, no palpable outcomes were made. (Villiers 2003)

In 1991, the 'Technical Committee on Commercial Farmland' (TCCF) was created with the task of formulating recommendations based on the results of the conference. It focused particularly on the potential utilisation of abandoned farms, as well as under-utilised and foreign-owned land. Thus, the TCCF suggested among others that the latter should be expropriated if the owners do not live in the country and that people from abroad should not be given freehold titles that grant full land ownership rights. There should also be a minimum size of land redistributed, as well as a maximum size of land owned by one person. (Villiers 2003) Overall, the committees' report was then submitted in 1992 and taken into consideration for the following policy developments. (Werner 1999)

Still in this year the 'Affirmative Action Loan Scheme' was decided by the cabinet, enabling also poor people to buy farms. It was managed by the Agribank and the interest rate was subsidised by the government, providing people loans for a period

of 25 years. The latter provided state guarantees that could be used to get bank loans for the necessary payments. In this way, Namibians could get support worth up to 100 % of the land price. (Werner 1999) The scheme was quite successful and achieved that around 9 million hectares of commercial land were redistributed by 2015. (Middleton et al. 2016)

An Agricultural Reform for Commercial Land

The 'Agricultural (Commercial) Land Reform Act' (ACLRA) was adopted by the National Assembly in 1995, being the very first land policy based on the recommendations of the TCCF. (Harring and Odendaal 2008) It introduced the suggested principle of 'willing-buyer-willing-seller', with land being sold and bought as it became available voluntarily. Also, the states' right to the final decision in the resettlements was stated. In this way, the government could buy the necessary land for the purpose of redistribution. (Villiers 2003) Besides that, the Act led to a 'Land Tribunal' as well as to a 'Land Reform Advisory Commission' which support the MLR on how to allocate land and plan the acquisition. The beneficiaries of the resettlement were defined in Section 14(1), being all Namibians that do not own or have enough good agricultural land and especially the ones that were previously discriminated. (Werner 1999) Other major outcomes were a market-based compensation system and that foreigners were restricted from purchasing commercial farmland. However, despite it being suggested by the TCCF, no prohibitions against foreigners owning land were issued. Instead they are now given 'Certificates of Status Investment' to prove that their land is not required by the government. (Villiers 2003)

Rising Critique and only Slow Progress

However, despite many people approving, there was also a lot of criticism about the Act, often related to the refusal to return ancestral land. Thus, while the decision was justified with the complexity of the Namibian history, many assumed the reason to be a lack of interest on the part of the ruling party SWAPO. Accordingly, the latter's headquarters are in Ovamboland, where land expropriations had not been very extensive. The SWAPO was therefore more affected by people being displaced, rather

than by the expropriation of ancestral land. (Villiers 2003) Also criticised was, that land was given to everyone, including people whose property was not even taken away beforehand. Thus, due to the new approach, also these people could now claim land in areas that have previously been taken from others. It caused increasing hostility among the different ethnic groups and in turn a rising racial segregation, as especially the potential heirs of this land got more and more frustrated.

Besides that, rather than at least acknowledging the rights of people with ancestral claims, in some places the opposite happened, as local chiefs privileged the new political elite rather than the poor and previously dispossessed. As a result, high-ranking officials obtained state-funded infrastructures and land, which had often been intended as support for the communities. These areas were then fenced and privatised, illustrating a modern form of "land grabbing". (Melber 2019) However, even if the land was not "grabbed" and fenced, there were still many issues. Thus, as the Act provided open access to the common resources, it often initiated the usage by several parties, leading to the exploitation of the environment. In many cases, this caused the `tragedy of the commons`, meaning the rich people got even wealthier while the poor people got poorer. Thus, while the rich people used their power to utilize the resources and gain wealth, it often led to environmental degradation as the land was overused by several large farmers. The resources were consequently lost for the poor population that should have been the actual beneficiaries of these areas. However, due to lacking regulations, they did not have the opportunity to defend themselves against the more wealthy and influential persons. The latter in contrast benefited strongly from the open access situation, potentially also being the reason why no actions were taken against these wrongful land expropriations. On the contrary, because of these disparities in power and the shortage of clearly rights over the commonage land, more and more encroachments took place. One example is the case of Tsumkwe, which was entered by several farmers from Gam to use its grazing ground. (Mendelsohn et al. 2012) Overall, around 300 situations of illegal fencing were recorded in the period from 2012 to 2015 alone. (Melber 2019) This preferential treatment of non-beneficiaries also caused people to fear that the government might

use its expropriation power for their own interests, rather than for the common welfare. (Villiers 2003)

Thereby, already another criticised aspect of this system was mentioned, being the lacking scope of action in case of violations of existing regulations. Thus, for example 'Article 18' of the Constitution demands that administration processes are fair and equitable. However, in case of these wrongful allocations of land, no one ever legally challenged them. The reason therefor was, that most accusers would either be the farmers selling their land willingly, or the mostly poor beneficiaries of the land reform, which often did not have access to the legal system. (Harring and Odendaal 2008) As a result, even if people wanted to complain about these events, in most cases they did not know how or had no access to the respective means.

Another factor causing dissatisfaction was the compensation of the "willing sellers". Thus, it was argued that these people got paid for land, which they took from others without compensating them. Similarly, it was criticized, that land could only be bought as it became available. Through this, the access to available land was limited and the success of the redistribution ultimately in the hands of the mostly white sellers. It also caused that money was spent on regions depending on who offered land, rather than on where resettlements would be the most suitable. (Villiers 2003) As a consequence, most of the offered land was marginal, while the good, arable farms were off the market. In many cases the government even had to decline offers for sale, as the farms were too unsuitable for agricultural purposes. (Harring and Odendaal 2008) This led to several years in which the MLR even underspent its budget for relocations, like in 1999, when only 4 farms were bought out of 142 offers. Besides the farms being inadequate, also the lack of social services and infrastructures exacerbated settling down for new farmers. (Villiers 2003) Thus, the farm offers were mostly located in very remote areas without supporting services. As a result, it was difficult for the new owners to access basic necessities, often leaving them unable to provide for themselves. (Melber 2019)

As critique point was also raised, that the 'willing-buyer-willing-seller' principle prevents a land reform towards an agricultural economy that is based on several products. Accordingly, currently agriculture in Namibia is mainly focused on cattle.

However, while this worked for the white farmers due to strong supporting schemes, these are now missing for the black population, making profitable farming highly difficult. (Harring and Odendaal 2008) Besides that, a point raising scepticism was the slowness of the distribution processes, especially during the first years. This was often justified with the fact that the landless people could not really exert political pressure, especially as 'Non-Governmental Organisations' only started to become effective at a later stage. (Villiers 2003) However, them having to apply pressure should not have been necessary for progress to happen. The 'Namibian Statistics Agency' stated that in 2018 still 70 % of all farms were owned by white people, with more than 250 being under foreign ownership. From around 8.2 million hectares of land offered since 1992, only around 3 million hectares were bought. (Melber 2019) Overall, this gives the impression of a lack of ambition from official side.

A reason for wariness were furthermore the overall costs of the land reform. Thus, enormous amounts of money were spent for the resettlements processes. In 1997 for example, the expenses added up to around N$ 30 million. As the country is also facing other pressing issues, like poverty, unemployment or diseases, this money could have also been spent elsewhere. It is therefore even more important to question the overall benefit of the reform. As mentioned before, commercial agriculture was and still is the most important employer of the country. Therefore, the advantages of resettling people must outweigh the potential consequences of increasing unemployment rates due to farms being sold. The same goes for expropriating absent foreigners which are often important for employment or tourism. Disowning them could lead to a loss of direct investments, especially because of the 'Protection of Investment Agreement' which was concluded between Namibia and Germany in 1993. Accordingly, everyone with a German passport would have to be compensated if their land were taken. (Villiers 2003) Considering the historical background and the German colonialization, this seems highly controversial and critical, as the ancestors of those that often violently dispossessed the actual citizens of Namibia now must be compensated for the land that was not theirs to begin with.

Nevertheless, in 1998, the National Assembly approved of the 'Land Policy Brief', which defined the various land rights and titles at that time. It was followed by the adoption of the 'Traditional Authorities Act' (TAA) in 2000, which specifically recognizes traditional authorities as legal entities, giving them fixed obligations and power ranges. In 2002 the 'Communal Land Reform Act 5' (CLRA) was adopted with the purpose of governing the influence of traditional authorities over communal areas and especially their right to allocate land. In its course, also 12 Communal Land Boards were established. (USAID 2010) Both, the TAA and the CLRA, were part of the governments' plan to also extend the land reform to the communal areas to gain greater access to land. (Werner 1999) At that time, most of the population still lived in communal areas and especially in the north. The CLRA now established a tenure security system that allows the registration of customary land use as well as of new lease-hold rights. As a result, also marginalized groups could register their already existing forms of land rights and gain ownership security for their land. The program was quite successful, and by 2015 already 80,000 land rights were registered, more than 40 % of them from female-headed households. (Middleton et al. 2016)

Overall, with these new Acts, the land reform now consisted of three major parts, being the redistribution of commercial land, the project development on communal land, and the 'Affirmative Action Loan Scheme' to support all these. (Werner 1999) The latter was thereby redesigned in 2001, together with a new 'National Resettlement Policy'. Reason therefore was the goal to also resettle the landless people. (USAID 2010) Thus, historically the urban spaces where exclusively for the privileged white population, while black people were not allowed to even enter them until 1978. Due to increasing demand for space, this caused more and more informal settlements to develop through the landless citizens. The CLRA was now providing an alternative. (Middleton et al. 2016) The idea was thereby based on the 'Squatters Proclamation' from 1985, which addresses this issue of people illegally living on the land of others. Thus, it ensures their relocation to temporary accommodations until they can be resettled to long-term homes. (Odendaal 2005) In 2007, additionally the 'Namibian Communal Land Administration System' (NCLAS) was developed as

registration tool to improve the accuracy of recording customary land rights. Accordingly, from then on, after the land allocation by the traditional authorities, the process had to be confirmed by the Communal Land Board and subsequently be registered with NCLAS. (Middleton et al. 2016)

The Call for stronger Actions and a New Vision

Around the 2000s, again complaints arose regarding the lack of progress in the land reform, eventually leading to demands for more drastic measures. This included claims for land expropriations without compensation. Thus, citizens as well as the electoral base of the SWAPO demanded an end of the 'willing-buyer-willing-seller' concept and urged for more effective actions. (Villiers 2003) The demands were supported by estimates stating that with the current system another 100 years would be necessary for buying only one quarter of the white-owned farmland. (Harring and Odendaal 2008) Figure 5 shows the land allocation in 2001, thereby illustrating the similarities that still existed compared to the Odendaal proposal. As a result, in 2004 changes started to take place, with Namibia introducing its new 'Vision 2030'. It emphasised among others the countries' goal of developing a sustainable agriculture. (USAID 2010) In the same year, the start of expropriation measures was declared for the purpose of land reform. However, thereby the compensation schemes were maintained. (Harring and Odendaal 2008)

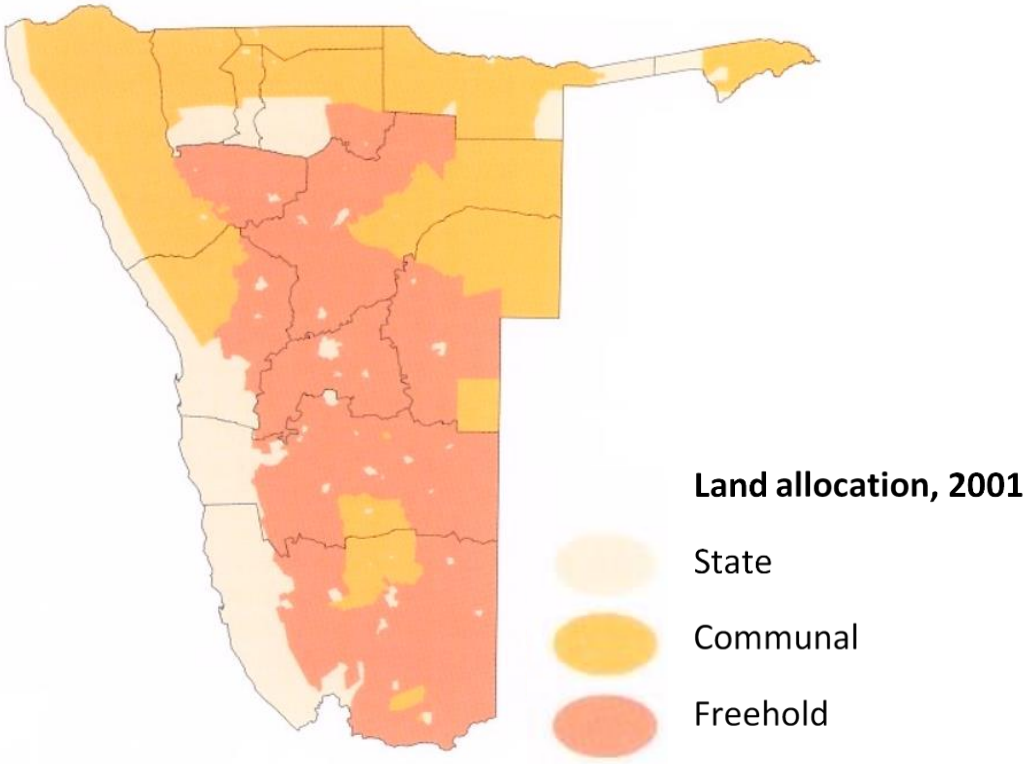

Figure 5: Land allocation in Namibia in 2001; 'Freehold' thereby refers to the mainly white-owned commercial areas, while 'Communal' illustrates the areas inhabited by mainly black people; (Mendelsohn, 2003)

In 2005, the new 'Land Reform Action Plan' (LRAP) was passed as a measure to realize the land expropriations. With this, it was estimated that more land would be available much faster and in arable regions, giving the new black farmers the best possible starting position. (Harring and Odendaal 2008) The target was to redistribute 15 million hectares of white-owned land to previously discriminated black farmers by 2020, through buying farms under the 'National Resettlement Program'. The land should then be divided into smaller areas, which are given to the beneficiaries under a lease-holding title. (Middleton et al. 2016) By not depending on people offering their farms, now also much larger, connected areas of land could be bought, allowing an organized restructuring of the agricultural system and the reuse of existing infrastructures. (Harring and Odendaal 2008)

Controversial Land Expropriations

Still in 2005, the legal land expropriations started to take place, with Ongombo West being the first farm that was purchased. However, the reason for this purchase was

quite controversial and not at all according to the ideas of a structured land reform. President Nujoma initiated the process due to conflicts between the landowners and workers that included mistreatments and racist behaviour. Thus, rather than being chosen based on rational deliberations, the expropriation was more an act of revenge due to the mistreatment of the workers. The areas were subsequently not even used for resettlement purposes, forming a highly unlawful situation. (Harring and Odendaal 2008)

Similarly, controversial were also the next two expropriations. Both farms had already been offered for sale during the 'willing-buyer-willing-seller' approach, however, at that time were declined. Now, seemingly after a change of mind, the government even payed double the amount than was initially offered to buy the farm. It thereby furthermore never consulted with the 'Land Reform Advisory Commission' regarding the farm workers. Thus, in the end, N$ 8 million were spent and five families of around 40 workers dispossessed, only to make space for around the same amount of people. While the 'Farm Workers Union' started to make this issue more political, many were afraid that the land reform might overall be haphazardly and therefore failing its original purpose. Besides poverty alleviation, the initial goal was to give land back to the around 240,000 poorest people in the country. However, thereby the roughly 30,000 black farm workers that also live on the white-owned farms were not considered. Together with their families, these workers make up around 200,000 poorly paid Namibians. With agriculture being the main employer, expropriating the white-owned farms not only takes these workers homes but also affects their jobs, therewith only adding to the already high unemployment rate. As the main employers are then expelled, the workers will not have many options for new jobs, leaving them as victims of the system or "collateral damage". Overall, this caused a lot of critique, as around 200,000 poor people would have to be disowned, only to resettle around 240,000 other poor people. Besides being a clear policy failure in terms of poverty reduction, these circumstances are also counterproductive considering the goals of the land reform. Thus, as much poverty is created as is eliminated due to almost as many people becoming homeless as are resettled. Particularly critical is also that there are no statutory rights protecting the displaced

workers. Hence, their only option is to apply for the list of applicants for resettlement, together with the 240,000 others. (Harring and Odendaal 2008)

However, this in turn directly leads to the next issue, being the lack of transparency as there was no actual list of the landless black people. Instead, advertisements were placed in ministries and newspapers and people could apply for resettlement at the local offices. However, especially displaced farm workers and poor people mostly did not have access to newspapers or ministry offices, therefore having no opportunity of applying for resettlement. As a result, they were outcasts of the land reform system. Overall, this strongly illustrates the lack of functionality of the new action plan. On top of that, proof was found that one of five selected people for resettlement at that time were high-ranking government officials, making the process even less trustworthy. (Harring and Odendaal 2008)

Land Tenure Security and Land Titles for Everyone

After the failure of the 2005 LRAP, in 2012 the 'Flexible Land Tenure Bill' (FLTB) was introduced to support the development of new land tenure policies especially for informal urban areas and poor citizens. It provided tenure security through creating new land titles that are cheaper for the citizens and easier to manage. As the titles are complementary, they allow for an adaptable and upgradable registration system. Thus, people can get a basic land title, which can later be updated to the next best version, up until having a freehold title. While the latter might not be required for the poorest Namibians, already having just any form of secure land tenure is highly significant. If their land is officially registered with the government, people have more security and rights and can even defend these in court. (Middleton et al. 2016) Besides that, the FLTB ensures, that still certain principles of customary law are recognized, thereby giving easier access to land and land tenure. This is especially the case for people that did not have any land rights before. Overall, there are now five different land-holding titles available for everyone.

Thus, there is still the 'Freehold Title', which is the highest level of land ownership. Freehold land fully belongs to the owner, who can use it any way they want, from transferring it, to inheriting it, to keeping it for themselves. It can also act as a security for getting a loan. The second land title that already existed before the FLTB is the

‘Sectional Land Title’. It provides ownership over an individual, single housing unit that is located in a multi-unit complex. Like the freehold title, its legal force lasts forever, with the owner having the sole right to their unit. However, this does not extend to the land itself, the common property, and the connected expenses, which are owned by and shared between all owners of this area. Again, the title can be transferred and inherited in any way the owner wants. The last “old” land title is the ‘Leasehold Title’. It allows a long-term lease of up to 99 years, which can also be transferred, inherited, or even renewed or used as a security loan. Considering these three land-holding titles, due to their high registration costs and lacking human and financial resources of the government, they were highly exclusive, with only few people being able to afford them. (USAID 2010) The FLTB therefore counteracted this situation by introducing two new land holding titles to create a more inclusive system of land ownership also for poorer parts of the population.

One of these new titles is the ‘Starter Title’, which forms the cheapest form of land tenure security. It allows beneficiaries to register their names in the Starter Title Scheme’, giving them the right to build, occupy, bequeath, or lease a certain dwelling in a specific location and of a fixed size. While the owners have the right to transfer the title to any person they want, the tenure security is not enough to be used as collateral for a bank loan. It also does not allow claiming just any plot within the registered blockerf, but only the specified area, which is also not added to a cadastre map. ‘Blockerf’ thereby describes the part of land, where the starter title scheme is established. However, what is possible, making it a unique opportunity, is the option of upgrading. Consequently, if 75 % of the other rights holders in the starter title scheme agree, it is possible to change it to another land hold title. If the dwelling is in a certain region, even an update to a freehold title is possible. Regarding the process, the location of this form of housing is designed informally by the local authorities. Thereby, no cadastre survey is necessary. The new rights of the owner are subsequently noted in the starter title register, which is created at the ‘Registrar of Deeds’ at the respective land rights office. (Middleton et al. 2016)

Besides that, the second new form of land tenure is the ‘Land Hold Title’. While it comes the closest to the freehold title, it requires less formalities, making it much

more attainable. It provides the owner with an undivided share of a common property, on which permanent buildings can be build that are provided with the basic services through the local authorities. In this way, the owner has all rights possible based on common law, thereby coming as close to a freehold agreement as possible. Thus, they can live on this plot for as long as they want, upgrade the title to freehold, or use it as a collateral at a bank. Loans can then be noted in the respective land hold title register, which is again created by the 'Registrar of Deeds' in the land reform office. In contrast to the starter title, all rights of the owner that come with this title, as well as the surveyed location of the plot are recorded. (Middleton et al. 2016) Table 1 summarizes the different land holding titles as well as their particularities.

Table 1: Summary of the different land holding titles in Namibia after the 'Flexible Land Tenure Bill' (Source: Personal Collection)

Land titles	Distinctiveness	Particularities	Held by	Legal Force	Permits to	Procurement costs
Freehold title	ownership of land and everything on it	highest level of land ownership	individuals	forever	build, hold, transfer, inherit, use as security for loan	high formalities and registration costs
Sectional title	ownership of single housing unit in housing complex; sole owner of unit but land owned together with all other unit owners; expenses of common property are shared	no full land rights but housing-unit rights	individuals	forever	hold, transfer, inherit, use as security for loan	high formalities and registration costs
Leasehold title	lease of a piece of land	no full ownership but lease	individuals	up to 99 years	transfer, inherit, renew, use as security for loan	high formalities and registration costs
Starter title	rights over certain housing type at specific location in blockerf, no rights to the land	cannot be held if one already owns any immovable property or land title; upgradeable if 75% of rights holders of starter title scheme agree	only one individual, except for married couples; no person can hold more than one; group-based	forever	build, occupy, bequeath, transfer, lease, not usable as security for credit (restrictions possible by local authority)	easily attainable and thus the cheapest
Land hold title	rights over piece of land (like freehold title) and over usage of common property in blockerf (recreational area, streets), land itself stays part of blockerf scheme, no sole rights	basic services are provided by local authorities; upgradeable	individuals, group-based	forever	occupy plot within blockerf, build, transfer, bequeath, lease, use as security for credit	requires less formalities than freehold title and is still cheap

Overall, the new forms of land tenure security were quite unique, as they, for the first time considered the lack of financial resources and problems related to informal settlements. The biggest difference to the previous titles is that they are group-based, so that associations are necessary to manage and control the land that houses the

different owners. The overall plots can then be owned by private persons or entire communities, which both does not affect the individual title owner. Once a person establishes their tenure security, they cannot be removed from their land without their agreement. (Middleton et al. 2016)

A new Movement and a Second Land Conference

However, despite the efforts to push forward the land reform, critique arose again. Thus, in 2016/2017 the 'Landless People's Movement' was established by Bernardus Swartbooi, the previous deputy Minister for Land Reform. He registered the organisation as political party, thereby creating a major opposing entity for President Hage Geingob. After several denunciations between both parties, the opposition started to criticise the validity of the resettlement processes, supported by the public and several other groups. It led to further investigations that unveiled a list, derived from various print media reports. The latter revealed that between 2011 and 2018 several high-ranking officials were among the land reform beneficiaries, gaining 99-year leaseholds for land all around the country. (Melber 2019)

This caused a major outcry and demand for a "real" land reform, accompanied with many new critiques. Thus, it was claimed that the return of farmland to its original owners could have already happened a long time ago, just as the distribution of land to low-income workers. However, instead the government only supported the "status quo" with politics that focus on reconciliation rather than rectification. This was also confirmed, by the numbers, as the "new elite" of white farmers still owned around 70 % of the farmland and benefited strongly from its connections. The rising demand for a fundamental restructuring of the society (Schwikowski 2018) was eventually answered with the announcement of the 'Second National Land Conference', which was held at the end of 2018. (Melber 2019) Thus, President Geingob admitted already beforehand that the 'willing-buyer-willing-seller' concept failed, therefore promising that new ways of land expropriation will be investigated. However, scepticism was still high, as for an actual expropriation to be legal, the Namibian Constitution would have to be changed. (Schwikowski 2018)

Nevertheless, in 2018 the five-day land conference took place, with more than 800 participants and with costs adding up to around N$ 15 million. While the goal was to

create a commonly accepted policy for the land reform, it led to the adoption of more than 160 resolutions, summarized in 40 'identified topical issues'. While most of these were readjustments of the old resolutions, there were also some new additions, addressing topics like urban land and informal settlements. (Melber 2019) Another major point of discussion was the general definition of compensation. Thus, using the market value was highly disliked by the black farmers, as they feared a strong price inflation. However, alternative ideas for suitable substitutes were missing. (Schwikowski 2018)

Besides that, again the issue of communal and ancestral land was addressed and concluded that protecting the tenure rights and putting a stop to privatisations of communal land through the "new elite" are more important. For this reason, the 'Presidential Commission of Inquiry on Ancestral Land' was suggested for advising on compensation matters. However, this contrasted with statements of President Geingob only two weeks prior, where he clearly rejected ancestral claims. (Melber 2019) It also disagreed with the fact, that no descendants of those dispossessed were invited to participate in the conference. (Deutsche Welle 2018) Instead, the event was dominated by state authorities and institutions, deepening suspicions on the agenda being predetermined by SWAPO. While many decided to boycott the event, some still participated to at least voice their frustrations. (Melber 2019) However, due to the lack of open dialogue, in the end no real discussions took place. Overall, this only reinforced the impression of the Conference being mainly for publicity purposes for the upcoming elections in 2019, rather than a serious attempt of finding solutions. (Schwikowski 2018)

This thought was also confirmed, when speculative property deals were published about a Russian oligarch getting a 99-year lease for another four farms in Namibia's most arable regions, only one week before the conference. While the government justified this as an investment in the country's development, it caused an immense public outcry. Additionally, proof was released, showing 1,200 landless people being stuck in the small area alongside of this land. Therewith, this action strongly contradicted the statements of the Conference, where the need for a fair and just society that leaves no one behind was emphasised. Instead it seemed like the land

reform only served as a cover-up to hide that, rather than an ethnic group keeping all the benefits like during colonialization, it is now the socio-economic class of the "new elite". (Melber 2019) As a result, the land conference ended leaving many issues unaddressed, the land debate unresolved and many people unsatisfied.

Overall, while the government does attempt to change the general situation with respective policies, its contradicting interests often block suitable implementation and make satisfying outcomes seemingly impossible. On the one hand they want to achieve an equal and fair land distribution for everyone. However, on the other hand many productive white farmers are exempted from the expropriation processes, as agriculture is still the main source of income and these contribute to the nation's GDP. Also, while more efficient land policies are striven for to achieve the land reform, this happens with the limitations of making sure that foreign investors stay interested. Regarding the latter, the question arises which kinds of investments want to be kept, being it in human and social capital, or more extractive. (Schwikowski 2018) While going deeper into these contradictions is beyond the scope of this thesis, it must still be kept in mind that the overall goals of the government seem to interfere with each other, therewith preventing effective changes from taking place.

2.5 Current Land Situation

Looking at the land situation today, Namibia is still facing a highly divided land distribution. Thus, there is a division along racial lines, but also in terms of land governance, separating the commercial central and southern regions from the communal areas in the north. While the variety of land ownership types and land titles are useful for including all citizens, they only further complicate the overall management. (Middleton et al. 2016) Regarding its history, especially the commercial agrarian sector is still reminiscent of Namibia's colonial past and the concomitant theft of land. It causes the ongoing debate about this legacy, where 'restorative justice', and hence redemption through compensation seems to be an inevitable part of the solution. However, this is also a central issue, as the only legitimate land claims could then be done by the San people, who were historically the only and first indigenous people from the southern African region that were expelled. Thus, even the other indigenous groups "only" arrived later and from other African areas.

However, besides that also the structural legacies of colonialization and the continuous demographic changes strongly formed the country and therefore need to be considered. (Melber 2019) This itself causes a problem, as it leaves the nation without clear baseline regarding the original land distribution. (Werner 1999)

Currently, there are many entities and stakeholders that play an important role in Namibia's land development. This makes the land debate highly complex and the land redistribution a major challenge. (Middleton et al. 2016) Additionally, the beneficiaries and stakeholders are not a homogenous group, neither economically, nor socially or ethnically. As a result, it will be even more difficult to find a common solution that fits everyone. (Werner 1999) Thus, for many Namibian's 'land' is more than an economic means to an end, but rather a matter of identity, especially if they feel like they have ancestral rights. (Melber 2019) However, on the other hand especially indigenous groups often see land as more than a mere property that can be owned. Instead it is seen as a gift that should belong to everyone. (Schwikowski 2018) Reconciling all these opinions and perceptions is a difficult challenge that Namibia has not yet managed to solve. It certainly contributes to exacerbating the current land reform debate. However, in the end, this diversity is also what constitutes Namibia as it is today, and therefore needs to be the starting point when searching for solutions for the ongoing problems.

3. Development of Energy Policies in Namibia

However, besides the land situation also the energy sector in Namibia developed dynamically since independence. The government thereby pursued the idea to improve this field in order to meet the future energy demands. Accordingly, several regulations and papers were developed and passed over the years. This chapter therefore looks at some of the most important and influential policies, giving an insight in the existing energy management and situation.

The First Energy Policy

The first major impact was caused in 1998 by the 'White Paper on Energy Policy'. It was drafted by Namibia's 'Energy Policy Committee' which belongs to the 'Ministry of Mines and Energy' (MME), forming a guideline for the energy sector, especially

regarding its development in the following decades. Thus, it defines the main goals of the new energy development, being among others an effective energy sector governance, countrywide supply security, and social upliftment. This should be achieved through a new energy policy that would positively affect the energy demand and supply. A strong focus is thereby the energy access on household level, as this was expected to also affect the development of other areas, like economic empowerment, or the environment. As this was particularly lacking behind for the previously disadvantaged and rural households, the White Paper puts emphasis on increasing their access to basic services through improving rural electrification, water supply and solar housing systems (SHS). (MME 2020b) Thus, already at that time, it promoted the usage of sustainable energy forms for achieving the overall development targets.

Regarding Namibia's economic progress, the White Paper suggested increased cooperation with the 'Southern African Development Community' (SADC) as well as with the 'Southern African Power Pool' (SAPP). (Energ Policy Committee 1998) Thus, especially foreign investments in the energy sector should be achieved in accordance with other SADC countries' policies, enabling a more coherent energy development. Altogether, the papers' main message was to restructure Namibia's energy system and to regulate the electricity industry. It led to the drafting of a new 'Electricity Act' and the development of a licensing system to govern the tariffs and future electrification targets. Accordingly, rural electrification should be supported through a specific fund (MME 2020b), and the overall supply security be granted through focusing on more diverse energy sources, also from inside Namibia. (Energ Policy Committee 1998) Overall, with this the White Paper provided a clear structure and a starting point for Namibia's subsequent energy development.

A Guideline for a Single-Buyer Market Structure

In 2006, another big step towards an energy reform was taken with the 'Final Paper of the Namibia IPP and Investment Market Framework Technical Assistance'. In setting several milestones, its purpose was to guide and promote a single buyer market structure in Namibia. With this, NamPower was the sole company allowed to buy and sell energy in the country. The idea therefore was already initiated by

Namibia's 'Vision 2030' in 2004. While the countries' economy was booming due to mineral exports, it simultaneously faced strong social issues, like a high unemployment rate. This in turn caused President Nujoma to call for a transformation, eventually leading to 'Vision 2030'. Its target is to improve the countries' economy as well as its social performance, transforming it into an "industrialized" state by 2030. While the Vision has several individual goals, like improved public health care, or reduced racial and gender inequalities, they all have the potential of affecting energy reform. For example, aspects like improved economic participation would ultimately also affect the demand for energy. Overall, estimates stated that the Vision would cause a quadrupling of the peak electricity demand by 2030, therewith intensifying the need for sufficient energy generation capacities. To meet its needs, Namibia was and still is depending on energy imports, especially from the power provider 'Eskom' in South Africa. However, the latter is currently already facing increased demand in its country itself, therefore not having a lot of over-capacities for Namibia. This is where the Final Paper came in, pushing towards either buying more from different neighbours with surplus energy, or to invest in the own production capacity through private power plants. (CORE, International Inc and EMCON, Consulting Group 2006) With this, it kicked off Namibia's work towards increasing its own energy generation, forming a major step in the energy reform process.

In 2007, the aforementioned 'Electricity Act' was issued, demanding the establishment of an 'Electricity Control Board' (ECB) with clear powers and functions. Besides that, it also clarified several other aspect of electricity generation under the 'Vision 2030', for example the requirements for energy producers to get a licence for providing electricity. (Government Gazette 2007)

Off-Grid Electrification as New Focus Area

During the same year, the 'Off-Grid Energization Master Plan' (OGEMP) was initiated by the 'Namibian Renewable Energy Program' (NAMREP). As the name points out, it focusses on pushing forward energy systems that are independent of the common power lines. Thus, it has the goal to improve the access to especially renewable energy technologies in remote areas. While the Plan has a duration of 20-years, it

uses various measures to achieve its goals, including the solar electrification of public institutions, or awareness raising regarding the importance of renewable energies. (GEF and UNDP 2007) Overall, as the OGEMP specifically focuses on providing off-grid areas with access to suitable energy technologies, it led to the implementation of several, hands-on, national programmes.

One of them is the 'Renewable Energy Feed-in Tariff' (REFIT) which started in April 2015. It provides financial support for a duration of 20 years, promoting the implementation of biomass systems, solar photovoltaic (PV) systems or wind systems. Thereby, it encourages especially small businesses to produce their own energy, with plants of up to 5 MW being supported through financial means. (IEA 2015) Through additional support of private investors, REFIT by now managed to implement 14 projects and connect them to the national electricity grid. (GBN 2020)

Another program is the 'Energy Shop Approach', which provides access to energy technologies and an information point on respective financing mechanisms. Thus, the Shops serve as places for consultations regarding potential loan applications or for payment collections of the 'Solar Revolving Fund', the latter being the third OGEMP-program. Besides that, as the shops are located closely to the respective communities, they are easily accessible for everyone, ensuring the reachability of renewable energy technologies. The OGEMP thereby suggests particularly useful appliances and promotes renewable energies and energy efficiency. With this, people can obtain the necessary tools for energy access, fitted to their respective financial, social, and technical situation. (GEF and UNDP 2007) By now, 14 Energy Shops were established in different regions of Namibia, particularly equipping buildings like schools, hospitals or police stations. (Chiguvare and Ileka 2016)

The approach is then complemented by the aforementioned 'Consumer Credit Finance Revolving Fund', or 'Solar Revolving Fund' (SRF). It provides the necessary credit finance so everyone can afford the technologies and innovations of renewable energies. The fund itself is thereby financed through an OGEMP revolving fund. (GEF and UNDP 2007) Regarding its development, the credit facility of the SRF was already established in 1996 by the MME. Its goal is to increase the usage of and access to technologies based on renewable energies, both in rural off-grid areas but also in

urban centres. Especially the rural electrification rate is expected to rise strongly through this, aiming to eventually improve the liveability in remote regions. For a duration of five years, the SRF can provide citizens with a subsidized loan at a yearly interest rate of 5 %. It is thereby based on an ownership model, where the applicant must obtain an offer from an accredited energy service provider. In this, the latter must agree to install the desired technology at the location chosen by the applicant. If these preconditions are fulfilled, the loan is given to the person directly, who can then buy the respective renewable energy product. Installation and maintenance are again concern of the applicant. In this way the SRF finances Photovoltaic Pumps (PVP), Solar Home Systems (SHS) and Solar Water Heaters (SWH), but also Energy Efficient Stoves (EES). (MME 2020a) Overall, the fund was extremely successful, with the demand being high enough to partly even cause issues with keeping up. By 2017/2018, already 3,563 renewable schemes were financed. (EEP S&EA 2017)

Rural Electrification and Development

In the years after the OGEMP, the government started a new project, aiming to socially empower particularly the poor parts of the population and to push forward the countries' economic development. As a result, the 'Rural Electrification Distribution Master Plan' (REDMP) was launched in 2010. Its aim is to electrify all rural areas in Namibia, with 'rural' being defined as communal areas that are not located on municipal or commercial farms. (MME Namibia 2010) The idea was thereby to construct and improve the countries' power stations in order to meet the energy requirements of the following decades. (ElShakhs et al. 2019)

While collecting data for the whole country, REDMP prioritises very rural areas that are unlikely to get a grid connection, often due to technical constraints or high expenses. Within these areas, economically active places like schools or homesteads are favoured. Thereby, for the entire 20-year project period, at least one venue is to be electrified per year and administrative region, with on-grid and off-grid options being considered. The Plan is updated every five years, so changes can be included, and identification is possible of how and when areas must be electrified for meeting the national electrification targets. In case of a full implementation, REDMP would electrify 39 % of the rural government buildings and 21 % of the homesteads that

were initially identified. (MME Namibia 2010) Thus, in 2010 REDMP identified 2,879 rural areas as priority for electrification, 27 thereof for off-grid electrification. However, by now the number of successful implementations is meagre. As per the 'SADC Renewable Energy and Energy Efficiency Status Report', still around 79 % of the remote-living citizens did not have energy access in 2018, therefore still requiring electrification with feasible and realistic solutions. By now, Namibia managed to initiate several mini-grid pilot projects, three of them off-grid. The latter are the Gam solar PV mini grid, the Tsumkew mini grid and Gobabeb. Besides that, also the use of solar technologies has risen, with solar-diesel hybrid systems being a particularly popular off-grid solution. However, in many regions without any energy access, people still have to rely on stand-alone sources like electricity through diesel generators. (Mandela 2019) Further steps and electrification processes are therefore necessary to change these circumstances.

Thematization of Cross-Cutting Topics

Around 2010, environmental issues started receiving more and more attention, leading to several policies that address surrounding issues. One of them is the 'Intended Nationally Determined Contribution' to the UNFCCC (INDC), which was adopted in 2015. Therewith, the country presented the goals of reducing its emissions and the dependency on energy imports from other countries. Thus, Namibia aimed to reduce its emissions of greenhouse gases before 2030 by around 89 % compared to business-as-usual. To achieve this, carbon emissions should be decoupled from economic growth and increasing focus be laid on alternative energy sources. In this way, INDC formed another motivation and push-factor for a transition towards a renewable energy systems. (Republic of Namibia 2015)

Also, in 2015, the 'National Connection Charge Policy' (NCCP) was adopted to guide the development of energy connection agreements and network licensees. As a result, a better integration was possible between the need for regulated revenue and the licensee's connection agreements. The NCCP allowed for a more standardized approach, as it addressed several topics simultaneously, among others the identification of applicable parties, the establishment of basic charge principles, or structures on how to deal with network connections. Regarding the access to power

networks, the principles of equality, efficiency and simplicity were emphasised. The policy is thereby an integrated part of the 'Electricity Supply Industry' and, while a regulator is responsible for overseeing its implementation, it is valid for all electricity stakeholders. (ECB Namibia 2014)

In 2016, another important document was appointed, the 'National Integrated Resource Plan' (NIRP). It reveals the details about the Namibian electricity demand as well as how, and for which costs it could be met. While NIRP solely focuses on electricity rather than energy, it does acknowledge the impact of new energy sources and investigates how to reduce the overall energy demand. The Plan has a duration of 20 years and is regularly updated to incorporate the most recent electricity developments and inputs of all stakeholders. Its main purpose is thereby to identify the best mix of resources to meet Namibia's short- and long-term electricity needs. A major goal is thereby to always chose the most sustainable, efficient, reliable, as well as the safest solutions for the lowest costs. While the paper considers several already existing energy policies, it generally summarizes the current situation, giving recommendations as well as suggestions for implementations. (ECB Namibia 2016)

A Year of many Policies

One year later, in 2017 quite a few policies and regulations were issued. Thus, the new 'National Energy Policy' was enacted to support the government in developing the Namibian energy sector and ensure affordable and reliable energy for all. It was initiated by a continuously rising energy demand and aimed to push forward the overall wellbeing. Therefore, it focused on sustainability and the preservation of the countries' resources to meet the current and future needs of everyone. All stakeholders could then participate in interactive processes, where issues like energy supply security, the reliability of affordable energy for everyone, or the development of efficient technologies were discussed. (MME Namibia 2017a)

Besides that, also the 'National Renewable Energy Policy' (NREP) was enacted, though, only finalized in March 2019. It promotes' the usage of renewable energy as the main source of electricity generation, ensuring modern and affordable energy for everyone. 'Modern' is thereby defined as access to energy in a way that meets peoples' respective needs. As NREP is designed with an open-ended legal force, it

needs to be updated regularly in order to always meet the requirements of the respective time. For this reason, it is complemented by an 'Implementation Plan', which is periodically revised and used to bring NREP up to date. To push forward Namibia's renewable energy sector, the latter recognizes new technologies as major necessity for using the currently untapped natural resources like solar energy or wind. Besides that, NREP aims to meet the countries' national development goals through promoting increased government investments and enabling more diverse industrial actors to participate in the sector. As it then also addresses more socio-economic issues, it forms a future-oriented policy that can potentially strongly contribute to the sectors development. (MME Namibia 2017b)

Nevertheless, besides the above-mentioned regulations, there are also several other developments that are worth mentioning. Thus, also in 2017 the 'Independent Power Producer Policy' (IPPP) and the 'Electricity Act' (EA) were developed. The latter consists of regulations particularly addressing industries and their energy use. In the same year, the 'Namibia Energy Regulatory Authority Bill' (NERAB) was created, together with the 'Electricity Bill' (EB). Both aim towards pushing forward the countries' energy regulations and the development of the electricity sector. (MME Namibia 2017a)

Another very important step was the Harambee Prosperity Plan (HPP), which was implemented for the period from 2016/2017 to 2019/2020. While "Harambee" is a word from the Kiswahili language, meaning that everyone is pulling in same direction, this is also one of the Plans' major messages, being the united work towards prosperity. (Keller 2017) Thus, the four-year action plan aims to push the development in specifically defined priority areas to reach overall wellbeing. (Republic of Namibia 2016) A target is thereby to ensure the usage of services and basic goods for everyone in order to meet all citizens' everyday needs. This should be achieved through implementing strategies that strengthen and diversify the countries' economy and overall growth. (Keller 2017)

The HPP is based on five pillars, with each following specific goals and deadlines by when to achieve them. Thus, the program aims for good governance and economic and social progress. However, it also promotes the development of infrastructures as

well as of international cooperation's. Rather than substituting already existing development plans, it complements them, supporting the overall national progress. With the HPP, Namibia's planning system became more flexible, as regional development successes could be tracked faster, also in areas that only developed slowly. It also addresses issues caused by the 'National Development Plans' (NDP), therewith making these previously ignored topics a subject of discussion. (Republic of Namibia 2016) Overall, the Namibian government made strong commitments towards the HPP, intending to electrify 50 % of the rural areas and 100 % of all public institutions by 2020. Thereby, they acknowledged that for nationwide prosperity, suitable and affordable electricity is necessary. However, as shown by the annual report of the ECB, this is a still ongoing challenge. Thus, despite government efforts Namibia's dependency on power imports increased, from 52 % in 2015/2016 to already 60 % in 2017/2018. (Namibia Economist 2019)

All in all, while these were some of the most important policies, there are also numerous others that cover many different energy-related aspects and were developed to push forward the Namibian energy sector. As looking into all of them would go beyond the scope of this work, Figure 6 gives an overview and timeline over some additional developments since independence.

Figure 6: Timeline of some of the main energy-related developments in Namibia since independence (MME Namibia 2017a)

3.1 The Energy Sector nowadays

Looking at Namibia's energy sector nowadays, there are still many challenges that need to be addressed. Thus, as mentioned before, almost half the Namibian population, in 2018 around 46 %, does not yet have access to energy and thus electricity. A comparison of urban and rural areas shows that around 72 % of the people in cities have energy access, compared with only around 37 % of the rural population. While the urban access rate is thereby relatively stable at 72 % since 1990, it grew much stronger in the rural areas, increasing from 5 % in 1990 to around 37 % in 2018. (IEA et al. 2020)

Most of the people without energy access thereby live in remote areas, which are often very unlikely of getting connected to the national grid. Estimates state that around 63 % of all Namibians live in rural areas, with only around 19 % of them having access to energy. (Katanga et al. 2019) This makes around 100,000 households in approximately 4,300 settlements that are considered “off-grid” and therefore do not have electricity supply. One reason therefore is Namibia’s electrification rate of 38 %, which is extremely low despite the efforts of electrification and even compared to other African countries. Additionally, also the very remote locations and long distances in the sparsely populated Republic form a challenge. Thus, the technical and economic requirements are often too high, making electrification approaches unprofitable. (GBN 2020) Especially the latter is also clearly illustrated in Figure 7, which shows the distribution of the national grid according to analysis from 2017.

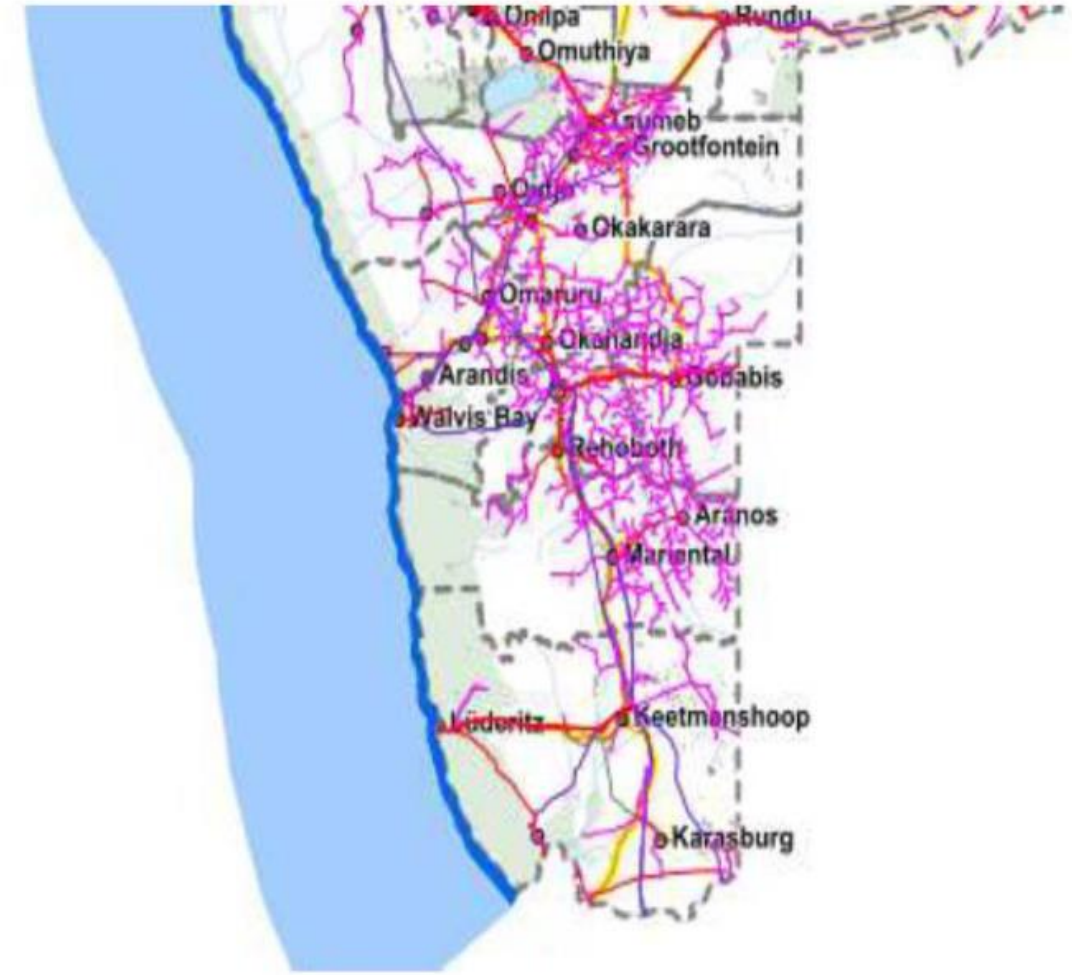

Figure 7: Distribution of the Namibian Energy Grid in 2017; The red lines illustrate the main power lines, while the purple lines show the smaller grid extensions (ElShakhs et al. 2019)

Thus, it is visible that most of the electricity lines are concentrated along the bigger cities and economic hotspots, with rural areas being only sparsely covered. In this way, it portrays that the past electrification efforts were not enough to meet the needs of everyone and consequently that more actions need to be taken. (ElShakhs et al. 2019) This is also confirmed by future projection scenarios, which state that despite ongoing efforts to reduce the gap in electricity access, by 2030 still around 36 % of all Namibians are expected to be without electricity. (IEA 2018)

A Changing Market Structure

Nevertheless, the situation might change for the better, as the Namibian energy and electricity market is experiencing significant changes. As mentioned before, initially the market was dominated by the electricity provider 'Namibian Power Corporation' (NamPower), which was responsible for all steps, from the generation, transmission, distribution, to the trading and supplying of the end consumers. (GBN 2020) While it was traditionally called 'South West Africa Water and Electricity Corporation' (SWAWEK), it committed fully to the Namibian Government after independence and its renaming in 1990. In this way, it became a state-owned utility company, that is comparatively autonomous from the government compared to many others in Africa. At that time, NamPower still owned and operated all transmission infrastructures and most of the generation capacity, therewith being the dominant energy agent of Namibia. (Kruger et al. 2019) This superiority lasted for several years, with the company generating its energy all over the country with various types of plants, powered with diesel, coal, hydropower, or more recently, with PV systems. However, a large part of the energy was and still is also imported from international companies, mainly from the 'Southern Africa Power Pool' (ElShakhs et al. 2019), but also increasingly from the 'Short-Term Energy Market' (STEM) in Zambia and Mozambique. By now these electricity imports make up more than 60 % of the countries' overall electricity demand. (Kruger et al. 2019) Within Namibia, the main on-grid power stations are the 'Ruacana' hydroelectric power plant, the coal-fired 'Van Eck' power station, 'Paratus' power station and the heavy fuel-oil plant 'Anixas'. (Oertzen 2012)

However, as mentioned before, in the 2000s some significant changes were made towards a more liberal system, especially in terms of energy distribution. Thus, due to lack of capacities and resources on the distribution level, in 2002, the sector was subdivided into five Regional Electricity Distributors (REDs), each responsible for a respective area. It led to the development of CENCORED in the central and northern region, NORED in the northern region, and Erongo-RED in the central and coastal part of the western region of Namibia. Besides that, Southern RED is currently in its initial phase, while Central RED is facing strong opposition from Windhoek, potentially blocking its establishment. (Kruger et al. 2019) As a result, NamPower now supplies its energy to either one of the REDs for further distribution. In regions that are not yet covered by REDs, the energy is given directly to the respective mines, farms, or local authorities. (NamPower 2020)

Besides that, recently attempts were made to also allow private actors to participate in the electricity sector. Thus, to give them more radius of operation, new forms of energy distribution are being developed. The first positive results are already visible, as now, also private 'Independent Power Producers' (IPPs) can participate. Furthermore, the 'single-buyer model', which allowed only NamPower to purchase energy, was transformed to a 'modified single-buyer model'. Accordingly, while the IPPs can already act to a certain extent, after the finalization of the plans they are also allowed to produce and sell electricity, either directly to NamPower, the REDs, or to the municipalities or large consumers themselves. It also authorizes them the transmission through the public grid, thereby again giving them scope for action.

Regarding the process, licences will be necessary for all actors before they can generate and distribute energy. They will be granted by the ECB, after around 60 days of licencing and the submission of the required application documents. While they can be given for self-generation and commercial plants, the ECB is particularly favourable towards renewable energy usage. Overall, by 2026 all the liberalization processes are supposed to be finished, officially enabling electricity trade through the IPPs. The only restriction will then be the electricity supply to private households, which will remain the sole task of the REDs and municipalities. (GBN 2020)

3.2 Energy Actors and Sector Composition

The current energy market is managed and influenced by various actors, all of them contributing in different ways. Thus, the MME is the main responsible for ensuring the general electricity supply of Namibia through releasing respective policies or regulations. The recently enacted 'Electricity Bill' and NIRP thereby guide the long-term development of the generation sector and direct the various actors towards the respective generation projects that manage the capacity allocation. While the Ministry is the main entity responsible for the long-term supply, NamPower manages the day-to-day business. Thus, NamPower together with the REDs, several IPPs and various other distributors form the main operating entities.

For other energy sector participants to join them, they require respective licences that are issued by the 'Electricity Control Board' (ECB) and need to be approved by the MME. They are thereby divided according to the respective activities and enable the actors to actively engage. Regarding the ECB, it is furthermore the main actor responsible for regulating all actions in the sector and thus the whole 'Electricity Supply Industry' (ESI). This was mandated in the 'Electricity Act' of 2007, and therewith by the MME, which generally is the major policymaker that governs the sector. (MME Namibia 2017a) A schematic illustration of the interconnections of the different actors can be seen in Figure 8.

Altogether, the individual tasks and the changing responsibilities clearly show the ongoing efforts of liberalizing the system. With this, the government wants to motivate also private sector players to participate in the electricity market, therewith leading to new forms of electricity generation and distribution. (GBN 2020)

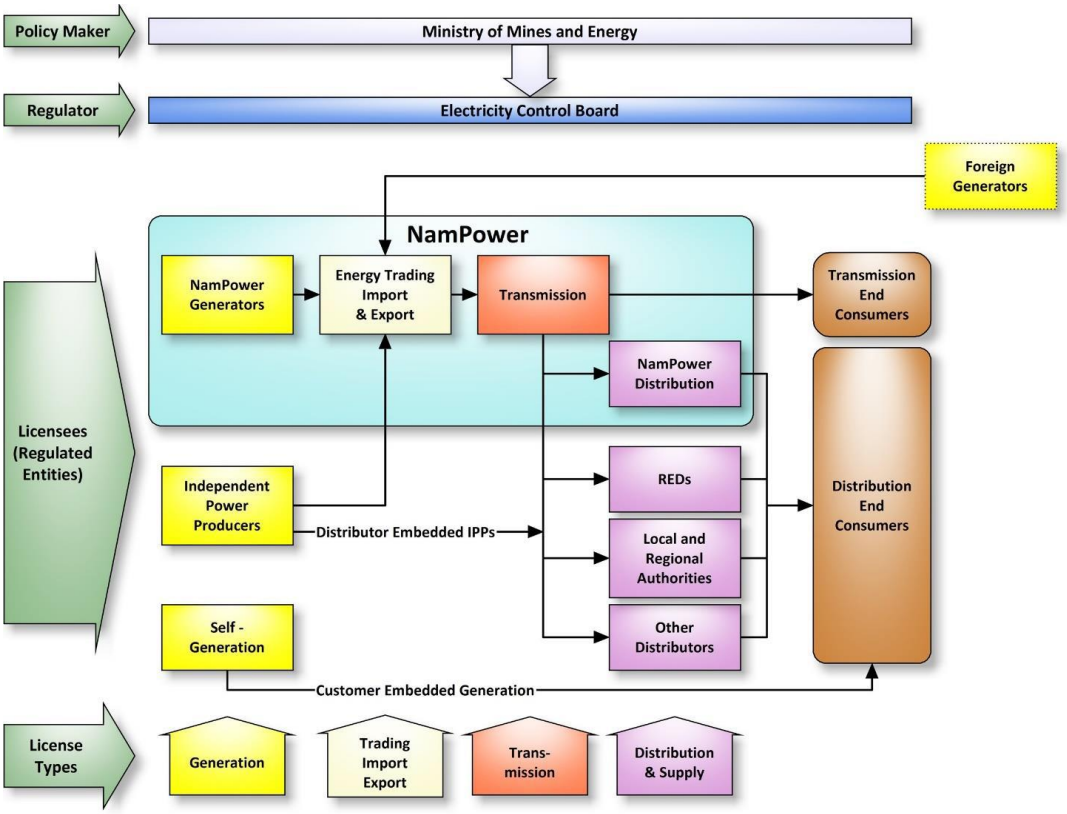

Figure 8: Structure and Actors of Namibia's Electricity Supply Industry (MME Namibia 2017a)

Sector Composition and Future Plans

Regarding the energy sector composition, it consists of several subsectors that use different energy sources. Thus, there is an oil and gas sector, a liquid fuels and thermal energy sector as well as an electricity sector. (Kruger et al. 2019) As such, the main sources of energy are liquid fuels, like petroleum or gas, imported electricity, coal and especially hydropower. (MME Namibia 2017a) Regarding developments, the most significant changes are currently made in the field of renewable energies. Thus, while the government aims to expand the overall energy generation, at least 50 % thereof is supposed to come from renewable energies. Reasons therefore are to pursue the goal of sustainable development, but also to ameliorate the high costs of grid electricity, as renewable energy plants are increasingly more competitive and economically feasible. Thus, the government plans on raising electricity tariffs and costs, thereby encouraging investments in the renewable energy market. This also causes commercial and industrial electricity consumers to become more interested in sustainable electricity generation, with PV systems built on the own premises being

especially popular. The rising demand for renewable energies is also brought about by Namibia's large potential for these and especially for solar energy. Thus, as mentioned before, the nation features unique solar conditions, therewith drawing a wide interest. As a result, Namibia is currently developing one of the fastest growing rooftop solar photovoltaic markets in entire sub-Sahara Africa. While there is also potential for bioenergy, wind, and water, these are substantially smaller compared to solar power, thus, receiving less attention. (Kruger et al. 2019)

Overall, by 2035 Namibia wants to install 669 MW of grid-connected renewable energies through a process of competitive tendering with the IPPs. The latter should thereby underly power purchase agreements with the REDs or NamPower. As this requires new generation methods like mini-grids or PVs, it is expected to also affect the overall electrification rate. By now, 19 power purchase agreements were signed, and 14 REFIT projects completed through IPP support. In this way, by 2020 around 175 MW of renewable energy will be grid-connected. (GBN 2020)

Especially for rural electrification purposes, more and more renewable energy projects are attempted. Thus, collaborations between the MME, NamPower and the REDs are becoming increasingly common (ElShakhs et al. 2019), and newly established policies and regulations enable more opportunities for private sector actors. As mentioned before, rising grid power costs cause decentralised renewable energy systems for self-generation to become more attractive and economical. As a consequence, the market develops dynamically, with estimates on industrial large-scale consumers showing around 5,000 potential new consumers. An advantage thereby, is that the plant sizes can vary and be flexibly adapted to meet the individual demands of everyone, from private, to agriculture, to large-scale industries. (GBN 2020)

However, despite that, the energy sector is currently still characterised by a low energy access rate, rising grid costs and a demographic situation with large distances that leads to many unconnected rural communities (Figure 7). While this contributes to off-grid solutions becoming more attractive and the development of a market on renewable energy mini grids, there are still major challenges that need to be addressed. (GBN 2020)

Demand Exceeding the Supply and Future Opportunities

One issue that was already mentioned before, is that Namibia's energy demand is continuously rising, therewith increasingly surpassing the installed generation capacity. Thus, despite the small population and a comparatively low electrification rate, the nation cannot meet its electricity requirements from around 3,600 GWh. While Namibia has a peak load demand of around 650 MW, its installed grid-connected generation capacity only amounts to 539.5 MW. As a result, the country is still relying on the surplus production of its neighbours to bridge the own shortcomings. Besides the large amounts of electricity, also all fossil fuels are therefore imported. In 2018, this added up to around 73 % of Namibia's total energy demand still coming from abroad. (GBN 2020)

However, this now forms an issue, as these neighbouring capacities are already more and more exhausted by rising demands in their own nations. As a result, there is little energy left to import to the Namibian market, in turn affecting the entire system. (Kruger et al. 2019; BBC 2019; Kruger et al. 2019) By now investments in new generation capacities were uneconomic for NamPower, due to low electricity prices and cheaper imports. However, in the light of the current developments this is changing, forcing Namibia to search for alternative energy sources and invest in its own local generation capacity. (Oertzen 2012) This in turn causes the already high electricity prices to continue rising. Currently, Namibia has the highest electricity prices in southern Africa, with end consumers in commercial areas having paid between 2,20 NAD/kWh and 2,60 NAD/kWh in 2019/2020. (GBN 2020) Prices like this put even more pressure, particularly on the poor parts of the population and the sectors that strongly depend on electricity. (Oertzen 2012) In this way, they endanger the nations' development and programmes, which might suffer from lack of affordable electricity. (Katanga et al. 2019) Counteracting this was already suggested by the NIRP, which called for an expansion of the power plant capacities by the end of 2035. Thereby at least half of the new generation capacity should consist of renewable energies. (GBN 2020)

Nevertheless, besides policy efforts, also more international and domestic partnerships have developed, supporting the countries' electrification plans. They

often combine several policy targets by implementing new renewable energy sources in remote, rural areas. (ElShakhs et al. 2019) In this way, some speculate that the current issues will eventually have positive outcomes in form of green initiatives that will also affect socio-economic development. (Oertzen 2012) In this way, the current energy situation could provide a great starting point for the nations' overall new and sustainable development.

4. The Emergence of Energy Justice

Another topic that is important for this thesis is the connection between energy and justice in form of the 'Energy Justice' (EJ) concept. EJ is a relatively new idea that derived from several, way older concepts. Thus, with justice being part of nearly every social issue, its idea is based on a variety of other justice theories.

The Impact of other Justice Theories

One major influence was thereby the 'Social Justice' concept, which traditionally addresses the improper distribution of benefits and burdens related to peoples' needs. In this way it aims for a fair distribution of rights, opportunities, and resources. Through the unequal allocation of advantages and disadvantages, injustice can take place in form of exclusion, marginalisation, or disempowerment. Social injustice can then be observed in several fields, for example when looking at poverty, ethnicity, gender, but also in terms of the environment or law. Thereby it can occur locally and globally, whereby poverty elimination, access to education, and fair income standards are just some justice goals. (Sari et al. 2017)

However, another concept that also affected the development of the EJ framework is the 'Environmental Justice' theory. It emerged around the 1970s and 1980s in North America, among others caused by increasing inequalities in terms of pollution or the distribution of environmental wrongs. (Fünfgeld 2017) It was affected by the civil rights movements at that time, thereby developing as a mix of social justice and environmentalism. In many cases, environmental injustice is experienced in form of limited access to natural resources or as increased health risk due to pollution exposure. However, also other effects are possible. (Center for Sustainable Systems 2020) Thereby, especially poor communities and people of colour are often at the

receiving end of these injustices, which was the factor initiating the environmental justice movement as well as its goal of fairer treatment and involvement of all. It became also the most popular definition of 'Environmental Justice', namely the equal treatment and inclusion of everyone in environment-related decision-making processes to ensure empowerment, social justice, and public health. (Jenkins et al. 2014) However, while it is commonly used in academia, it is still contested due to it combining environmental issues with socio-economic and ethical ideas, which is a challenging task. (Fünfgeld 2017)

In the early 2000s, environmental justice led to the development of the 'Climate Justice' approach, which addresses particularly the global affects and responsibilities related to climatic changes. (Fünfgeld 2017) Both theories came from the rising understanding of the changing connection between humans and the environment, eventually initiating this demand for justice in all areas. (Sari et al. 2017)

The Energy Justice Theory

Thus, while the 'Environmental Justice Framework' is already used for more than 40 years, recently attempts were made to broaden the scope, thereby initiating the development of the 'Energy Justice' Theory. (Lee and Byrne 2019) While environmental justice highlights particularly inequalities in the environmental system, EJ focuses solely on inequalities in the energy system, or ones that are caused by changes therein. (Sari et al. 2017) As the concept only emerged several years ago, also the term is quite new and used comparatively sparsely. Thus, especially in civil society debates, energy is still often addressed under the framework of environmental or climate justice rather than as an own discipline. Nevertheless, recently the concept is used more commonly in academia, even if only from a relatively small group of people. (Fünfgeld 2017)

Overall, the energy justice debate increasingly raises questions regarding widening energy poverty gaps and differences in access to energy. Also the role of institutions is more and more addressed. (Lee and Byrne 2019) With this, the general understanding of EJ increased, changing from being merely a means for local movements to a profound version of environmental justice. The impacts thereby strongly depend on the vulnerability of the concerned individuals, due to the complex

interconnections between social aspects with environment and energy. Because of the latter, the framework was increasingly used with other concepts, leading to an overall extension of topics covered by EJ. Thus, it nowadays goes beyond 'energy', instead also addressing connections with issues like access to food, or forest management. In this way, it contributed to a rising awareness about the linkages between justice, equity, vulnerability, and energy, which in turn also pushed forward the usage of the EJ theory. (Jenkins et al. 2014) However, this proximity to other concepts of justice also causes issues, as there are often collisions and overlaps with other theories, partly making a clear distinction difficult.

The Definition of Energy Justice

Nevertheless, the EJ idea is nowadays an increasingly used topic, aiming to connect the issues of energy generation and delivery with justice. The overall meaning of the term thereby is clear, being that every person should have the right to enough energy for at least a minimum level of wellbeing, with the universal human rights being considered. (Monyei et al. 2018) The benefits and drawbacks of energy services should thereby be distributed evenly, and decisions made inclusively.

However, despite this general agreement on the meaning, there is not yet a generally accepted definition. Instead there are several interpretations, depending on the different authors and utilizations. (Fagbemi et al. 2020) One of the earliest definitions on 'Energy Justice' was made by Guruswamy (2010), who stated that *"Energy justice seeks to apply basic principles of justice as fairness to the injustice evident among people devoid of life sustainable energy, hereinafter called the energy oppressed poor ("EOP"). EJ is an integral and inseparable dimension of the universally accepted foundational principle, or grundnorm, of international law and policy: Sustainable Development ("SD")."* (Guruswamy 2010, p.233) Besides shaping the term "Energy Oppressed Poor", he also acknowledged the distributional dimension of the energy sector and energy access as a main issue leading to inequality. His definition was thereby supported by empirical studies, showing that around 60 % of the global end-energy are owned by only 20 % of the worlds' population. However, in the following years several other definitions developed, comprising also other dimensions besides 'distribution'. (Pellegrini-Masini et al. 2020)

Thus, a more recent definition states that EJ stands for an equal allocation of benefits and costs of the various energy services in an energy system, and where decision-making takes place in a representative and impartial way. However, again this definition is not accepted by everyone. Some authors criticised the lack of addressing future generations, while others missed the emphasis on the need for a low carbon energy transition. Again others want more focus on all people requiring energy to meet their basic needs, therefore demanding that the shortage of access and affordability of energy should be a central part, including terms like 'energy poverty', 'energy insecurity', or 'energy deprivation'. (Banerjee et al. 2017)

This struggle regarding the perfect definition might also be related to ongoing confusion regarding the scope of the term 'Energy Justice'. Thus, it aims to connect energy issues with ideas like 'fairness' or morals. This is highly complex, as it includes intuitive interpretations of "what is fair", but also justice applications for example based on political theories. Overall, this caused the emergence of numerous individual concepts and interpretations of EJ. (Wood and Roelich 2020) It gets even more complicated, as all these concepts are then taking place on various levels, as also energy systems are taking place locally, nationally, but also internationally. As a result, EJ ended up being a multi-scale phenomena that is still described in various ways. (Sari et al. 2017)

Ambiguity regarding the EJ Framework

Just like the variety of definitions, there are also several different frameworks on how to best analyse EJ issues. Thus, according to the type of issue and the personal interpretation of the author, several concepts emerged, with not yet a commonly agreed version. However, two concepts are thereby the most accepted, being the 'Three/Four Tenet Approach' and the 'Principle Approach'. Both analyse EJ according to a number of pillars, which, despite not being the same, are quite similar. Thus, in the former approach, they comprise of the fields of recognition, conceptual and distributional justice (Heffron and McCauley 2017), with cosmopolitan justice being suggested as a necessary addition (Fagbemi et al. 2020). Against that, the latter uses aspects like availability, affordability, responsibility and sustainability, but also due process and good governance, transparency and accountability as well as intra-

generational and inter-generational equity (Islar et al. 2017). Here, resistance and intersectionality are suggested as needed supplements (Pellegrini-Masini et al. 2020). As going deeper into these concepts is beyond the scope of this work, an in-depth analysis of both approaches, as well as an explanation of the individual pillars and the respective advantages and disadvantages can be found in the Appendix. Nevertheless, with both approaches, there is now a 'bottom-up' version as well as a 'top-down' decision-making concept available, both aiming to analyse issues surrounding the field of EJ. (Sari et al. 2017) Together with the numerous other concepts, this allows for many options when investigating potential issues related to the field of energy. However, this diversity of ideas also causes difficulties, for example the lack of a uniform way of analysing EJ. Thus, by now there is neither a generally accepted definition of the term, nor a universally accepted concept regarding its application. Overall, while this also complicates the energy justice analysis within this paper, it does not form an insoluble issue. Thus, despite there not being a clear definition and concept, the general meaning and backdrop of the energy justice discourse is still clear and can be used. However, the analysis on the usage of EJ within this paper will follow in a subsequent chapter.

5. The Land – Energy – Nexus

After assessing Namibia's characteristics individually, now a comparison and in-depth analysis is necessary to reveal potential connections. This chapter is doing so, thereby referring to the information provided in the previous chapters. Thus, it aims to give an answer to the questions of how land management, land ownership, or simply the physical aspects of 'land' affect the nations' energy development. Besides that, also potential connections in the various timelines are analysed, as well as linkages thereof. Overall, in this way, overlaps and coherences between land and energy, as well as potential impacts of 'land' on past, current and future energy developments can be revealed and subsequently assessed.

5.1 The Impact of Namibia's History

Starting with Namibia's history it is without a doubt that it strongly affected the nation, shaping it into what it is today. Because of this, there is also a high likelihood

for it to play a role in the current land – energy – nexus and the lack of progress in energy development.

The main reason therefore is the significance that 'land' always had throughout the nations' history. Thus, as was described before, access to and the right over land was a constant reason for conflicts, going from struggles over the best grazing areas, up to displacements and dispossessions for the purpose of gaining control over the land. Overall, it ultimately led to a social and geographical differentiation between the black, indigenous, and the new, white population, with the former being pushed towards the less arable areas that only offered difficult conditions for development. As a result, at the end of the resettlement processes in the 1960s, there was a highly unequal access to land and a racist land distribution.

However, interestingly, the timeframe coincides with the first major developments in the field of energy provision in Namibia. Thus, while the earliest attempts to install a reliable source of electricity in SWA were already done in 1910s and 1920s, they were mostly negligible. Also, the construction of another small power station in 1948 did not have a significant impact on the energy development. However, that changed in the 1960s, around the time of the completion of the land resettlement processes. Thus, in 1962 the South African Administration founded the 'Commission of Enquiry', aiming to push forward the economic development. (Asemota 2013) One outcome of that was the formation of the 'South West Africa Water and Electricity Corporation', later NamPower, as a centralized energy authority in 1964. An early goal of SWAWEK was to use the Kuene River for developing a hydroelectric power scheme with a 600 km long power distribution line up to the capitol Windhoek. (Lundmark 1997) In the 1970s it additionally initiated the construction of three 30 MW generators in the capitol, being the Van Eck Thermal Station, which supplied the municipality with electricity. (Asemota 2013)

However, while this electrification was a huge step, its impact was highly uneven. Thus, the still ongoing apartheid structures and the discriminatory processes of the government also strongly affecting the geographical energy distribution. As Schütt (2016) found out, initially the system was specifically designed to solely provide energy to a minor, prioritized part of the Namibian population. Only by chance, a few

non-white outsiders belonged to the recipients. While this prioritisation trend was particularly strong during SWAWEKs beginnings, it continued also in the following years, leading to only around 5 % of the population having electricity access, most of them being white. Overall, in this way, the energy infrastructure illustrated the mindset of the colonial regime, with public electricity lines having been installed only in the nations' cities and major economic areas. (Schütt 2016) Similarly, when in 1976 'Paratus' was built as a preliminary diesel power plant at Walvis Bay, the purpose was again to mainly cover the electricity peaks and power outages of the economically important mines. As the electricity demand kept rising, it led to even more transmission lines being constructed, like the 800 km long power line between Van Eck in SWA and the Aggeneis plant in South Africa in 1982. With this, also several other towns and urban centres along the line were connected to the national grid, however, again leaving behind the more rural areas. (Asemota 2013) While this was certainly in parts conditioned by the lack of resources and the technologies being young and inexperienced, the prioritization of some areas can without a doubt also be related to the apartheid policies of that time. Thus, with the black population being treated and viewed as inferior compared to the new, white settlers, also their significance in terms of energy access was backward. Rather than getting support to push their development, they were often even forbidden to enter the cities or commercial hotspots. Instead, they were put in confined, remote areas and homelands located at the countries' borders, that were pretty much left out in terms of energy infrastructure development. As a consequence, the people had no way of gaining access to electricity, as they were not allowed to enter or own any of the land which would actually enable the access.

However, this trend of mainly the cities and economic hotspots being electrified in a sufficient way proceeded for a long time, even with increased efforts after independence. Thus, the now black government surrounding Sam Nujoma worked strongly towards electrifying the nation and to push forward its economic development. Accordingly, with the national electrification program, more power lines were built, for example in 1996 when, now NamPower, constructed a 900 km between Aries close to South Africa to Auas near Windhoek. However, while this

infrastructure contributed strongly to further electrifying Namibia, it was still far from being enough, especially for the previously disadvantaged people living in very remote areas. The challenge of electrification was then additionally aggravated through the rising demand for energy, causing the, by then already old and overloaded infrastructures to become even less sufficient. While several more substations and power lines were built, they as well focused on supplying the economically important zones. As a result, even after NamPower invested enough to improve the transmission and distribution infrastructure by 75 % in 2002, it did not change the overall situation of an inequal energy distribution. Instead, the centralized energy system combined with the colonial land distribution still clearly represented the remnants of the past regimes, leaving out most of the Namibian population. (Asemota 2013) Figure 9 illustrates the energy distribution in 2001 as well as the land allocation during the same year. Thereby, it reveals, the highly uneven energy availability, especially for the black population that mostly lived in the communal areas. Overall, considering these aspects, and the syncing of these historical events with the energy development, it is very likely that both were affected by each other.

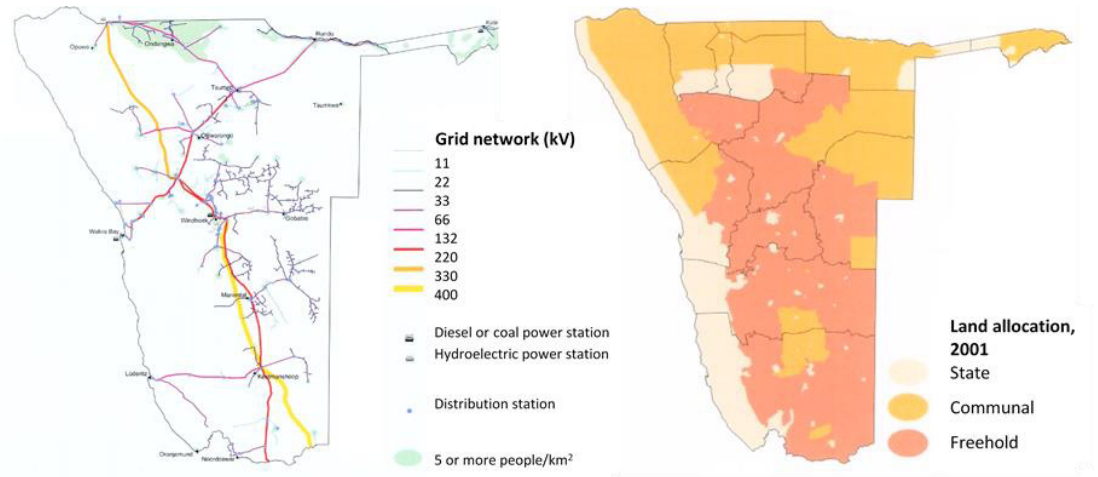

Figure 9: Maps illustrating the electricity distribution (left) as well as the land allocation (right) in Namibia in 2001, thereby revealing the disparities in energy access. (Mendelsohn et al. 2003)

CONTINUING EFFECTS EVEN NOWADAYS

Looking at the situation nowadays, the repercussions of these circumstances are still noticeable and seem to be ongoing. Thus, despite many developments since independence, the situation did not change significantly. The electrified areas

continue to be mainly the cities and economic hotspots, which for the greater part are home to white people. Against that, especially the rural areas and previous homesteads are still often lacking sufficient, reliable electricity, just as it was the case during colonialization. A reason therefore is that despite the development of new, off-grid alternatives, Namibia's electricity system is still focused on the old, centralized one. While this is not necessarily "bad", due to the still existing unequal land allocation this system does disadvantage certain groups, often coinciding with historical discriminations. Thus, the main power lines used continue to be the same ones as were already built in the past, therewith still mainly connecting the economic and urban centres. Whilst also new, smaller power lines were built, they are not sufficient for electrifying all rural areas. However, despite this inability of sufficient energy provisioning and despite new developments on the energy market, the old system seems to outlive as the preferential one. Again Schütt (2016) analysed that these structures are already engrained into the country for many years, causing them to be perceived as the only suitable solution to energize everyone. In contrast, many people are often sceptical towards alternatives, particularly regarding their ability to provide sufficient reliable energy. This believe is highly unfavourable as it can prevent actual change from taking place due to the fear of other systems being inadequate.

Overall, while the access to and availability of energy before independence was directly linked to the racist governance and land distribution, this situation seems to be immortalized through the reliance on the current centralized system. Thus, nowadays NamPower still illustrates the strong connection of energy access and historical land distribution. As a result, whether people live in the remote areas or previous homelands, or in the once white-owned cities still makes a severe difference in terms of energy access and availability.

5.2 The Effect of the Namibian Geography and Demography

Another area that potentially causes a connection between land and energy is the Namibian geography. As mentioned in Chapter 2.1, Namibia has a diverse topography with many different landscape forms. Thereby, some are more and others less habitable, the latter for example being the desert regions. This is then accompanied

by climatic conditions with highly irregular precipitation patterns, making droughts a common phenomenon and many areas groundwater dependent, especially for agriculture. Overall, because of this it is obvious that especially for commercial and subsistence farming, certain areas are unsuitable to production while others are favourable, respectively allowing less or more revenue and thus chances for development and social security.

However, besides that, these geographic conditions also strongly impact the access to and availability of energy. Thus, while almost 50 % of the Namibians currently inhabit urban centres, the rest is scattered all over the country, with large distances between the different settlements. This is also owed to the countries size, leading to wide areas and a sparse population density. Especially these distances thereby make it technically difficult to provide the necessary energy infrastructures for everyone. Often it is very expensive to create the grid-connections to very remote areas and the technical demands are high. Besides that, also long-term maintenance services are an issue, as rural areas often lack qualified personal. All in all, it being this challenging to electrify certain areas only exacerbates the countries' struggles to meet its energy demand. Amplifying is furthermore the fact that the main source of energy is still the Ruacana Power Plant, which is highly dependent of the availability of river water. It consequently oftentimes only produces with half its power due to climate and weather-related droughts and water shortages. (DNV GL 2018)

As mentioned before, Namibia has almost the lowest population density worldwide. Because of this, extending the grid to these often small, remote settlements is in many cases not cost effective. For this reason, the possible social and economic trade-offs must be analysed. Thus, while further subsidising the grid extension does not seem like a sensible solution, neither is leaving everything as it is. Both options bring along further issues, therefore having to be analysed carefully. Accordingly, further grid extensions and maintenance of the existing energy infrastructures, as well as the therefore necessary skill developments might lead to higher electricity and energy prices. Many rural communities are located far off the electrified areas, therefore not having a good prospect of getting a grid connection. (Schütt 2016) However, if these connections are still made, it is often accompanied by high costs

for the electricity provider, which will eventually be transferred to the consumers. This also happened in the years 2017/2018 and 2018/2019, when NamPower increased the energy tariffs strongly to compensate for the costs of technical changes and grid extensions that were made in 2015/2016. (DNV GL 2018) Thus, while the grid connections are achieved, its consequences of rising costs cause it to not be the perfect solution, especially if the goal is to provide energy that is affordable for everyone.

Additionally, the rising prices together with the inability of many rural people to afford it directly leads to another issue, being the rising migration towards the electrified urban centres. Thus, Namibia is currently experiencing a migration trend with many people moving from the rural areas towards the cities and better electrified regions. As per the 'Population and Housing Census of Namibia', in 1990 no more than 28 % of the citizens lived in urban centres. By 2011, the urbanisation rate was already at 42.8 % with a rising tendency. Most people hope that by moving to the urban areas they will have more opportunities and chances for a better live. Thus, besides an increased likelihood of getting access to electricity, there are also more jobs available in the cities, potentially even in the energy sector. However, regarding the grid connection, unfortunately this is not necessarily ensured just because someone moves to the urban centres. Thus, while this migration trend seems to be an advantage in terms of getting closer to the centralized energy system, in 2016 still only 78 % of the people living in cities had access to the national grid. While this is much better than the 7 % of rural people that had access at that time, the number was still surprisingly small considering the central location and closeness to the grid. (Schütt 2016) It shows that moving to the cities does not automatically ensure access to electricity, therefore not being a suitable solution.

Added to this, also Namibia's ecology and general structure is in many ways not beneficial for large cities. Thus, as mentioned before, the country has harsh environmental conditions, often pressured through a hot climate and water shortages. As a result, the nation imports more than 50 % of its food, especially in the urban areas. This in turn leads to higher prices than internally grown foods. It is then accompanied by high rates of unemployment, especially in the cities, causing most of

the newly incoming city dwellers to be poor. Accordingly, they often cannot afford to buy enough healthy food, in particular if it is more expensive as it is imported. This also affects the electricity access, as, if food is already difficult to afford, things like electricity become luxuries which only few people can attain. Considering these aspects, they point towards it being an advantage if people stay where they are, rather than moving towards the electrified centres. They can then live in their homes and grow their own food, therewith having more control over their supply. (Schütt 2016) However, currently this is not the case, as there are also several other advantages of cities that outweigh these uncertainties and potential issues. It includes aspects like job opportunities or other social entertainment possibilities that are absent on the countryside. Thus, to motivate people to stay in the rural areas, support mechanisms must be developed, with electrification and opportunities for development being major preconditions.

To achieve such a comprehensive energy coverage, all types of energy technologies must be considered. Thus, regarding the ineptitude of the centralized energy system to supply the rural parts of the country, alternative methods or even an energy transition seems indispensable. The technical and financial issues connected to the current energy system could therewith be circumvented. However, while alternative energy sources are getting more and more popular, the process is slow and existing technologies must be affordable for everyone before they can be considered a suitable substitute. (FAO 2000)

Nevertheless, regarding the hypothesis of this paper, the geographic land situation in Namibia is strongly connected to the availability of energy, especially in terms of the rural areas. Thus, the countries' geography and the wide distances between human settlements strongly affect the type of energy systems that is expedient. In turn, the availability of energy seems to strongly affect the location of human settlements, as its availability is a decisive factor and major motivation regarding whether to stay in the rural areas, or to move to the cities in hopes of a better live. Thus, it is shown that electricity availability especially in rural areas can lead to improved health, but also to enhanced education and more security simply through the possibility of providing matters like streetlights. (FAO 2000) Regarding all these connections, it shows quite

nicely how important it is to consider the geographic and physical land situation when talking about energy developments, and vice versa to remember the importance of energy for human migration and settlements.

5.3 The Impacts of the Land Reform

When considering all facets of 'land', a major aspect in case of Namibia is the Land Reform. Starting with the first 'Land Conference' in 1991 and still going on today, its aim is to transform the countries' land distribution into a fair system that offers equal opportunities for everyone and makes up for past discriminations and dispossessions. Due to its large scope and the interconnectedness of land with many other fields, there is also a strong likelihood of the land reform and the associated land management changes to affect the nations' energy development.

However, for fully grasping its effects, it is necessary to also look at the situation before the reform. Thus, as it was initiated right after independence, it followed on years of racist, colonial rule by Germany and South Africa. In terms of land, the latter was thereby characterised especially by the negligence of the nations' communal land. Due to mostly white-owned urban areas being prioritized, the communal parts were strongly lacking behind in terms of infrastructure development for transportation, communication, or energy. This in turn hindered these areas from experiencing strong economic growth and caused only limited public and private services to be available for the inhabitants. Overall, because of this, before 1990 the communal land rights only offered a minor economic value for the inhabitants and could hardly be used as financial instruments. A similar situation was the case in terms of the commonage land, whose purpose is to support the locals through publicly available resources. Also, for these regions land rights and tenure agreements were missing, therewith preventing them from being used economically and according to their purpose. Thus, due to factors like complex procedures to attain the land rights, or the rights then being untradable or not usable for commercial uses, there was only little incentive for people to acquire and use the land for economic development. Besides that, large parts of these areas were appropriated, as the ownership rights were with the state. Overall, this caused that the resources were not available for their actual purpose, being to support rural economic growth. This

lack of suitable land management was then accompanied by challenging environmental conditions, leading to difficult terms of living, especially in the communal areas. Thus, people did not have enough money as there were no job opportunities. The non-existent tenure agreements only added to this by further limiting the areas' economic value. (Mendelsohn et al. 2012) Overall, through affecting the land management, the historic events had a strong impact also on Namibia's energy infrastructure development, whereby especially the communal areas were adversely affected.

Nevertheless, the situation started to change with the first 'Land Conference' in 1991, which initiated the land-redistribution process and therewith the development of land policies and management forms. These in turn had the potential of also affecting the energy system. Thereby, while the land conference itself only produced suggestions for necessary focus areas, especially the subsequent policies and land management forms need to be analysed regarding their effects on energy.

Thus, after the conference, the next big step was the 'Agricultural (Commercial) Land Reform Act', which started the legal regulation of the land and its related aspects in 1995. However, as was mentioned in Chapter 2.4, there was a lot of critique connected with the ACLRA, some of it also relatable to the energy development. Thus, the influence of the white sellers during the willing-buyer-willing-seller scheme was criticised as in this way they could decide which places were sold. This includes the decision of keeping the highly electrified and arable areas for themselves. As a result, despite this approach having had the potential of changing the allocation of the electrified areas, the latter were mostly kept of the market, therewith keeping the black minority from the best settlement areas. The provision of energy to some of the resettled people was thereby in most cases prevented.

Besides that, an important critique point that also affected the energy development, was the decision of spending millions of Namibian dollars in the land reform. Considering the lack of effect of ACLRA, many claimed that the money would have been better spent on energy development. Thus, while electrification and resettlement are both important topics, the lack of results regarding the latter caused frustrations and critique on the reasonableness of these investments.

The censure that is linked the strongest to energy, was the misuse of the Act by non-beneficiaries of the land reform. Thus, “land grabbing” took place, mostly by high-ranking officials which used especially the commonage areas for their own purposes. As no land rights existed to secure the areas, and with the authorities formally “owning” the regions, they could privatise and expropriate them for purposes of economic development without compensation. As a result, these areas’ resources were then lost to the locals. (Mendelsohn et al. 2012) Overall, many cases took place, where commonage land was privatised, causing the economic opportunities in these regions to further decline. This eventually also affected the infrastructure development, as the regions became even less interesting from an economic point of few and thus for rural electrification plans.

After the ACLRA, also the ‘National Land Policy Brief’ (NLPB) in 1998 had the potential of affecting the energy development. With it, land rights and titles were defined for the first time, creating different versions of land holders. This also affected the energy distribution in Namibia, as, depending on the land rights and titles, people were allowed different usages of their areas, including the construction of energy infrastructures. In this way, the policy brief gave rise to the advancement of energy systems in some of the areas. However, due to the high expenses and difficult procedures that were necessary to buy commercial land rights, especially poor people and rural areas were again left out. Also, the land usage was restricted, making it less interesting for many people to gain rights. As a consequence, while more opportunities were opened up for economic development, this was mostly limited to the commercial areas and the rich, white population. (Mendelsohn et al. 2012) Thus, the effects on the economy and the overall development, including the energy sector, were there, however slightly split, with major developments taking place in the commercial areas, while the communal areas were left out.

In 2001, the ‘National Resettlement Policy’ started to resettle the countries’ landless people. As mentioned before, due to increasing demand for land and urban migration, people increasingly settled illegally on the land of others. To counteract this, the policy provided temporary homes for these people until they were ultimately resettled to new areas. In this way, the program prevented further

urbanization and thus all the adverse effects of endlessly growing cities. It also enabled poor, landless people to get the chance of being moved to more electrified areas, depending on the location of their final settlement. However, again the processes were slow, indicating a lack of willingness and motivation. As mentioned before, this was already visible during the ACLRA implementation, leading to the question of what other priorities the people in power had that diverted their attention from these essential topics.

In 2002 another big step was taken with the 'Communal Land Reform Act', which finally focussed on the less economically developed areas. Thereby, it introduced a new tenure security system, allowing people to register customary land use. With getting rights over their land, people also had more opportunities of getting access to electricity, being a huge advantage. However, while the beneficiaries of this Act were supposed to be the poor, landless people, again "land grabbing" took place. As the land was available for free, it was also available for the wealthy Namibians, which oftentimes used their power to gain access. (Mendelsohn et al. 2012) While this was highly illegal under the current land regulations, it did have a positive effect on the infrastructure and energy development. Thus, they took place slightly faster, due to the new, big farms and their owners' influence.

While the 'Land Reform Action Plan' from 2005 theoretically also had the ability of affecting the energy infrastructure development, its implementation was too unstructured and disorganized. Thus, places were expropriated quite randomly, without considering the availability of social services or the need for infrastructures. As a consequence, it did not take place in a way that contributed to any long-term energy advancements. Against that, more successful was the 'National Land Tenure Policy' in 2008, which enabled rural inhabitants to register their villages and, as a group, obtain the rights over its land and resources. (Mendelsohn et al. 2012) In this way, people were more autonomous regarding their energy situation, allowing for more freedom of choice, also in terms of energy development. However, again this possibility was more theoretical, as often the financial and power requirements were missing for initiating large developments without support.

Nevertheless, similar impacts were achieved, with the 2012 'Flexible Land Tenure Bill', which introduced new forms of land tenure, especially for the informal urban areas. In this way, new land titles were possible, opening new opportunities for energy access and development in the respective areas. Accordingly, groups of people, even with little income, could gain access to and control over a certain plot of land, which could then be used according to their wishes and needs. These increased rights over their land also increased peoples' influence on the energy development as they were now allowed to, for example build off-grid energy systems on their plots. Additionally, as these new forms of land tenure combine individual and group land rights, it can be assumed that there is a certain level of cooperation within one community. This potentially also contributes to the energy services and their development, as there is more combined effort for electrification. Thus, according to the new land tenure agreements, while the housing plots are individually owned, the land is managed jointly by all plot owners of this area. As a result, these groups have more influence and power to affect respective decision-making processes regarding energy and electrification. However, while this seems to be highly plausible, it must be kept in mind, that there are not yet any studies done to proof these connections of the land reform and energy development. More research would therefore be useful for confirming or refuting the connections, therewith also allowing for more verifiability.

Overall, to come back to the pre-independence state and especially the communal areas that were neglected, a lot has changed by now. This is true for both the land and the energy situation. Accordingly, with the new land policies and regulations, new opportunities were created in terms of energy development, especially regarding alternative off-grid systems. This is again based on the connection of land and energy. Thus, depending on the land you own, and the way you "own" it, it is decided which opportunities you have, and which claims you can make. However, large impacts are thereby prevented by the slowness of the processes, which adversely affects the land reform progress as well as all correlating impacts on energy. Nevertheless, there are certainly connections between the land reform and people's right to and availability of energy. While these linkages are often indirect

and difficult to substantiate, they must still be considered for a full picture of Namibia's land – energy – nexus.

5.4 The Cultural Diversity and its Impacts

An entirely different potential linkage that must be mentioned is the varying personal perception regarding land, the 'right to energy' and what is feasible for energy companies. While this is not directly connected to the physical geography or land management, the personal mindset is still strongly affected by the environment and surrounding area, where one grows up in.

Thus, in case of 'land' the UNCCD (2017) explains that due to its multi-dimensional character, different people or cultures perceive and value land differently. These perceptions are thereby affected by outside influences and a process of 'cultural filtering'. Accordingly, depending on the individual priorities, some aspects of land are more important to certain people, whilst others prioritize totally different factors. As a result, for different people different aspects of land are more or less "visible", in turn causing them to be more or less aware of these. This is also what causes some people to see wilderness, where others see something beautiful that needs to be protected. Or in case of Namibia, some see highly arable and resourceful land, while others see their home, personal heritage and the place of their families' origin. Nevertheless, the perception of land can change over time and with personal growth or a changing environment, for example through changes of the socio-economic or social situation. The value that is given a certain plot of land then strongly affects the land management and use, leading to different areas being perceived and hence used and managed differently by actors with distinctive opinions and backgrounds. This also includes the development and need of energy infrastructures and their construction.

Besides values, for many people land is also connected to certain feelings. Thus, many link the ownership of their own plot of land with dignity, self-determination, identity, or culture. Considering the Namibian history, especially the previously disadvantaged citizens might perceive it as a form of freedom and "safety net", protecting them from exploitation and the racist colonial rule. Against that, the ancestral land claims are often based on land being perceived as a way of inter-generational continuity,

causing the ongoing need to fight for their land rights to feel like a breach of their fundamental human rights. The ownership of, or right over land can also imply sovereignty, which is an important aspect in Namibia, where this independence and right over land was and still is a major cause of conflicts. (UNCCD 2017)

However, through these different perceptions and feelings, energy developments are often complicated. Thus, especially collaborations with traditional groups are often unsuccessful due to differing understandings and concepts of 'land' and 'property'. Due to the many different ethnicities and cultures in Namibia, there are various perceptions and understandings of what is the right thing to do. Finding common ground is therefore challenging. Even if the land is mostly governed, owned and managed by the political entities, in the end all citizens depend on it, causing that all perceptions and opinions on 'land' need to be considered for a commonly agreed solution. (UNCCD 2017)

Nevertheless, the same goes for the energy situation in general. Thus, especially nowadays the access to energy often goes beyond the mere physical condition of having a grid connection. Instead, the ability to use various electronic devices is also a means of expressing one's status, modernity, and development. Energy access is therefore a significant factor for the Namibians to perceive the system as fair. Consequently, while rural communities only consume comparatively small amounts of electricity, the people living there still demand the same services and opportunities that are offered in the urban centres, where the consumption rates are usually much higher. Thereby it is not necessarily about the need of using certain devices and technologies, but more about the personal perception that is connected to being able to use all the technologies that are also available in the urban centres and that people were, for a long time, forbidden to use.

This is also confirmed by various studies, that analysed the impacts and changes after villages were connected to the national energy grid. Thus, a main finding was, that despite the grid connection, in most cases only some of the communities' households could actually afford the access, partly being below 40 %. Of all the people that could connect to the grid, most still continued using gas, wood or other fuels for processes like cooking or heating. In this way, the overall usage of electronic appliances was

very small, mainly being limited to light, music, radio, and TV, as well as fans and small, affordable kitchen devices. The major reasons identified for this were the high costs of the electricity and the electrical devices. Nevertheless, if compared to the average city inhabitants, the rural usage of power appliances is generally quite low, thereby also reducing the electricity that is used by these households. While it is comprehensible that the people are careful to not create endless electricity costs through using too many devices, this might be used to their disadvantaged. Thus, it can cast a doubt on the validity of rural people's demands of getting the same amount of energy and the same services as others are provided in the cities. Especially from an economic perspective, energy providers might refuse this provisioning if it is then not fully taken advantage of. The problem is thereby the lack of economic benefit for the energy providers, who might claim a shortage of cost effectiveness of providing grid electricity to consumers with only small consumption rates. (Jain et al. 2014)

Also adding even more villages to the newly extended grid does not make the situation more favourable in terms of energy usage. According to Jain et al. (2014), in many cases the villages that are then included in the grid extensions rank even lower in the nations' electrification priority as they are only sparsely populated, or very remote. As a result, the people living there are usually even less capable of financing the expensive grid connection, which will moreover only get more expensive due to the increasing extension measures. Overall, the main issue here is a large disparity between what people feel like they deserve in a fair and equal energy system, versus what is economically feasible for the energy providers. Thus, there is an issue of priorities, with the locals demanding equal energy services, independently of location or urbanisation level, and the power providers focusing on economic and financial revenue. In case of Namibia, this issue of "what is more important" is visible in many ways, being it the lack of progress during the land reform or the inconsistent developments of the energy sector. Additionally, considering energy distribution for financial revenue, this currently cannot be achieved with equal service provisioning, largely because of the disadvantages of the centralized system. Overall, this perception of the 'right to energy' only illustrates another linkage between energy and geographic land location. It thereby also emphasizes the weaknesses of the

centralized energy system, which seems to again be proven unsuitable for supplying electricity to remote rural areas. (Jain et al. 2014) Thus, for electrification projects in general, it is important to incorporate the personal opinions and the perceptions of fairness. Depending on how people value the access to energy and perceive their right for electricity, respective projects might be more, or less accepted and hence successful.

However, looking at the geographic and demographic profile of Namibia, it is highly diverse, with various cultures, lifestyles, and priorities. These different perceptions and opinions make it highly challenging to consider and include all stakeholders and their beliefs. Thus, some of the subsistence communities might not want access to energy at all, as they prefer their traditional way of living, or as they are happy with the small amount that they have. Against that, others might be curious about the new opportunities that would open up with access to electricity. They therefore might desire access to the same amount of energy as they would have if they would live in the urban areas. Nevertheless, while it makes the situation more challenging, this diversity also makes it even more important to consider personal perceptions and values of land, energy, and the preferred way of development. It shows that, to incorporate all these aspects and to understand the current energy dilemmas from a local to a global scale, geographical knowledge about the region is key.

5.5 Energy Policies

After considering all these aspects, it is clear that a lot has changed since independence. This is also the case in terms of Namibia's energy developments. Thus, the general structure and development direction was already defined by the White Paper, which set the agenda for all subsequent policies. Thereby, the previously disadvantaged people were defined as main target group, and rural electrification as the major challenge that needs to be addressed. This was then taken up by various other policies and regulations that defined and deepened the individual targets. Accordingly, the electrification of especially remote areas is promoted, for example by the 'Rural Electricity Distribution Master Plan', aiming to rectify the wrongs of the historical and still ongoing discriminations. Renewable energies are promoted in several regulations and acknowledged as suitable alternative to compensate the

weaknesses of the centralized system. This is then accompanied by policies strengthening Namibia's own energy generation capacity and thus energy independence. However, besides that also highly topical issues like climate change are covered, among others by the 'National Policy on Climate Change'. They are thereby motivated by Namibia's goal of changing towards a sustainable, modern energy system, which itself is included in various specific policies and programs aiming to improve the nations' socio-economic performance and the life of the citizens. Some examples are Namibia's 'Vision 2030', the 'Harambee Prosperity Plan', or the 'National Energy Policy'. All of them thereby also consider current and future generations. To perfect this, there are additionally numerous other policies that cover an extensive amount of energy-related aspects.

Overall, considering this, the impression arises that the Namibian energy system must be progressing strongly. Partly, this is even the case, as several major changes took place since independence. Thus, the energy system became more liberal, allowing the participation of also IPPs and other stakeholders. Renewable off-grid systems allow for more market diversity and form an important step towards meeting the challenge of rural electrification and sustainability.

However, despite these changes and the policy attempts, the current situation of the Namibian energy system also leaves a lot of room for improvement. Thus, still almost half of the citizens have no energy access, especially when living in remote areas. The electrification rate is thereby low, as the energy supply to many regions is still unprofitable. As a result, also the future energy outlook is mixed with only slight improvements being expected by 2030. With Namibia's energy demand increasingly exceeding its supply, this only adds to the list of issues, as imports are threatened by the exporters' own needs. It causes Namibia to have the highest electricity prices in southern Africa, therewith putting even more pressure on particularly the poor population. Overall, the situation causes not only the energy sector to stagnate but endangers the nations' general development. However, besides that, it most of all opens the question on the reasons for this lack of progress. In order to answer this, the subsequent chapter will address the connection between the analysed land – energy – nexus and the 'right to energy', or energy justice.

6. The Land – Energy – Nexus and the 'Right to Energy'

Finally, this chapter aims to synthesise and explore the main hypothesis of this paper. After analysing Namibia's land and energy characteristics and thereby detecting a clear land – energy – connection, the linkages are now interpreted, especially in terms of the 'right to energy' and energy justice. While it is thereby acknowledged that there are certainly also other influencing factors, for example from capitalist motives, these are beyond the scope of this thesis and are therefore not addressed.

Overall, considering the aforementioned analysis of the land – energy – nexus, it is without a doubt that there is a connection between both. Thus, many of the energy developments are somehow affected or shaped by Namibia's land context. However, rather than the land itself, the main driver often seems to be the still visible impacts of the countries' colonial past. Thus, due to path dependencies and the occurrence of hysteresis effects, strong implications are caused by historic structures, ideas and beliefs. 'Path dependency' thereby describes the phenomena of institutions, technologies or even products continuing to be used, due to existing structural properties, or historic beliefs or values. (Greener 2019) Against that, 'hysteresis effects' describe a situation where the effect of an event continues despite this event, and hence the cause of this effect, already being over and gone. (Klodt 2018) Thus, despite several attempts of trying to come to terms with its history, there are too many remnants and heritages that cause the past to be a continuous part of peoples' everyday live. It is ultimately also one of the factors that influences the nations' development of a sustainable, fair energy system, as the latter is closely connected to various aspects of land, being it the land management, ownership, or the geographical characteristics and spatial identity that is given to it by the people.

The Usage of Energy Justice in This Thesis

However, only this knowledge is not enough to answer the question on whether land also has effects on the 'right to energy' and hence on EJ in Namibia. To understand this connection, the term 'energy justice' first must be analysed regarding its definition and meaning within this thesis. As was already discussed in Chapter 5, by

now researchers failed to agree on one generally accepted explanation of EJ. Instead, there are several versions existing that, despite being similar, often have different connotations or varying focus areas. However, despite these numerous definitions, there is not yet one that really fits for the case of Namibia. The reason therefore is that the 'right to energy' is a multi-dimensional right that can be interpreted and perceived in various ways. Considering the diversity of people living in the country, as well as the huge differences between their living conditions, socio-economic or environmental backgrounds, this is also reflected in the diversity of energy situations. Thus, the individual value and importance of energy can differ strongly depending on aspects like ones` culture, society or simply the own values. As a result, it is challenging to find one definition that is suitable for all perceptions of what energy justice should entail. However, defining EJ is actually not implicitly necessary for answering this papers' main question. While using one of the frameworks would be an advantage given the clear structures and step-by-step approaches, it is ultimately not needed for Namibia. Due to the distinct circumstances in the country, the general meaning of 'energy justice' is enough to analyse the situation and draw a conclusion. Accordingly, for this paper EJ is examined from the peoples' point of view, including their impressions and perceptions. Thereby, especially the notions of entitlement are taken into consideration and are used to investigate potential inequalities.

Energy Injustice in Namibia

Overall, when looking at Namibia, there is a clearly visible, unequal energy distribution that is closely connected to the countries' land context and particularly to aspects like geography. Thus, depending on where a person lives, the availability of energy is either more or less likely. However, this is also strongly related to the past. Accordingly, as mentioned before, due to the energy system having been developed against the backdrop of racist and unequal occupational regimes, basically Namibia's entire energy sector was built on a foundation of inequality from the very beginning. The current energy distribution in combination with the still unequal land allocation nowadays still clearly show the persistence of this occurrence. Thus, there is a strong geographic disparity in terms of energy access and availability, illustrating that not enough has changed for it to allow energy equality. The same is confirmed

when considering the definition of EJ by Guruswamy (2010), who defined the important term of the 'Energy Oppressed Poor'. Regarding the case of Namibia, this term seems highly applicable, as it was and still is the poor and mostly traditional living people that were and still are deprived of their 'right to energy'. It consequently confirms the assumption of at least parts of the Namibian citizens being faced with energy inequality.

However, the consequences of reserving people from accessing energy are even more severe. Thus, as explained before, energy was identified as a major requirement for economic and personal growth. In preventing most of the population from developing by taking away their possibility of accessing electricity, the colonial regimes in turn directly violated these peoples' universal human rights. Accordingly, due to the United Nations Human Rights Office (UNHR 2020), 'development' is a human right that is valid for everyone, individually as well as collectively. While some might raise the point of "development" being interpretable in numerous ways, especially nowadays, it is without a doubt that the availability of energy, or at least the right to access energy if this is wanted, has strong impacts on the personal as well as national progress. Thus, even if the 'right to energy' is no human right itself, at least indirectly it is, due to its close relation to development. Access to reliable, modern energy should therefore be granted to everyone who wishes so. By implication, this means that also all Namibians should have the right to decide if and how much energy they deem necessary for leading a fulfilling live. Going from this point of view, in preventing large parts of the population from accessing energy, the colonial regimes were in a way taking away these peoples' right to develop, leaving them disadvantaged compared to others that did have the opportunity of using electricity. It was thereby a breach of their universal rights. While it might be possible to argue that this 'human right to development' was only enacted in 1986 and thus after most colonial wrongs, it would still not justify the continuously ongoing unequal distribution of energy nowadays.

Overall, even if there is not yet a clear definition of an unjust energy situation, considering these points, it is without a doubt that the Namibian energy system would at least partly meet the criteria of such a one, due to the various forms of

inequality in its energy system. The question on whether there is 'energy injustice' in the Republic can therefore even without a clear academic definition of the term be answered with 'yes'.

Persistence of an Inapt Energy System

After clarifying the existence of energy inequality in Namibia, it can now be analysed to which extend it is affected by the land – energy – nexus. At this point also the consequences of the hysteresis effect and path dependencies come into play. Thus, because of the latter and in combination with the Namibian history, the country oftentimes still strongly relies on infrastructures and approaches that were developed during its colonial past. The energy system is thereby a particularly strong illustrator of this dependency, with the centralized energy system and NamPower being colonial remnants. However, this is highly adverse, as, just as mentioned in Chapter 3.1, this system is largely unsuitable for Namibia's natural characteristics, particularly its geography and demography. Thus, due to the grid extensions still not covering all areas, the system is incapable of solving the energy-related inequalities through providing an equal share of energy to everyone. The reliance on it hence causes that particularly the population groups are neglected, that were already disadvantaged during colonialization and which should now be the main beneficiaries of the electrification processes. The issue thereby, is that most energy decisions are still based on profitability, rather than on the personal demand or on achieving equality. However, financial revenue can currently not be achieved if equal services should be provided for everyone. Instead, the lack of profit due to the high technical demands and costs potentially causes certain electrification projects to become less attractive for the grid providers. This is highly adverse, as it prevents the electrification of all regions and thus the development of a fair and equal energy system. While in a social democrat economy energy access is subsidised for everyone through taxation and subsequent redistribution, this is not yet the case in Namibia, leaving the taxation as additional burden without following compensation.

As a result, instead of solely focussing on profitability, an approach similar to Harvey's principle of 'territorial justice' would be more useful, whereby the distribution of resources is based on the needs of the most disadvantaged regions. (Bouzarovski and

Simcock 2017) Accordingly, in that case energy would be distributed based on what the people in the remote, rural areas deem necessary for having the best possible opportunities and a fulfilling life. In a way, this could allow for a form of "territorial energy justice", or "spatial energy justice", therewith addressing not only the lack of sufficient energy but also the spatial aspect, being that certain areas are particularly disadvantaged simply because of their geographic location. However, to achieve that, alternative energy sources need to be acknowledged as an equal substitute to the centralized system.

However, while renewable energy projects would offer a solution to the issue of grid extensions, they are often not yet progressed in a way, that would allow them to be a suitable alternative for everyone. If anything, due to the strong reliance on the centralized system their progress is slow, as they are often perceived as a supplement to the national grid rather than an equal alternative. Overall, this disparity between what people feel like they deserve and what for example energy providers feel like is economically feasible and profitable might be a point for the government to draw on. Thus, respective policies could be a way of counteracting the "substitute character" of renewables, as well as change the current focus on profitability. Nevertheless, in general this occurrence again illustrates the strong character of the land – energy – nexus, as this ineptitude of the current energy system, and hence all the concomitant issues, are only the case due to the combination of Namibia's energy system with its very own land context.

Reluctance towards Energy Innovations

Nevertheless, this lacking attractiveness of electrifying remote areas is also counterproductive towards fulfilling the energy demands of the local and especially rural population. Accordingly, because of the close land – energy connections, there are certain implications on the 'right to energy' that happen on a more personal level. Due to hysteresis effects many Namibians still follow certain "old" beliefs and ideas that strongly affect their everyday live. One consequence thereof, is that especially people from rural regions are often sceptical towards new developments, for example in the field of energy. As particularly the previously disadvantaged groups often did not have access to many energy innovations, they instead got used to

certain traditional methods and habits. An example is the aforementioned study of Jain et al. (2014), which shows the situation in newly connected rural villages in Botswana. There, the citizens kept using “old”, finite energy sources even after they were connected to the national grid. Due to a lack of alternatives they simply got so used to them, that they eventually formed habits that are now part of their everyday lives. However, in a way, this is not unexpected when considering that colonialization and hence the unequal treatment of these people lasted more than three times as long as independence. Additionally, despite many changes taking place in terms of policies since 1990, most of their effects have yet to spread to the very local level in a more practical way. Thus, while many policy changes were made to alter and improve the land and energy situation, in praxis the implementations and effects are often still comparatively small and not yet noticeable for everyone. This particularly applies to the rural or remote areas that are largely still without electricity.

Nevertheless, these effects only add to the inequality in Namibia. Thus, people are now so used to certain situations and customs, that they have issues with adapting to new developments. It can prevent them from making use of a more equal energy system and thus of advancing from these historically memorized habits. Besides their development, these dependencies can also prevent the overall regional progress and block the entire energy system from becoming more equal. Thus, by connecting these villages to the common grid, people would actually have the opportunity of experiencing the energy equality that they are often craving for. However, due to the historically influenced dependencies, they now seemingly do not know how to make use of this sudden freedom. What might appear like a lack of willingness to try new things is more related to the historical remnants that are still stuck in peoples’ minds. Thus, due to being disadvantaged for a long time, especially also in terms of energy, they always had to use and rely on the same practices and methods. In this way, they never really had the opportunity of learning about the advantages of more modern services and systems. This sudden access to large amounts of energy and innovative electricity services now might be so unfamiliar, that people struggle with adapting to the changes. As a result, they then go back to what is reliable and trusted, at least according to their experiences.

It again clearly illustrates the still existing consequences of the apartheid regime, where mostly black indigenous communities were largely left behind in terms of new developments, instead having to maintain their "old" ways of living. Nowadays, it is still the people living in geographically secluded, remote, and mostly unelectrified areas that depend on these "old" approaches. While the traditional systems are by no means "bad", relying on them can cause people to miss out on their chance of a more equal energy situation. Obviously, it must be kept in mind that some people also simply cannot afford the energy access or the different energy services that open up through the grid connection. However, also the ones that can afford it are often struggling, simply because they do not know how to deal with, or how to change their habits towards using the new forms of energy. Detecting the reasons for this reluctance is challenging as they can differ from region to region and from person to person. Here, more research could give a clearer insight in the factors that contribute to people being reserved in embracing new energy innovations. Thus, maybe the cause is simply 'practicality', being the lack of sufficient support mechanisms, tools, or education regarding the new opportunities through using modern energy innovations. However, it might also be the unconscious reproduction of colonial habits and believes that causes people to have issues with the new opportunities. In this case, without being at fault, people are simply too used to depending on their familiar energy sources, leading to a reluctance in trying alternatives.

Notions of Energy Entitlement

However, while some people seem to have difficulties with adopting to new energy developments, this does not affect their personal notions of entitlement. Accordingly, while colonialization, land dispossession and the subsequent lack of access to energy caused people to develop certain dependencies and habits, it also led to various perceptions of rightfulness and to entitlement mentalities. This encompasses the demand for land as well as the access, availability, and amount of energy that they feel like they deserve. Thus, people living in rural areas often want the same opportunities as they would have in the cities, independent of how much energy they require or can afford. This is the case, notwithstanding them still using some of their old methods. Thus, it is thereby less about the actual need of certain

technologies but more a form of rightfulness and what people feel like they are entitled to. Certain devices or the ability to use specific technologies are then associated with the feeling of being recognized, privileged, and given the opportunity of living a fulfilling, modern live.

However, also personal attitudes and beliefs going beyond the historical impacts complicate the situation. Thus, there are different notions of "what is right" that affect the individual perception for an equal and fair energy system. Depending on personal factors like ones' cultural background, traditions, community, or socio-economic situation, as well as according to the geographic location and environment, people develop different desires and needs for what is necessary to live a satisfied life. Also aspects like gender, age or the social structure of ones' surrounding can lead to different attitudes regarding the need for energy. Accordingly, even two people from the same village might have divergent demands and claims, based on what they experienced, or which believes they developed. This is extremely important to keep in mind, as already different personal experiences or the kind of issues that one is facing, influence the values and priorities that people develop and which ultimately also affect their expectations regarding their 'right to energy' and perception of energy justice.

This is also, where the connection between energy and land is again visible. Thus, besides energy, also the perception of land can differ strongly, leading to numerous individual spatial identities that are given to a certain region. Thus, based on a persons' environmental and social circumstances as well as depending on processes like 'cultural filtering', different values, opinions, and perceptions of land are formed. 'Cultural filtering' thereby describes the fact that within a culture, or even a community or group, there are certain rules, values and perceptions that eventually also affect the individual peoples' own ideas and priorities, as well as their awareness regarding for example their environment. In a way, 'cultural filtering' emphasises and illustrates the significance of personal perceptions. (UNCCD 2017) Thus, different mindsets can then cause large disparities between how different people identify an area and regarding what they appreciate and value the most. In case of Namibia, this causes that for example people with ancestral claims perceive the respective areas

much more in terms of self-identification, belonging, and sovereignty. Against that, commercial farmers may solely appreciate the lands' economic value and the usability of its natural resources. For energy it is similar, as oftentimes depending on where one comes from and how ones' origin affected their desires and needs, it can have different roles and values for the individual, but also for entire societies. Considering the spatial identity, to describe these personal views on energy, as mentioned before the term "spatial energy identity" seems suitable, being the "identity" given to a specific regional energy context by a group or society.

Overall, as a result, people from rural areas most likely have other attitudes towards their right to, and demand for energy than people in urban areas, even if both not yet had access to the national grid. The reason therefore can be attributed to both parties having experienced different socio-economic, environmental, or personal influences, leading to differing reasons for them not having energy access. Accordingly, while for people from urban areas the grid connection theoretically would have been possible, they might have not been able to afford it due to the costs being too high, or for other personal reasons. As a result, they now have an open mind towards alternative energy sources through off-grid systems as long as these provide more affordable electricity. Against that, while also people from rural areas want energy access, they might also focus on the fact that they never had the chance of even connecting to the national grid before. Thus, they might desire energy, not just for the purpose of electricity, but also for reasons of fairness and equal treatment. This is also similar to the situation that was already described before, where people demand a grid-connection rather than an off-grid alternative due to their feelings of entitlement to having the same opportunities as others already had for many decades. However, in again other cases, someone might demand access to just any reliable source of energy, as they, so far, only had unregular electricity availability. Thus, the personal feelings towards energy entitlements can vary strongly and therefore need to be analysed carefully if energy justice is the target.

Combined Effects on the 'Right to Energy'

Considering all these aspects, together they can have strong effects on the 'right to energy' and energy justice. Thus, due to these personal notions entire forms of

energy can be perceived as “better” or become renowned as a symbol of social status. Thus, as most black Namibians were prevented from accessing the national grid, they are now demanding that this omission is rectified. Thereby, it can be exactly the access to this source, that always provided electricity to the prioritized, mainly white elite, that many people require for feeling treated equally. It can cause people to want the grid connection, despite alternative off-grid systems producing the same amount of energy in a more sustainable and, for the nations’ characteristics maybe even more reliable and cheaper way. Thus, despite off-grid alternatives being available, people might still insist on a grid connection. As was mentioned before, due to being the sole energy provider for several years, for many citizens NamPower took on the role of the only reliable supplier of electricity in Namibia. This historically inherited belief now causes ongoing scepticism and reluctance towards relying on alternative energy sources, potentially having far-reaching consequences.

Accordingly, rural people that get energy access through off-grid systems might be distrustful and feel like they are getting the “second-rate quality” energy source, while the “good old system” that supplied the “new elite” is still out of reach. These attitudes can be quite consequential, as they can hinder the acceptance of energy innovations and hence the success of, for example renewable off-grid projects. In this case, peoples’ demand for energy is more about the right to “the same energy” as the prioritized white people use since many years, rather than about the energy itself. Arguments like the electrification being too unprofitable, too expensive, or too technically demanding then might not be enough for explaining why people are still denied the access to this “more reliable” source.

However, a more current reason for this absence of trust in renewable energies can also be a lack of knowledge on off-grid systems. Thus, as for example solar power plants only produce electricity during the day, they can seem like an unreliable alternative to the national grid connection.

Overall, with Namibia being a generally highly diverse country, there are most likely countless different perceptions regarding peoples’ rights in terms of energy. Finding an universally accepted solution will be a huge challenge. It is then only aggravated by the geography-related weaknesses of the centralized energy system. However,

still these issues and disparities in opinions must be overcome, as implementation difficulties will not change peoples' notions of entitlement and desire for justice. Overall, their demands form moral claims that need to be addressed if energy justice should be achieved. This is especially the case, as Namibia's government is aiming to indemnify the historical discriminations, wanting people to feel like their rights are acknowledged and the past was accounted for with no one left behind.

For addressing all these issues, national advertising campaigns and educational work can be a useful tool. Therewith, the different notions and ideas can be thematized and a common, realistic solution be searched. This in turn can help to change some of these attitudes and fight the prejudices and false ideas that people have regarding off-grid energy sources. However, in some cases the personal feelings towards energy might just have to be accepted and addressed in order to achieve energy equality and meet everyone's idea of justice. Therefore, more research is important to get an in-depth insight in the origin of the regional, local and personal notions of energy entitlement, allowing for an inclusive approach towards energy justice.

Consequences and a Proof for Inequality

All these aspects now contribute to Namibia only slowly progressing in terms of energy, but also regarding its land reform. Thus, considering that the nation is already independent for 30 years, with a black government ruling over a population with a black majority, the progress that was achieved by now is surprisingly small. The reasons therefore are the persistent historic remnants, altogether blocking institutional, political, and personal progress. In this way, they cause policy makers to be slow in changing the existing structures, and citizens to have issues with adopting to innovations and changes. Besides that, the effects are also visible through the lack of success of the land reform as well as through the energy system still being based on the same old principles. NamPower is thereby the prime example as it illustrates the institutionalisation of the past apartheid ideologies and constitutes the persistence of energy injustice. However, on top of that, there is also the ongoing prioritization of mostly white Namibians, whilst it is mainly black citizens that are still often treated as subordinate. However, rather than the government, here the economy is the mediator causing the issues. Thus, it is still mostly white people

owning the economic sector and hence providing jobs in Namibia. As a result, the government has little choice but to support the white businesses with infrastructures and by lowering taxes, to keep the countries' economy strong and growing. Again, the colonial past contributed to most businesses still being owned by white people, thereby once more illustrating the visibility of history throughout the nation, purporting that the past still matters.

This is also, where it comes back to the land – energy – nexus. Thus, the land context and the energy system naturally have a close connection. In case of Namibia, due to land having been affected so strongly by Namibia's colonial past, this in turn also causes the energy system to experience these impacts. Rather than being caused by the 'land' itself, especially the adverse impacts on the energy system consequently often derive from the unprocessed historical remnants in the country. In this way, while land naturally plays a significant role for progress, the effects in Namibia are reinforced by colonial land management forms and land distributions. This also affects the energy system and energy justice.

The same then goes for impacts on the people. Thus, the persistence of "old" beliefs and opinions causes people to stagnate with these colonial ideas and habits keeping history as an ever-present part. Overall, as a result at least some of the strong effects of the land – energy – nexus and the thereby arising issues can be attributed to path dependencies and hysteresis effects. Thus, while the citizens oftentimes reproduce these historically derived practises and ways of living themselves, they cannot be blamed for it. Instead it is more the lack of addressing these still existing connections to history that cause the issues to persist. Accordingly, as these traces of apartheid are ignored or potentially not even perceived as such, it is preventing the necessary changes from taking place. This includes people still using traditional energy sources, energy still being imported from South Africa, and policymakers still tending to prioritize the "wrong" beneficiaries.

It furthermore illustrates that due to the complexity of these historic remnants as well as of their entrenchment in society, "cutting" all the links will be a challenge. However, while it will be difficult, especially the latter might be the most conclusive proof for the large level of injustice that is incorporated in the Namibian system.

Accordingly, the inequalities are taking place without being the fault of the affected people. Thus, it is not personal decisions or behaviour that causes them, but rather a more structural issue based on these dependencies on the past. An example therefore are the citizens that still belief in the centralized energy system and hence suffer due to the many disadvantages that are linked to them. It prevents the people from making use of the benefits of modern energy services, overall leading to a situation of energy injustice. Thereby, while people chose to prefer the centralized energy system, this choice was affected by their experiences, which formed the respective ideas and values and eventually even habits. In this way, people unknowingly make choices that hinder their development and keep them from making use of new innovations and their 'right to energy'. This also affects their notions of entitlement. Thus, while they make demands regarding what they want in a just energy system, they consequently cannot even fully make use of it, despite the claims being fulfilled. The situation is then accompanied by policy makers maintaining infrastructures and approaches that only contribute to these inequalities.

Overall, this entire situation is a huge, complex issue, as it causes energy injustice to be persistent, even if notions of entitlement are addressed. It prevents innovations and, in this way, blocks the citizens' personal development as well as Namibia's opportunity of reaching its full potential. Altogether, while a just energy system should take into account every persons' needs and demands, it must then also ensure that these advantages can be accepted and used, enabling a good live for everyone.

7. Conclusion

Considering the analysis of Namibia's land – energy context, it is clear that the government is attempting to overcome the remnants of its history. For this reason, it has already been working on the land reform for around 30 years and increasingly pushes towards a restructuring of the energy system. However, since independence the achieved changes were only small despite the numerous policies and attempts of achieving alteration. The initial hypothesis was therefore, that a potential connection between 'land' and 'energy' is the reason for this lack of progress. This is also partly the case. Thus, the colonial past strongly affected the energy development of the

country, being it in form of an unequal land distribution, or through energy lines being constructed to solely supply the white settlers. Regarding Namibia's geography, it significantly affects which types of energy are suitable in the different regions. In combination with the countries' reliance on the centralized energy system, this causes strong disparities in energy access and provision. As the land reform has the potential to alter the land allocation as well as peoples' rights over their plots of land, it also affects these citizens' ability to access energy, for example through being allowed to build their own off-grid systems. Also, the diversity of perceptions and ideas regarding the 'right to energy' has an impact. It affects the individual notions of entitlement and the beliefs of rightfulness, therewith further complicating the goal of achieving energy justice.

While energy policies are in place to address all types of energy-related issues, they did not yet manage to significantly change the existing unequal energy distribution in the country. Accordingly, despite it being possible to use the complex circumstances regarding the land context to explain some of the energy challenges, the more crucial factors hindering the overall progress are the still existing remnants of Namibia's colonial past. Again, this is obviously not considering factors outside the land – energy – nexus, like for example impacts caused by the prioritisation of the market.

Thus, as the analysis of Namibia's characteristics revealed, there are several factors that point towards the fact that in Namibia, history still matters. In case of land, the most obvious remainders of colonialization are without a doubt the still existing colonial structures in form of the highly unequal land allocation. Looking at the energy context, as mentioned before, the main historic remnant is 'NamPower' and its centralized energy system. Thus, despite its inability of providing energy to everyone due to various reasons, it is still mostly perceived as the only suitable, reliable supplier of electricity. Besides that, quite a large share of Namibia's imported energy is still coming from South Africa, showing that also these connections did not change since independence. On a more personal level, people continue to use "old", traditional methods in their everyday life and follow certain concepts that seem to be grounded in colonial ideas. Overall, all of this clarifies that the actual reason for a lack of progress in the energy transition, and potentially even in the land reform, is

not necessarily the 'land' context itself, but the persistence of Namibia's history and its concomitant consequences throughout the nations' sectors. Thus, there are strong cases of hysteresis effects and path dependencies that not only influence the citizens on a local level, but also the institutional and political decisions.

Accordingly, path dependencies cause infrastructures like the centralized energy system to persist, while hysteresis effects cause colonial ideas and beliefs to still be a large part of peoples' everyday life. The latter thereby continues to strongly affect many citizens, forming habits and actions that are deeply engrained in their minds. By implication, rather than benefiting from new innovations or the governments' attempts of restructuring the energy system, many Namibians keep relying on their adopted habits, therewith preventing themselves from progress and the development of a fair energy system. The combination of both, hysteresis effect and path dependency is then highly consequential, as colonial believes together with the weaknesses of historical infrastructures majorly hinder the availability, utilization, and acceptance of modern energy forms. In this way, it creates a strong inequality in terms of energy, that clearly still goes along racial, apartheid lines. Thus, it is still mostly the rural, poor, often black Namibians that were already facing discrimination during colonialization that nowadays still lack access to sufficient amounts of modern energy. Thereby, it is the combination of a challenging geographic and demographic context, unsuitable infrastructures, and institutions as well as beliefs based on past ideas that prevent the energy system from progressing. While 'land' certainly contributes to complicating electrification in Namibia, this natural land – energy – nexus is aggravated by the persistence of history.

In the end, these connections and dependencies also affect the issue of energy justice. Accordingly, while without a doubt everyone has the 'right to energy', in Namibia this right is denied due to these dependencies on historic systems and beliefs. It in turn leads to energy injustice, whereby the people discriminated, or the "energy oppressed poor" are the same citizens that were already suppressed during Namibia's past. The land context, like for example the geographic location of peoples' homes, thereby plays a significant role, especially due to the combination with a centralized energy system. Thus, it is first and foremost the persistence of the

nations' history in terms of institutions, infrastructures and impacts on the citizens that causes many of the inequalities. It causes the issue of unequal access, availability, and development of energy, with the already historically disadvantaged parts of the population that often still live in geographically remote areas continuing to being at the receiving end of the discriminations.

The challenge of achieving energy justice is thereby highly complex, as many linkages to the past need to be addressed and overcome. It is then additionally amplified by numerous notions of entitlement and moral claims in terms of energy. They are caused by Namibia's diversity in terms of cultures, geography, socio-economic or social contexts, but also regarding environmental or historical experiences. All these lead to a colourful mix of people with different perceptions of what is necessary for achieving a just energy system, and what they feel like they are entitled to in terms of energy. In this way, this diversity of opinions, values and beliefs affects the perception of justice and fairness regarding energy. For this reason, to achieve a fair energy system that is accepted by everyone, it is necessary to consider all these personal values and views that were shaped by Namibia's diversity. They form the foundation of peoples' justice claims and the precondition for the system to be accepted by all.

Coming back to the initial hypothesis of this paper it is without a doubt that the spatial aspects of land, being land management, ownership, and the geographic aspects, affect the access and availability of energy in Namibia. Thus, as was shown numerous times, there is a strong connection between land and energy that ultimately also impacts the 'right to energy' and hence energy justice. Thereby, the term 'territorial energy justice', or 'spatial energy justice' arose, attempting to include and emphasize the need for a geographic view on energy justice. Another idea that might be worth considering, especially in case of Namibia, is to work towards 'energy equity' rather than 'energy equality'. While 'equality' implies the provisioning of equal opportunities and the same support for everyone, 'equity' suggests providing varying levels of support depending on the need of the respective person and in order to achieve more fairness and better outcomes. In case of Namibia, it would allow the focus on supporting particularly the previously disadvantaged regions, as well as

citizens, allowing them to reach the same level of energy development and the same opportunities as others have. Overall, this seems like the ultimate goal, therefore making the work towards 'energy equity' much more reasonable. However, this thesis is not enough to provide fixed solutions for the many issues in Namibia. Instead, more research is necessary, particularly also through field research's, allowing a hands-on insight in the Namibian land and energy context.

Nevertheless, for energy justice to take place, several aspects need to be considered. This includes the acknowledgement of the existing historic remnants and dependencies, so that they can be addressed sufficiently. Thereby it is necessary to understand that the reproduction of historic behaviour or the persistence of colonial infrastructures and institutions is not the fault of the individual people but is rather a structural issue. This circumstance thereby only emphasises the high level of inequality for those who suffer from the consequences of this situation without being to blame for it. However, the fact that these old systems still exist intensifies the need for the country to address these issues and to actively work through the remnants of their past, on policy, institutional but also on local level. Thereby, it is of major importance to relinquish using force for initiating a change, but rather to use non-colonial, educational methods, as historic remains cannot be removed by using historic practices. As was mentioned before, advertising, and educational work might be a good starting point for several of the issues.

However, this thesis also has certain limitations that must be kept in mind. Thus, despite the topic mainly focusing on the energy and land context in Namibia, there are still many different aspects addressed. This in turn causes various points only being mentioned superficially. It is therefore necessary that more research is done on the connection of 'energy' and 'land' in general, but also on more specific matters related to the case of Namibia. This includes aspects like the idea of 'spatial energy justice', the suggestion to aim for 'energy equity', but also more specific questions like for example the reasons for people being so reluctant in using new energy innovations even if they can afford it.

Besides that, it must be kept in mind that this thesis is purely theoretical. For this reason, as was mentioned before, it would be useful to address this topic within the

frame of a field research to get a more hands-on insight, also on the citizens' opinions regarding this topic. It would allow a switch from theory to practice, therewith certainly providing many more important insights in that matter.

Overall, while this thesis does not give any concrete answers on how to change the slow progress of the energy developments, the knowledge about the existence of path dependencies, hysteresis effects and the overall persistence of history even in this day and age certainly forms a great basis for future research in this direction. These findings also form an important aspect for the countries' development, as, to overcome this lack of progress, Namibia must acknowledge and reprocess these still existing linkages. Only then will it be possible to eventually come to terms with the colonial history, allowing for the development of a fair and equal situation in terms of energy and land.

References

Asemota, Godwin Norense Osarumwense (2013): Electricity Use in Namibia. Developing Algorithms to Encourage More Efficient Consumer Behaviour and Motivate More Environmentally Friendly Utility Practises. Bloomington, United States: iUniverse.

Banerjee, Aparajita; Prehoda, Emily; Sidortsov, Roman; Schelly, Chelsea (2017): Renewable, ethical? Assessing the energy justice potential of renewable electricity. In *AIMS Energy* 5 (5), pp. 768–797. DOI: 10.3934/energy.2017.5.768.

BBC (2019): Namibia profile - Timeline. Edited by BBC News. Available online at https://www.bbc.com/news/world-africa-13891138, updated on 12/2/2019, checked on 9/10/2020.

Beekmann, Sarah (2018): Land Grabbing verständlich erklärt: Wie Konzerne Land rauben. Utopia. Available online at https://utopia.de/ratgeber/land-grabbing-verstaendlich-erklaert-wie-konzerne-land-rauben/, updated on 3/4/2018, checked on 9/23/2020.

Bouzarovski, Stefan; Simcock, Neil (2017): Spatializing energy justice. In *Energy Policy* 107, pp. 640–648. DOI: 10.1016/j.enpol.2017.03.064.

Castán Broto, Vanesa; Baptista, Idalina; Kirshner, Joshua; Smith, Shaun; Neves Alves, Susana (2018): Energy justice and sustainability transitions in Mozambique. In *Applied Energy* 228, pp. 645–655. DOI: 10.1016/j.apenergy.2018.06.057.

Center for Sustainable Systems (2020): Environmental Justice Factsheet. University of Michigan. Pub.No CSS17-16. Available online at http://css.umich.edu/sites/default/files/Environmental%20Justice_CSS17-16_e2020.pdf, checked on 9/11/2020.

Chiguvare, Zivayi; Ileka, Helvi (2016): Challenges and Opportunities for Increased Energy Access in Sub-Saharan Africa, with Special Reference to Namibia. In Oliver Christian Ruppel, Bernd Althusmann (Eds.): Perspectives on Energy Security and Renewable Energies in Sub-Saharan Africa. Practical Opportunities and Regulatory Challenges. Second revised and expanded edition. Windhoek Namibia: Macmillan Education Namibia, pp. 21–40.

Cole, Roy; Blij, Harm J. de (2007): Survey of Subsaharan Africa. A regional geography. New York: Oxford Univ. Press. Available online at http://www.loc.gov/catdir/enhancements/fy0637/2005054675-d.html.

CORE, International Inc; EMCON, Consulting Group (2006): Namibia IPP and Investment Market Framework Technical Assistance. Volume I: Final Report. Available online at https://www.ecb.org.na/images/docs/Investor_Portal/IPP_Market_Framework.pdf, checked on 9/10/2020.

Deutsche Welle (2018): Namibia's president wants to expropriate land from whites | DW | 01.10.2018. Deutsche Welle. Available online at https://www.dw.com/en/namibias-president-wants-to-expropriate-land-from-whites/a-45719781, checked on 9/10/2020.

DNV GL (2018): Country Profile: Namibia. Technical Market Review. Available online at https://www.ctc-n.org/system/files/dossier/3b/country_profile_-_namibia.pdf, checked on 9/11/2020.

Dugard, John (2019): Confronting Apartheid. A personal history of South Africa, Namibia and Palestine. None edition. Johannesburg: Jacana Media.

ECB Namibia (2014): National Connection Charge Policy. Electricity Control Board (ECB). Available online at https://www.ecb.org.na/images/docs/Economic_Regulation/NationalConnectionChargePolicy.pdf, checked on 9/11/2020.

ECB Namibia (2016): National Integrated Resource Plan Review and Update. Electricity Control Board (ECB). Available online at http://www.mme.gov.na/files/publications/f74_29a_ELECTRICITY%20SECTOR%20NATIONAL%20INTEGRATED%20RESOURCE%20PLAN%20(NIRP)%202016%20FINAL%20REPORT.pdf, checked on 9/11/2020.

EEP S&EA (2017): Renewable Energy Market Landscape Study. covering 15 countries in Southern and East Africa. Energy Market Lanscape Study - Volume II. Available online at https://www.entwicklung.at/fileadmin/user_upload/Dokumente/Regionen/Volume_II_Market_Landscape_-Study_-EEP-SEA_CountryProfiles_StakeholderMaps-1.pdf, checked on 9/10/2020.

ElShakhs, Benen A.; Kelsey, Brian Alexander; Whitehorn, Monica Leigh; Buasai, Sarat (2019): The Development of an Interactive Data Portal for Rural Electrification in Namibia. Available online at https://digitalcommons.wpi.edu/iqp-all/5533, checked on 9/11/2020.

Energ Policy Committee (1998): White Paper. Ministry of Mines and Energy (MME). Available online at http://www.mme.gov.na/files/publications/1e3_energy_policy_whitepaper.pdf, checked on 9/10/2020.

Fagbemi, Latif A.; Ekouedjen, Evrard K.; Adamon, David G. (2020): Current Situation of Energy Justice and Analysis of Approaches to Measuring Energy Poverty: Case Study of Benin (A Review). In *IJAR* 8 (3), pp. 849–868. DOI: 10.21474/IJAR01/10699.

FAO (2000): The Energy and Agriculture Nexus. Rural Energy Supply. Environment and Natural Resources Working Paper No. 4. Rome, Italy. Available online at http://www.fao.org/3/x8054e/x8054e06.htm, checked on 9/11/2020.

FAO (2005): AQUASTAT Country Profile - Namibia. Food and Agriculture Organization of the United Nations (FAO). Rome, Italy. Available online at http://www.fao.org/3/i9756en/I9756EN.pdf.

Fünfgeld, Anna (2017): Claiming Justice Matters in Energ Policy. Policy Paper. Available online at https://www.rosalux.de/fileadmin/rls_uploads/pdfs/Policy_Paper/PolicyPaper_2-2017.pdf, checked on 9/11/2020.

GBN (2020): Partnership Ready Namibia: Renewable energy. Global Business Network Programme (GBN). Eschborn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. Available online at https://www.giz.de/en/downloads/GBN_Sector%20Brief_Namibia_RenewableEnergy_E_WEB.pdf, checked on 9/10/2020.

GEF; UNDP (2007): Off-Grid Energisation Master Plan For Namibia. Final Report. Available online at http://www.mme.gov.na/files/pdf/undp-reports/off-grid-masterplan.pdf, checked on 9/10/2020.

Government Gazette (2007): Electricity Act 4 of 2007. Available online at https://laws.parliament.na/cms_documents/electricity-9695853eda.pdf, checked on 9/10/2020.

Green, Reginald Herbold (2019): Namibia. Edited by Encyclopedia Britannica. Available online at https://www.britannica.com/place/Namibia, updated on 12/2/2019, checked on 9/10/2020.

Greener, Ian (2019): Path dependence. Britannica. Available online at https://www.britannica.com/topic/path-dependence, updated on 9/22/2020, checked on 9/22/2020.

Guruswamy, Lakshman (2010): Energy Justice and Sustainable Development. In *21 Colo. J. ENVTL. L. & POL'Y* 231, pp. 231–276. Available online at https://scholar.law.colorado.edu/cgi/viewcontent.cgi?article=1221&context=articles, checked on 9/11/2020.

Hackl, Dietmar (n.d.): Geschichte von Namibia. Available online at https://www.namib.info/namibia/de/geschichte/, checked on 9/10/2020.

Harring, Sidney L.; Odendaal, Willem (2008): Kessl. A new jurisprudence of land reform in Namibia? Windhoek: Land Environment and Development Project of the Legal Assistance Centre; Namibia Economic Policy Research Unit.

Heffron, Raphael J.; McCauley, Darren (2017): The concept of energy justice across the disciplines. In *Energy Policy* 105, pp. 658–667. DOI: 10.1016/j.enpol.2017.03.018.

IEA (2015): Namibia Feed-in Tariff. International Energy Agency (IEA). Available online at https://www.iea.org/policies/5746-namibia-feed-in-tariff, updated on 8/19/2015, checked on 9/10/2020.

IEA (2018): World Energy Outlook 2018. IEA. Paris, France. Available online at https://www.iea.org/reports/world-energy-outlook-2018, checked on 9/15/2020.

IEA; Irena; UNSD; WorldBank; WHO (2020): Tracking SDG 7. Namibia. Available online at https://trackingsdg7.esmap.org/country/namibia, updated on 9/11/2020, checked on 9/11/2020.

Islar, Mine; Brogaard, Sara; Lemberg-Pedersen, Martin (2017): Feasibility of energy justice: Exploring national and local efforts for energy development in Nepal. In *Energy Policy* 105, pp. 668–676. DOI: 10.1016/j.enpol.2017.03.004.

Jain, Pushpendra K.; Jain, Prem; Dhafana P. (2014): Addressing barriers to off-grid rural electrification in Africa: The Botswana and Namibia experience. In *Energy and Power Engineering* 8 (8), pp. 1351–1359.

Jenkins, Kirsten; McCauley, Darren; Forman, Alister (2017): Energy justice: A policy approach. In *Energy Policy* 105, pp. 631–634. DOI: 10.1016/j.enpol.2017.01.052.

Jenkins, Kirsten; McCauley, Darren; Heffron, Raphael James (2014): Energy Justice, a Whole Systems Approach. Available online at https://queenspoliticalreview.files.wordpress.com/2014/10/article-5-energy-justice-a-whole-systems-approach-p74-87.pdf, checked on 9/11/2020.

Jenkins, Kirsten; Samarakoon, Shanil; Munro, Paul George (2019): Energy economics as an energy justice dilemma: Case studies of normative trade-offs in Malawi, Mexico and Germany. In Ugur Soytas, Ramazan Sari (Eds.): Routledge handbook of energy economics (Routledge international handbooks), pp. 317–327.

Karanikolas, Nikolaos; Vagiona, Dimitra (2016): Geography of Energy. A World in Transition. In *InterCarto, InterGIS* 2 (22), pp. 51–61. DOI: 10.24057/2414-9179-2016-2-22-51-61.

Katanga, Luisa; Shilongo, Elise; Shafudah, Natangue H.; Singh, Shyam (2019): A study on cost analysis and implementation of solar power systems for rural development in Namibia. Case study - Onaushe village, Oshana Region in northern Namibia. In *ISTJN* (13), pp. 52–59.

Katjavivi, Peter H. (1989): A history of resistance in Namibia. Reprinted. London: Currey (Apartheid & society).

Keller, Thomas W. (2017): Der Harambee Prosperitiy Plan. Länderbericht. Konrad-Adenauer-Stiftung e.V. Available online at https://www.kas.de/documents/252038/253252/7_dokument_dok_pdf_49475_1.pdf/26e96184-33ad-e4de-d9da-a6717132901f?version=1.0&t=1539648887252, checked on 9/11/2020.

Klodt, Henning (2018): Hysterese-Effekt. Gabler Wirtschaftslexikon. Available online at https://wirtschaftslexikon.gabler.de/definition/hysterese-effekt-32155, updated on 2/19/2018, checked on 9/22/2020.

Kruger, Ruth; McCauley, Darren (2020): Energy Justice, Hydropower and Grid Systems in the Global South. In Gunter Bombaerts, Kirsten Jenkins, Yekeen A. Sanusi, Wang Guoyu (Eds.): Energy Justice Across Borders. Cham: Springer International Publishing, pp. 91–109.

Kruger, Wikus; Alao, Olakunle; Eberhard, Anton (2019): Namibia Country Report. Report 3: Energy and Economic Growth Research Programme.

Lee, Joohee; Byrne, John (2019): Expanding the Conceptual and Analytical Basis of Energy Justice: Beyond the Three-Tenet Framework. In *Front. Energy Res.* 7. DOI: 10.3389/fenrg.2019.00099.

Lundmark, Robert (1997): Namibia's energy support problem: the Epupa scheme. In *LTU-SHU-EX--97/25--SE* 25. Available online at https://www.diva-portal.org/smash/get/diva2:1023323/FULLTEXT01.pdf, checked on 9/11/2020.

Luque-Ayala, Andrés (2020): Geographies of Energy. Edited by Oxford Bibliographies. Available online at https://www.oxfordbibliographies.com/view/document/obo-9780199874002/obo-9780199874002-0132.xml, updated on 9/10/2020, checked on 9/10/2020.

Mandela, Dominic (2019): Namibia to construct four plants powered by renewable energy. Edited by Construction Review Online. Available online at https://constructionreviewonline.com/2019/07/namibia-to-construct-four-plants-powered-by-renewable-energy/, updated on 7/31/2019, checked on 9/10/2020.

Melber, Henning (2019): Colonialism, Land, Ethnicity, and Class: Namibia after the Second National Land Conference. In *Africa Spectrum* 54 (1), pp. 73–86. DOI: 10.1177/0002039719848506.

Mendelsohn, John; Shixwameni, Louise; Nakamhela, Uda (2012): An Overview of Communal Land Tenure in Namibia. Unlocking its Economic Potential.

Middleton, Judith; Carlowitz, Leopold von; Becker, Hans-Gerd (2016): Land Management as a Vital Basis for the Implementation of Land Reform in Namibia. In *zfv* 141 (2). DOI: 10.12902/zfv-0099-2015.

MME, Namibia (2020a): Solar Revolving Fund. Ministry of Mines and Energy (MME). Available online at http://www.mme.gov.na/directorates/efund/srf/, updated on 9/10/2020, checked on 9/10/2020.

MME, Namibia (2020b): White Paper on Energy Policy. Available online at http://www.mme.gov.na/energy/policy/, checked on 9/10/2020.

MME Namibia (2010): Rural Electricity Distribution Master Plan for Namibia. Ministry of Mines and Energy (MME), National Overview Report. Available online at http://www.mme.gov.na/energy/pdf/National/REDMP%20National%20Overview%20&%20Methodology%20-%20Part%201.pdf, checked on 9/11/2020.

MME Namibia (2017a): National Energy Policy. Ministry of Mines and Energy (MME). Available online at http://www.mme.gov.na/files/publications/fd8_National%20Energy%20Policy%20-%20July%202017.pdf, checked on 9/11/2020.

MME Namibia (2017b): National Renewable Energy Policy. Ministry of Mines and Energy (MME). Available online at http://www.mme.gov.na/files/publications/03f_National%20Renewable%20Energy%20Policy%20-%20July%202017.pdf, checked on 9/11/2020.

Monyei, Chukwuka Gideon; Adewumi, Aderemi O.; Jenkins, Kirsten E.H. (2018): Energy (in)justice in off-grid rural electrification policy: South Africa in focus. In *Energy Research & Social Science* 44, pp. 152–171. DOI: 10.1016/j.erss.2018.05.002.

Munro, Paul; van der Horst, Greg; Healy, Stephen (2017): Energy justice for all? Rethinking Sustainable Development Goal 7 through struggles over traditional energy practices in Sierra Leone. In *Energy Policy* 105, pp. 635–641. DOI: 10.1016/j.enpol.2017.01.038.

Namibia Economist (2019): National Renewable Energy Policy finalised. 15.03.2019. Available online at https://economist.com.na/42700/mining-energy/national-renewable-energy-policy-finalised/, updated on 9/11/2020, checked on 9/11/2020.

NamPower (2020): Powering the Nation and beyond. Available online at https://www.nampower.com.na/, updated on 9/11/2020, checked on 9/11/2020.

Odendaal, Willem (2005): A place we want to call our own. A study on land tenure policy and securing housing rights in Namibia. Windhoek: Legal Assistance Centre (LAC). Available online at http://www.mme.gov.na/energy/pdf/National/REDMP%20National%20Overview%20&%20Methodology%20-%20Part%201.pdf.

Oertzen, Detlof von (2012): Namibia's Energy Future. A Case for Renewables. Konrad-Adenauer-Stiftung. Available online at file:///C:/Users/there/AppData/Local/Temp/NamibiasEnergyFuture-ACaseforRenewables-lores.pdf, checked on 9/11/2020.

Pariona, Amber (2019): Ethnic Groups Of Namibia. WorldAtlas. Available online at https://www.worldatlas.com/articles/tribes-and-ethnic-groups-of-namibia.html, updated on 7/18/2019, checked on 9/10/2020.

Pellegrini-Masini, Giuseppe; Pirni, Alberto; Maran, Stefano (2020): Energy justice revisited: A critical review on the philosophical and political origins of equality. In *Energy Research & Social Science* 59, p. 101310. DOI: 10.1016/j.erss.2019.101310.

Republic of Namibia (2015): Intended Nationally Determined Contributions (INDC) of the Republic of Namibia to the United Nations Framework Convention of Climate Change. Available online at https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Namibia%20First/INDC%20of%20Namibia%20Final%20pdf.pdf, checked on 9/11/2020.

Republic of Namibia (2016): Harambee Prosperity Plan. Namibian Government's Action Plan towards Prosperity for All. Available online at http://www.op.gov.na/documents/84084/572904/HPP.pdf/3c5b6d5f-3394-4302-aeec-bd10ca58a119, checked on 9/11/2020.

Sanusi, Yekeen A.; Spahn, Andreas (2020): Exploring Marginalization and Exclusion in Renewable Energy Development in Africa: A Perspective from Western Individualism and African Ubuntu Philosophy. In Gunter Bombaerts, Kirsten Jenkins, Yekeen A. Sanusi, Wang Guoyu (Eds.): Energy Justice Across Borders. Cham: Springer International Publishing, pp. 273–296.

Sari, Ramazan; Voyvoda, Ebru; Lacey-Barnacle, Max; Karababa, Eminegul; Topal, Cagatay; Islambay, Demet (2017): Energy Justice. a social sciences and humanities cross-cutting theme report. In *Cambridge: Shape Energy*.

Schütt, Harald (2016): 100% Decentralised, Renewable Energy for Namibia. In Oliver Christian Ruppel, Bernd Althusmann (Eds.): Perspectives on Energy Security and Renewable Energies in Sub-Saharan Africa. Practical Opportunities and Regulatory Challenges. Second revised and expanded edition. Windhoek Namibia: Macmillan Education Namibia, pp. 41–63.

Schwikowski, Martina (2018): Namibia: Who owns the land? | DW | 03.10.2018. Deutsche Welle. Available online at https://www.dw.com/en/namibia-who-owns-the-land/a-45740852, checked on 9/10/2020.

Shaban, Abdur Rahman Alfa (2018): Namibia president bans foreign travel for all officials in cost cutting move | Africanews. Available online at https://www.africanews.com/2018/01/31/namibia-president-bans-foreign-travel-

for-all-officials-in-cost-cutting-move/, updated on 1/31/2018, checked on 9/17/2020.

Sovacool, Benjamin K.; Burke, Matthew; Baker, Lucy; Kotikalapudi, Chaitanya Kumar; Wlokas, Holle; Talbot, Jade (2017): New frontiers and conceptual frameworks for energy justice. In *Energy Policy* 105, pp. 667–691.

Soytas, Ugur; Sari, Ramazan (Eds.) (2019): Routledge handbook of energy economics (Routledge international handbooks).

Tucho, Gudina Terefe (2020): The Impacts of Policy on Energy Justice in Developing Countries. In Gunter Bombaerts, Kirsten Jenkins, Yekeen A. Sanusi, Wang Guoyu (Eds.): Energy Justice Across Borders. Cham: Springer International Publishing, pp. 137–154.

UNCCD (2017): The Global Land Outlook. First Edition. United Nations Convention to Combat Desertification. Bonn, Germany.

UNHR (2020): Development is a Human Right. Declaration on the Right to Development. United Nations Human Rights (UNHR). Available online at https://www.ohchr.org/EN/Issues/Development/Pages/Introduction.aspx, updated on 9/11/2020, checked on 9/11/2020.

USAID (2010): Property Rights and Resource Governance. Namibia. Available online at file:///C:/Users/there/AppData/Local/Temp/USAID_Land-Tenure-Namibia-Profile-2010.pdf, checked on 9/10/2020.

Villiers, Bertus de (2003): Land reform. Issues and challenges a comparative overview of experiences in Zimbabwe, Namibia, South Africa and Australia. Johannesburg: Konrad Adenauer Foundation (Occasional papers / Konrad Adenauer Foundation).

Werner, W. (1999): An Overview of Land Reform in Namibia. In *Agrekon* 38 (1), pp. 314–325. DOI: 10.1080/03031853.1999.9524924.

Wood, Nathan; Roelich, Katy (2020): Substantiating Energy Justice: Creating a Space to Understand Energy Dilemmas. In *Sustainability* 12 (5), p. 1917. DOI: 10.3390/su12051917.

World Bank (2019): The World Bank in Namibia. Available online at https://www.worldbank.org/en/country/namibia/overview#1, updated on 7/17/2020, checked on 9/10/2020.

WorldAtlas (2020): Namibia Maps & Facts. Available online at https://www.worldatlas.com/maps/namibia, updated on 8/27/2020, checked on 9/10/2020.

Worldometer (2020a): Namibia. Coronavirus Cases. Available online at https://www.worldometers.info/coronavirus/country/namibia/, updated on 9/10/2020, checked on 9/10/2020.

Worldometer (2020b): Namibia Population (live). Available online at https://www.worldometers.info/world-population/namibia-population/, updated on 9/10/2020, checked on 9/10/2020.

References Figures

Figure 1: Map Ethnicities: Figure adapted from Map “Landnutzung und Bodenschätze” in: Kößler, Reinhart (2020): Namibia – bpb. Bundeszentrale für politische Bildung. Available online at https://www.bpb.de/internationales/weltweit/innerstaatliche-konflikte/54796/namibia, updated on 7/6/2020, checked on 9/18/2020. Other information used from: Pariona, Amber (2019): Ethnic Groups of Namibia. WorldAtlas. Available online at https://www.worldatlas.com/articles/tribes-and-ethnic-groups-of-namibia.html, updated on 7/18/2019, checked on 9/10/2020.

Figure 2: Historical Map: Green, Reginald Herbold (2019): Namibia. Edited by Encyclopedia Britannica. Available online at https://www.britannica.com/place/Namibia, updated on 12/2/2019, checked on 9/10/2020.

Figure 3: Land Allocation Throughout History: Mendelsohn, John; Jarvis, Alice; Roberts, Carole; Robertson, Tony (2003): Atlas of Namibia. A Portrait of the Land and its People. pp. 134-137. The Ministry of Environment and Tourism of Namibia: David Philip Publishers.

Figure 4: Timeline Namibian History: Personal Collection; Information used from the text

Figure 5: Land Allocation Map 2001: Mendelsohn, John; Jarvis, Alice; Roberts, Carole; Robertson, Tony (2003): Atlas of Namibia. A Portrait of the Land and its People. p. 143. The Ministry of Environment and Tourism of Namibia: David Philip Publishers.

Figure 6: Timeline Energy Policy Development: MME Namibia (2017a): National Energy Policy. Ministry of Mines and Energy (MME). p. 14 Available online at http://www.mme.gov.na/files/publications/fd8_National%20Energy%20Policy%20-%20July%202017.pdf, checked on 9/11/2020.

Figure 7: Map Energy Grid Distribution Today: ElShakhs, Benen A.; Kelsey, Brian Alexander; Whitehorn, Monica Leigh; Buasai, Sarat (2019): The Development of an Interactive Data Portal for Rural Electrification in Namibia. Available online at https://digitalcommons.wpi.edu/iqp-all/5533, updated on 5/2/2019, checked on 9/11/2020

Figure 8: Structure Electricity Supply Industry: MME Namibia (2017a): National Energy Policy. Ministry of Mines and Energy (MME). Available online at http://www.mme.gov.na/files/publications/fd8_National%20Energy%20Policy%20-%20July%202017.pdf, checked on 9/11/2020. p. 21

References Table

Appendix

Energy Justice Concepts

As mentioned before, there are different frameworks on how to analyse EJ issues. However, two concepts are thereby the most accepted, offering a 'bottom-up' core tenet version and a 'top-down' decision-making concept. (Sari et al. 2017) In literature these concepts are often named the 'triumvirate-' or 'tenet approach' and the 'principle approach', with their fundamental ideas being the same. Thus, both concepts aim to integrate fairness and justice principles into energy policies and decision-making processes. While they thereby use moral theories to define 'justice', the interpretations and utilizations vary, leading to different approaches with individual purposes. (Wood and Roelich 2020) As a result, the EJ frameworks are simultaneously complementary and competing (Heffron and McCauley 2017), while forming the first concrete concepts that were made in the field of EJ. Both thereby relate to philosophical, policy, and environmental justice perspectives. (Sari et al. 2017)

'Three/Four Tenet Framework' or 'Triumvirate of Tenets'

The first framework that was developed is the 'three tenet' or 'triumvirate of tenets' approach, with the core dimensions being identified as distribution, procedure and recognition. (Heffron and McCauley 2017) They are also used in the environmental justice theory, overall forming the three tenets of modern justice. (Sari et al. 2017) In recent years, some literatures suggest to also add a fourth tenet, the dimension 'cosmopolitan', thereby leading to the renaming to the 'Four Tenet Framework'. (Fagbemi et al. 2020) Overall, the tenets combine the different notions of social justice, allowing for a full analysis of all aspects of the energy system. Just like with the two different frameworks, also the three tenets are often interlinked due to overlapping issues. Thus, despite often being expected to be mutually exclusive or hierarchic, they actually meet in certain topic areas. (Fünfgeld 2017) For the framework to become effective, all tenets must be applied at every step of the energy supply chain, including decision-making processes, extraction, production, pricing,

but also consumption and waste management. Besides that, the framework is multi-scalar, therefore needing to be applied at various scales, from local to global, and across all fields, from energy, economics, environment to culture. The overarching goal is then to identify where injustices occur and how they can be solved, allowing for a just energy system. (Sari et al. 2017) This is done through the tenets providing the necessary structure to identify and analyse potentially unjust energy policies or projects, allowing for a common approach through the entire energy system. (Lee and Byrne 2019)

Taking a closer look at the different tenets, the one that is the closest to the original environmental justice approach is the 'distributional' dimension. Thus, as EJ is generally closely connected to spatial aspects, this dimension looks at the physical distribution or allocation of energy benefits and drawbacks through society, like for example energy costs. (Jenkins et al. 2014) A major concern of this tenet is the building of energy infrastructures to ensure everyone has access to all kinds of energy services. 'Energy' is thereby seen as a social good, which is why a lack of supply depicts a social problem. As a result, the tenet analyses were injustices occur in the energy system and whether what everyone gets is fair. (Fagbemi et al. 2020) It also considers the distribution of associated responsibilities, overall aiming towards an allocation of energy services that affects all in the same way. (Jenkins et al. 2014) Furthermore, besides looking at the spatial distribution of benefits and burdens produced by the energy system, also the temporal distribution is analysed. (Wood and Roelich 2020) Overall, the dimensions' evaluation approach investigates where the injustices are occurring, while its normative approach tries to answer how to address these. (Castán Broto et al. 2018)

The second core tenet of this framework is the 'procedural' dimension, which addresses inequalities more on the process level. Its goal is to achieve fair, equitable and democratic procedures that allow all stakeholders to participate without any form of discrimination. Accordingly, decision-making processes regarding energy systems, infrastructures or other energy related matters should be inclusive for everyone and decisions and opinions from any side should be taken into consideration. (Jenkins et al. 2014) The success of the tenet is thereby supported

through having access to multilevel legal systems. (Fagbemi et al. 2020) Overall, 'procedural justice' aims for increased participation by everyone, also through the provision of appropriate engagement and policy mechanisms. Besides that, impartiality during all decision-making processes and the full information disclosure by all parties are targeted. (Jenkins et al. 2014) Public participation is thereby seen as the intended form of justice, whereby knowledge mobilisation on a local level, or better institutional representations are only some of the tools that are used to achieve fair opportunities. (Sari et al. 2017) In this dimension, the evaluative approach questions the fairness of the existing processes, while the normative approach examines potential ways of creating alternatives, potentially enabling to improve the decision-making processes. (Islar et al. 2017)

The last of the initial three tenets is the dimension of 'recognition justice', which addresses how individuals or groups are represented or recognized in terms of energy. (Wood and Roelich 2020) It is thereby focused on social inequalities of energy systems and the lack of recognition of especially marginalized groups, aiming to increase the inclusion of concerned persons. (Sari et al. 2017) To achieve that, the tenet aims to increase the acknowledgement and understanding of different levels of vulnerability, as well as the special needs among individuals and social groups, all related to energy access. (Lee and Byrne 2019) Often the recognition tenet is seen as a crucial part of the procedural justice tenet, rather than an own category. However, its aim goes beyond solely achieving a fair and effective participation systems. Thus, it acknowledges that a lack of recognition can take many different forms that all need to be addressed. This includes cultural or political domination, personal insults and devaluation or degradation of others. Also, the misrecognition and lacking acknowledgment of other peoples' opinions and concerns appertains to this. For this reason, the dimension also aims to improve the recognition of all perspectives and opinions, caused by social, cultural, ethnical, racial or gender-diversity. The third tenet is therefore dedicated to achieving a fair representation of everyone, whilst being free of any kinds of physical threats or discriminations. Additionally, it aims for the fair provision of political rights for everyone. (Fagbemi et al. 2020) Thus, rather than aiming for only tolerance, it targets the full recognition and inclusion of all

individuals' dignity and rights. (Pellegrini-Masini et al. 2020) In terms of energy, this can also lead to the non-implementation of projects, if these can jeopardize a persons' or groups' recognition justice. (Banerjee et al. 2017) Overall, while the evaluative approach of the tenet questions whose opinions are overlooked or ignored, the normative approach addresses potential ways of how to recognize them. (Castán Broto et al. 2018)

As mentioned before, besides these core dimensions, more recently also a fourth tenet is suggested, being cosmopolitan justice. It emphasises that EJ is not a national phenomenon but rather a universal one, pertaining to all humans all over the world. As a result, there are ethical responsibilities to ensure EJ, especially for those that can understand and consequently act on them. (Sari et al. 2017) Thereby, it also stresses the significance of transboundary, far-reaching approaches of energy justice when developing frameworks for the energy system. Like with all the other tenets, these approaches must then be applied at every step of the energy life cycle and supply chain to ensure a successful implementation. (Fagbemi et al. 2020)

Regarding the debate on the 'redistribution' and 'recognition' tenets, an important scholar was Nancy Fraser, who is well-known in the field of social justice theories. Thus, she initiated the idea of both concepts, being closely connected and bivalent forms of justice rather than mutually exclusive positions. She also suggested the idea of 'parity of participation', meaning that justice requires social measures, so that everyone can interact with one another on the same level and as equals. This also applies to energy justice, where both, a resource distribution that allows independence, and institutional patterns that recognise every culture, are indispensable. (Fünfgeld 2017)

EIGHT/TEN PRINCIPLES APPROACH

The second large framework that was developed is the 'principles approach'. While it also reflects the values of the three core tenets, distribution, procedure and recognition, it does so in form of eight, or sometimes ten, principles that aim to conceptualize EJ. (Wood and Roelich 2020) The goal of this concept is thereby to achieve more justice and equity in energy policies through applying its principles to decision-making processes and its outcomes. (Sari et al. 2017) The principles are

thereby intended to inform policy makers, eventually leading to more justice in newly formulated energy policies. (Islar et al. 2017) Overall, the approach defines EJ based on its eight principles, which should then be applied to evaluate decision-making processes. However, regarding its practical feasibility, the principles approach is much more complex than the tenet framework, leading to the latter being used more often for analysing energy systems. Nevertheless, the 'principles approach' is still used by various actors, including the 'International Energy Justice Court', that bases its work on some of the principles. (Sari et al. 2017)

Looking at the eight principles, the first one is 'availability', claiming that every person ought to access sufficient, modern energy. The second principle, 'affordability', emphasises that energy services should cost no one, especially no poor people, more than 10 % of their income. The third principle is about a 'due process and good governance'. It expresses that every country must respect the human rights and the rule of law when producing or using energy. Fourth pillar is 'transparency and accountability', which expresses that everyone has the right to access valuable information on energy and the environment. Besides that, it also states that especially communities should be able to have access to transparent and fair energy-related decision-making. The fifth pillar is 'sustainability', demanding that all energy resources should only be used in a considerate way along the 'precautionary principle', thus allowing savings for future community development. Subsequently, 'intra-generational equity' is identified as sixth pillar. It states that everyone has the right to a minimum of energy services that allow leading a fulfilling live with at least a basic amount of well-being. It is followed by the seventh pillar, 'inter-generational equity', which emphasises that also the right to a satisfying life of future generations must be ensured. As a consequence, current energy systems must not cause damage in a way, that prevents this right. Lastly, the eighth principle is 'responsibility' and emphasises that every single person has the responsibility to protect the environment from all threats and minimize adverse effects, including potential energy-related impacts. (Islar et al. 2017)

While these are the eight core principles of this approach, some authors suggest extending the framework by two more pillars. Thus, for example Sovacool et al.

(2017) added a nineth pillar, ‘resistance’, and a tenth of ‘intersectionality’. While ‘resistance’ demands that everyone should actively refuse energy injustices and all actions that potentially endanger justice, ‘intersectionality’ is quite important in terms of modern societies. Thus, it expands the recognition justice idea, now also encompassing all newly developing forms of personal identities in societies, as these, too, suffer from unjust energy practices. Therefore, the tenet also acknowledges the close link between energy justice and other socio-economic, political or environmental justice forms.

New Ideas for Energy Justice Frameworks

However, while the two above-mentioned frameworks are currently the dominating ones used in energy justice debates there is not yet a mutual consent on the right way of investigating EJ. Thus, there are also several other suggestions that use entirely different EJ assessment frameworks. (Soytas and Sari 2019). Thus, one approach is also used examines EJ with only two principles, being ‘affirmative’ and ‘prohibitive’ justice, together encompassing EJ. Thereby, energy justice is categorised into five different, but often overlapping dimensions, namely ‘geography’, ‘temporal’, ‘technological’, ‘economic’, and ‘socio-political’. Energy developments are then analysed based on six philosophical concepts from various justice theories, being ‘procedure’, ‘welfare and happiness’, ‘fairness and responsibility’, but also ‘human rights’, ‘freedom’, and ‘posterity and capacity’. Regarding the basic idea, the ‘prohibitive principle’ then states that energy systems must not hinder peoples’ ability to gain the basic goods that appertain to them. Instead, it must be constructed in a suitable and considerate manner. Against that, the ‘affirmative principle’ emphasises that if certain energy services are a prerequisite for people to gain the basic goods that they are appertained to, then, by implication, they also have a right to these energy services. So in summary, while the ‘affirmative principle’ states that every energy system must ensure access to all energy sources for everyone, the ‘prohibitive principle’ ensures that its benefits and drawbacks do not affect a person in a way that prevents them from gaining other necessary goods. Thereby, the tenets define ‘justice’ in terms of the equity and equality of distribution of its benefits and burdens, which is subsequently investigated with regard to the five pre-defined

dimensions. The first dimension, ‘geographical’, thereby expresses that a fair energy system should always have features that reduce the uneven geographic impacts connected to energy development. Also, the overall energy access that is needed to get other basic goods should be improved. This is important, as the spatial allocation of energy often affects one place more than others, partly leading to displacement of communities or environmental degradation. The next dimension was defined as ‘temporal’, thereby being quite similar to the ‘intergenerational’ dimension of other frameworks. Thus, it addresses the impacts of the current generations’ energy use on future generations. With this, it emphasises the ethical obligation for everyone, as well as the need for energy systems to lessen the impact on future generations’ quality of life. The third, ‘technological’ dimension focusses on the fact that the technical parts of a fair system should provide save and non-vulnerable energy. Reason therefore is that the technological aspects of energy systems often comprise shortcomings that eventually threatening peoples’ safety, thereby increasing their vulnerability. The ‘economic’ dimension expresses that people of all social groups have a right to affordable energy and a good life. It thereby especially addresses the costs of energy, which should not hinder people from accessing the benefits connected to energy. Lastly, the fifth, ‘socio-political’ dimension is quite close to the fourth, ‘economic’ one. Thus, it clarifies that just energy systems must always follow the principles of human rights and democracy. Therefore, the access to energy must not depend on the social status, which in turn must be ensured by energy producers, governments, and the respective political processes. (Banerjee et al. 2017)

Another idea for an EJ framework uses ‘substantive’ and ‘formal’ equality as basis, thereby grounding in a concept that already is the focus of policy debates since several centuries. Within this approach, ‘formal’, or ‘procedural’ equality, is similar to the idea of everyone being equal before the law. Thus, it states that similar energy justice cases must also be treated the same way. Against that, ‘substantive’ equality justifies the occurrence of cases of positive discrimination for the benefit of marginalized or disadvantaged persons or groups. Thus, it states that certain practices or laws can lead to inequalities in terms of wealth, power or the position of certain people or groups if the overarching goal is to achieve equal opportunities or

conditions for disadvantaged people. It therewith emphasises that equal considerations of everyone sometimes might demand the unequal treatment of some, to favour discriminated individuals or groups. (Pellegrini-Masini et al. 2020)

Overall, as becomes clear, despite the 'three-/four-tenet-framework' and the 'principles approach' being the most popular concepts, there is not yet a commonly approved definition and framework for energy justice. This might be attributed to the short period of EJ being a topic, or because of the high complexity of this topic area. Thus, even besides the concepts mentioned in this chapter, there are several more that can be found when looking through the literature.

However, coming back to Namibia, what is also obvious is that, simply by reading through all these different perceptions and interpretations of EJ, many of them seem to be relatable to the case of Namibia. For this reason, further research is recommended to gain even more clarity on energy justice in Namibia.

THE FRAMEWORKS' PURPOSE

As might already became clear during the definition part, one purposes of the EJ framework is to identify when, where, and how injustices take place in the energy system. It also aims to answer the question how these injustices can potentially be reduced or eliminated. (Sari et al. 2017) However, besides that the concept forms an important decision-making tool for increasing justice in energy policies and regulations. Thus, it supports policymakers and regulators in making more informed and comprehensive decisions, potentially leading to better results. Thereby it helps to increase the understanding of some regions being more vulnerable than others and that these then might need a particular focus or prioritization. In this way, it forms an adequate tool for addressing inequalities in the energy chain. (Bouzarovski and Simcock 2017) Besides that, the framework helps to investigate in which ways principles of justice can be used to affect the energy system and respective policies (Islar et al. 2017), potentially leading to an rethinking and redefining of established ways of thinking. (Castán Broto et al. 2018)

However, the concept is also used as a research tool, helping to overcome various feasibility constraints. Thus, for example in case of eliminating poverty, several barriers are currently exacerbating the success, including financial, logistic, or

political ones. The framework helps to conceptualize these obstacles as feasibility constraints, thereby directing the attention to the ethical and practical issues that policymakers must address. Furthermore, EJ allows the recognition of energy as part of the social system, thereby making the social aspects and issues of energy developments and transformations more visible. Accordingly, it analyses among others the utilization of energy as well as the values and moral principles that guide the respective policy decisions. Also the question of who benefits from certain decisions and who gets burdened by it gives important insides in the social side of EJ. (Islar et al. 2017) In doing so the concept forms an analytical tool that allows to build values into the energy systems, which are expressed in some of the before-mentioned tenets. (Monyei et al. 2018) Through allowing more social aspects to being included into energy policies, this also improves the representation of minority ethical individuals in policies, potentially leading to a more pro-active decision-making. (Sari et al. 2017) Besides all of that, by highlighting the weaknesses and issues of current energy systems, the framework forms an important tool for pushing forward the accessibility of essential goods and services for everyone. (Banerjee et al. 2017)

Critique of the Energy Justice Framework

While the Energy Justice frameworks get a lot of positive attention, there are also several negative thoughts regarding the theory and the approaches. Thus, many criticise that the term 'Energy Justice' is mainly used to describe the unequal access or unaffordability of energy and fuels. Thus, while this is certainly a big issue, it ignores the fact that the injustices in the energy sector are often much more diverse. Rather than just affecting the accessibility, energy injustice can also have far-reaching consequences, like impacting overlapping issues, for example food production or environment. Concerns like this are often overlooked when EJ is analysed, therewith ignoring many normative trade-offs that are connected to the energy sector. (Fünfgeld 2017) In this way, the EJ frameworks often marginalize justice implications that go beyond inequalities between socio-demographic groups or issues of unequal distribution of energy access. (Bouzarovski and Simcock 2017)

In the same direction goes the argument, that the framework only solves the outcomes of energy injustice as well as the social conditions and processes. However, it does not address the structural, ideological, political, or economic forces that caused it, or the institutions that led to the injustice. An example is the fact, that often EJ is set synonymous with 'energy poverty'. While this surely is the case in some situations, in others it might cause strong issues. Thus, equalizing both might hinder the identification of the true source of the problem or restrict the scope of the investigations. Also, the type of analysis that is done to solve 'energy poverty' might not fit to analyse the actual issue. In a way, energy poverty would form an analytical boundary, restricting discussions of EJ to only this issue. Instead, in order to fully grasp and solve potential EJ issues, a broader scope of implications is needed that also considers external drivers of injustice. (Lee and Byrne 2019)

Similarly, regarding this, also the 'three-tenet-principle' is criticised. Thus, the pillars seem to be too limited in their understanding and in how they enable the analysis of energy justice issues. Through this, they might end up being less efficient than what is necessary to solve potential issues. Overall, this point might also be related to the lack of a clear definition of EJ. Thus, for example the 'procedural' tenet aims to improve processes to solve potential injustices. Most authors thereby aim to create "just", and "fair" outcomes and distributions for everyone. However, it is rarely clarified what exactly constitutes justice or a "just" outcome. This is an issue, as it leaves a lot of room for interpretations and personal perceptions, which in turn directly leads to another critique point. Thus, for example the 'principles' approach is based on a wide number of moral theories, each of them allowing different interpretations and justifications. (Wood and Roelich 2020) Thereby they aim to provide a good live through linking particular duties to certain procedures, based on ideas like freedom or free choices. However, while most definitions of energy justice imply that the universal human rights are respected and that everyone should have the right to a minimum amount of energy for this good live, it leaves quite some space for interpretations and a weighing of the different principles. Accordingly, depending on the research or case of EJ, it is possible to rank or weigh the importance of the normative ideas that eventually affect our decisions. For example, a

‘sufficientarianism’ way of thinking would lead to the believe that everyone must get a sufficient amount of goods for their basic needs in order for it to be distributed in a fair way. Against that, an ‘egalitarianism’ approach would require everyone to get an equal share of goods for the distribution to be fair. (Islar et al. 2017) Both ideologies meet the overall definition of energy justice, in that they aim to provide a fulfilling live for everyone. However, thereby they suggest different approaches that lead to highly divergent measures.

Another point of controversies is the lack of practicability of the EJ frameworks. Most papers suggest that EJ principles should be included in policies and decision-making. However, only few make actual suggestions on how this can be enforced in practice. (Heffron and McCauley 2017) The problem with this is, that without feasible and hands-on recommendations on what to do in order to improve energy justice, there are no measures and no obligations for institutions or countries to put the principles into practice. (Castán Broto et al. 2018) Some papers suggested the usage of ‘restorative justice’ as solution, which is an approach coming from the field of criminal law. It aims to repair harm that was done before and could potentially be applied to energy justice. Thus, injustices that were caused through energy activities would have to be amended, potentially motivating decisionmakers to apply the EJ frameworks already beforehand. To control potential harm, concepts like the ‘Environmental Impact Assessment’, ‘Social-License-to-Operate’, or ‘Energy Financial Reserve Obligations’ could be used. However, the effectiveness of these measures remains to be proved. (Heffron and McCauley 2017) Overall, justice generally depends on separating what is the case from what is possible, therefore needing realistic and realisable utopias. (Islar et al. 2017) Especially the feasibility of measures and principles of EJ therefore requires further research.

Declaration of Academic Honesty:

Hereby I, Theresa Reß, born 25.11.1991, affirm that the submitted work

“The Impact of Land on the ‘Right to Energy’ in Namibia”

has been completed by me autonomously and without outside help. I thereby neither used other than the stated reference sources or materials, nor perpetrated I any other form of plagiarism. Furthermore, I declare that the work has not been published in an equal or similar way before and has not been submitted for any other purposes before.

Eidesstattliche Erklärung:

Hiermit erkläre ich, Theresa Reß, geboren am 25.11.1991, an Eides statt, dass ich die vorliegende Masterarbeit

“The Impact of Land on the ‘Right to Energy’ in Namibia”

Selbstständig und ohne fremde Hilfe angefertigt habe. Ich habe dabei nur die in der Arbeit angegebenen Quellen und Hilfsmittel benutzt. Die Arbeit wurde in gleicher oder ähnlicher Form noch keiner anderen Prüfung vorgelegt und auch noch nicht veröffentlicht.

…….. ……..

(Place, Date) (Signature)