

Technical University of Berlin - Faculty VI
Institute of Landscape Architecture and Environmental Planning
Department of Landscape Planning and Development



Master Thesis

submitted in partial fulfilment of the requirements for the degree

Master of Science in Environmental Planning

**Sufficiency within and around nature conservation associations in Germany.
The role of major German conservation associations
as change agents for a sufficiency-oriented transformation.**

submitted by

Bettina Huber

Student number: 392599

Study Program: M.Sc. Environmental Planning

First Advisor: Prof. Dr. Stefan Heiland

Second Advisor: Marianne Hachtmann

Submission (electronically): 02/01/2023

Abstract

Current overconsumption rates by affluent countries and societies and the multiple resulting socio-ecological crises must be addressed by a fundamental transformation in our consumption and production patterns. Current environmental policymaking and mainstream sustainability debates are unable to challenge the well-established logics of consumerist cultures and the economic growth paradigm and fall short of inspiring the transformational change required. Sufficiency is presented as a key guiding principle to achieve sustainable consumption rates.

This thesis explores the role of four major nature conservation associations (Ger: "Umweltverbände") in Germany, namely BUND, NABU, WWF and Greenpeace, as change agents for a sufficiency-oriented transformation. Based on an explorative research approach that combines a category-guided document analysis of published materials and semi-structured expert interviews with representatives of the four conservation associations, this study contributes structured and differentiated insights into the positioning of nature conservation associations on sufficiency, how they promote sufficiency, what their related work is characterised by and what that tells about their transformative potential.

Table of Contents

Table of Contents	II
List of Abbreviations	III
List of Figures	III
List of Tables	III
1 Introduction	1
1.1 Consumption and the socio-ecological crises	1
1.2 Consumption between structure and consumer - on the need for transformative change	3
2 Theoretical background on the need for a sufficiency-oriented transformation	4
2.1 Current solutions to required change - on the need for sufficiency	4
2.2 The need for change agents - on the role of nature conservation associations	7
2.3 Research interest and research questions	9
3 Methodology	10
3.1 Selection of nature conservation associations	10
3.2 Document analysis	11
3.3 Semi-structured expert interviews	13
3.4 Limitations of selected methodology	15
4 Findings	15
4.1 Brief profiles of the four nature conservation associations	16
4.2 General positioning on sufficiency	16
4.3 Narratives	21
4.4 Key areas of society	26
4.5 Target audiences	28
4.6 Forms of intervention	31
4.7 Fields of action and sufficiency practices	33
4.8 Challenges in sufficiency advocacy	36
5 Discussion	40
6 Conclusion	46
7 Eidesstattliche Erklärung	46
8 Reference list	47
Appendices	IV
Appendix 1: Overview of material sample	IV
Appendix 2: Category system for qualitative content analysis	IX
Appendix 3: Interview guideline for semi-structured expert interviews	XI

List of Abbreviations

BfN	Federal Agency for Nature Conservation (Germany)
BMEL	Federal Ministry of Food and Agriculture
BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
BMJV	Federal Ministry of Justice and Consumer Protection
BUND	Bund für Umwelt und Naturschutz Deutschland
DIY	Do-It-Yourself
EED	Evangelischer Entwicklungsdienst
EU	European Union
ERDF	European Regional Development Fund
NABU	Naturschutzbund Deutschland
IPCC	Intergovernmental Panel on Climate Change (UNEP)
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IRP	International Resource Panel (UNEP)
OECD	Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goals
UBA	German Environment Agency
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
WBGU	German Advisory Council on Global Change
WWF	World Wide Fund For Nature

List of Figures

Figure 1: Amount of published materials with direct sufficiency-reference	17
Figure 2: Narratives used by each conservation association	25
Figure 3: Key areas of society mentioned by each conservation association	27
Figure 4: Target audiences directly addressed by each conservation association	29
Figure 5: Intervention forms used by each conservation association	31
Figure 6: Fields of action mentioned (aggregated) and sufficiency practices by each association	34
Figure 7: Fields of action mentioned by each conservation association	35

List of Tables

Table 1: Numbers of supporting members and financial resources in associations	10
Table 2: List of interview partners	14
Table 3: Overview of forms of intervention	31

1 Introduction

1.1 Consumption and the socio-ecological crises

We are living as if we had three planets, literally. If everybody in our global world would consume resources at the average rate people in Germany currently do, we would require an equivalent of 2.9 planets in order to sustain our current lifestyles and to satisfy everyone's needs and desires (UNICEF 2022: 50). Taking a broader perspective on the average rates of resource consumption in the EU and various OECD countries, we would currently even require 3.3 planets on a global scale (ibid.: 50). When using the generalised term “we” throughout this thesis, it refers to what can be called “affluent” countries, societies or individuals and what presents the focal point of this research; meaning those parts of the world and its population which are economically well off above the global average and can be considered to have “more than enough” (Callmer 2019: 11) due to their middle- and upper class status (Lage 2022; Persson 2022, Sandberg 2021). This includes countries of the ‘Global North’, the so-called ‘Western World’ or high-income countries (despite not all individuals living there) as well as those individuals and groups in other parts of the world which have the same economic wealth (Callmer 2019). Speaking of “we” pronounces the unevenly distributed responsibility for resource overconsumption while also trying to stress the role of every member of those societies for transformative change.

The overconsumption of natural resources by these affluent countries and societies already now reaches beyond planetary boundaries, beyond what is called the “safe operating space for humanity” (Rockström et al. 2009) or in other words “Earth’s carrying capacity” (Bjørn and Hauschild 2015). The planetary boundaries concept first brought up by Rockström et al. (2009) identifies nine central earth systems and their respective critical thresholds, which may cause unacceptable environmental change (on a global scale) when being transgressed. Updated research on this concept by Steffen et al. (2015) shows that we have already transgressed four of these nine planetary boundaries (climate change, loss of biosphere integrity, land-system change, altered biogeochemical cycles), considerable driven by our resource use. This means that particularly affluent countries and societies take more than their “fair share” from the environmental space (Linz 2002; Callmer 2019). As a result, we are currently confronted with a multitude of severe environmental and social crises, which illustrate the urgent need for a profound change in our current consumption behaviour. O'Neill et al. (2018) highlight the need for sufficiency, i.e. an absolute reduction of consumption rates, as an appropriate strategy for remaining within planetary boundaries.

But in fact, current rates of overconsumption (e.g. regarding food and nutrition, water use, energy use and mobility) and its related production patterns have been identified as key drivers behind amplifying pollution, carbon emissions and climate change, continuous ecosystem degradation and biodiversity loss by numerous scientific assessments (Fleurbaey et al. 2014; IPBES 2019; IPCC 2022; López and Teufel 2022). According to UNEP and IRP (2019: 8), 50 % of global greenhouse gas emissions and 90 % of global biodiversity loss and water stress are due to our current consumption patterns. Our exploitation of natural resources has increased considerably over the last five decades, since a higher proportion of the global population transitioned into higher levels of industrialization. We have a relentless demand in minerals, metals, fossil fuels, biomass (e.g. for crop harvest and grazing), water (e.g. water withdrawal for agriculture, industries and cities) and land (e.g. for cropland) (ibid.). This has led to severe degradation of various ecosystems and habitats including forests, wetlands, grasslands, freshwater and maritime ecosystems and the threat or loss of species (IPBES 2022: 12), which is an alarming development from a nature conservation perspective. Answers from the conservation community to these developments can be roughly summarised by the very recently adopted “Kunming-Montreal Global Biodiversity Framework” at the UN Biodiversity Conference in Montreal, focusing on e.g. the designation of more protected

areas (e.g. 30x30 target) and ecosystem restoration, species protection, reduction of pesticide use, environmentally harmful subsidies and food waste, but also the just recently adopted aim to “significantly reduce overconsumption” (CBD 2022: Among the global targets for 2030 - section).

However, we cannot only identify several environmental crises, but also severe social crises resulting from our resource overconsumption. When looking at it from a social justice perspective, issues of unequal distribution across geographical areas and generations become clear. First of all, “an average person living in a high-income country consumes 60 % more than someone in an upper-middle income country and over 13 times what is consumed by someone in a low-income country” (UNEP and IRP 2019: 5). This shows that access to and benefits resulting from consumption are very unequally distributed across the globe. Another injustice aspect relates to the unequal distribution of consumption-induced negative environmental impacts. Overconsumption in affluent countries and groups is dominantly responsible for the abovementioned ecological crises. However, countries and populations in the Global South and low(er)-income countries are much more directly and severely affected by climate change and other environmental challenges, even though they have contributed the least to them (Linz 2004: 24). In addition to that, our affluent living standard is based on the externalisation of related environmental and social costs through the exploitation of natural resources and people in other parts of the world (Lage 2022: 11). High-income countries with higher resource consumption tend to import goods and materials, but at the same time outsource all types of associated production-related environmental and health impacts to middle- and low-income countries. Taking this externalisation into account, consumption-related environmental impacts caused by high-income countries are three to six times larger than those of low-income countries (UNEP and IRP 2019: 8). This illustrates how overconsumption leads to a marginalisation of non-affluent countries and groups. By some scholars, these dynamics are also framed as the “imperial mode of living” (Brand and Wissen 2018; Kopp et al. 2019; Krüger 2020), which refers to “the so-called western way of life that is characterised by material wealth and high levels of consumption. It comprises patterns of production, distribution, and consumption, as well as hegemonic values (...) that are deeply rooted in the societies of the global North and very attractive for broad sections of the population in the global South” (Brand and Wissen 2018, cited in Krüger 2020: 265). The imperial mode of living comprises worldwide relationships of domination, power and exploitation that remain intact while being invisible and, in a way, normalised in the global North; thereby hindering changes towards more sustainable ways of living (Brand and Wissen 2018). However, the “attractiveness” of our affluent lifestyle is at odds with the hardly remaining environmental space left to people from the Global South in order for them to consume *their* “fair share”. We are literally stealing resources away from non-affluent countries and societies. Not only that, but also “we are indeed stealing the future away from both humans and non-humans” (Callmer 2019: 5), raising additional questions of inter-species and intergenerational justice.

So let us draw a first conclusion: consumption is neither neutral nor innocent. The way affluent countries and societies use and overuse natural resources, our way of living, presents a highly ecological and social issue, thus being of political and ethical matter. The way we consume affects the ways someone else is or will be able to consume, especially when we reach beyond our “safe operating space” and our “fair share” of the environmental space. We have to find ways of living which can meet our needs, but not at the expense of others.

1.2 Consumption between structure and consumer - on the need for transformative change

Imagining and developing new ways of living is an immense challenge. Our consumption patterns are both the product of and the driver behind overarching political and economic structures that disincentivise or even prevent a more sustainable way of consuming. Our current economic paradigm is built upon a growth-model that asks for a continuous expansion of our economies dependent on ever increasing resource consumption (López and Teufel 2022). Accordingly, dominant business models are embedded in these competitive growth structures and are focused on generating constantly increasing outputs intended to feed into national growth rates (Göpel 2016). Various path dependencies stabilise this given status quo, i.e. market patterns, business strategies, political laws and regulations, as well as consumer behaviour, whereby endless growth has become the organising principle of most areas of our lives (Göpel 2016). We have built economies that not just incentivise, but depend on us as consumers to strive for new, more and better things. Schneidewind and Zahrnt (2014b) emphasise the role of politics as a regulatory body and institution that sets the framework conditions and incentives for either sustainable or unsustainable forms of consuming, producing and doing business. According to them, “[g]ood politics creates the room where the Good Life can be lived” (ibid.: 12). But our political landscape currently sets the framework to the advantage of unsustainable ways of consuming and producing. This needs to change if we want to stop current overexploitation of natural resources and live in ways that respect planetary boundaries and use exclusively our share of the environmental space, but nothing more.

Consumer behaviour in affluent parts of the world is characterised by a consumerist culture, meaning that “people find meaning, contentment and acceptance through what they consume” (Callmer 2019: 14) and attach high value to “the new and the novel” (Campbell 2015). The assumption of current mainstream economics is that human needs and humans’ greater happiness is achieved through more consumption (Göpel 2016). Following this logic, “billions are spent on marketing measures to ensure that a consumer culture guarantees demand for, or at least acceptance of” (ibid.: 26) currently unsustainable levels of resource overuse. This consumerist culture in our affluent countries and societies together with all its implicit socio-cultural aspects, i.e. norms, beliefs, lifestyles and self-images needs to be tackled (Callmer 2019, Göpel 2016) in order to overcome our environmentally destructive overconsumption.

The structural dimension behind overconsumption in affluent countries and societies highlights the need for a fundamental transformation on a structural level including institutions and rules of politics, the economy and individuals as consumers. And this transformation must be designed in service of our environment as well as people; it must address environmental destruction as well as social relations of oppression (Leibenath et al. 2021). Transformative change needs to happen in a way that leads to major shifts towards more sustainable production and consumption (Göpel 2016) and not just in a change of consumption, but more specifically, in decreasing resource consumption overall; and that might require “business unusual”-approaches (UNEP and IRP 2022: 34; López and Teufel 2022). Following the Stockholm Resilience Center’s (2012: 1) definition of the term, transformation “is defined as the capacity to create untried beginnings from which to evolve a fundamentally new way of living when existing ecological, economic, and social conditions make the current system untenable”. Our current rate of overconsumption can definitely be called untenable, given its severe socio-ecological impacts described before. Transformation hereby is understood as an actively driven, strategic process that involves steering away from an undesired structural status quo and to shift social-ecological systems into new improved trajectories that sustain and enhance ecosystem services and human wellbeing (ibid.). The German advisory council WBGU (2011: 1) prominently calls for a ‘Great Transformation’ in its 2011 flagship report and even calls it “an ethical imperative”.

But what should be the guiding principle for this transformation, so frequently demanded by many scholars of the 21st century? How can this transformation ensure that we finally take steps to “reduce (...) material and energy consumption in order to enable others (both now and in the future) to enjoy their fair

share of the environmental space” (Persson 2022: 25)? And how could such a previously mentioned “business unusual”-approach look like?

2 Theoretical background on the need for a sufficiency-oriented transformation

2.1 Current solutions to required change - on the need for sufficiency

Searching for a guiding principle, which determines the quality of the desired transformation and can halt our resource overconsumption, many scholars have started to emphasise the concept of *sufficiency*. In the following, the concept will be explained and proposed as a necessary and inevitable guiding principle in affluent countries and societies to fundamentally transform our ways of living and our socio-economic systems.

The concept of sufficiency asks about the appropriate level of production and consumption and strives for an environmentally and socially compatible consumption through low demand and absolute reduction of (resource-intensive) goods and services (BUND et al. 2008; Stengel 2011). Accordingly, sufficiency strategies are mainly concerned with consumption related changes and call for profound changes in lifestyles and consumption behaviour. Thus, it presents not so much of a technical, but a clearly normative approach. It is about finding alternative ways of living of an “enough” that can meet one’s needs, but precisely not at the expense of others (Stengel 2011, Schneidewind and Zahrnt 2014a). However, in our affluent parts of the world, current solutions to address overconsumption follow predominantly (technological) production-side approaches (Winterfeld 2002) which, while considered to be highly necessary, appear to rather treat the symptoms of our problem, instead of the problem itself. They do not provoke such a clear break with dominant paradigms. According to many scholars, these two currently mainstreamed solutions can be summarised under the terms *efficiency* and *consistency* (BUND et al. 2008; Krüger 2020; Linz 2006; Persson 2022; Stengel 2011; Tröger and Reese 2021).

The shortcomings of efficiency and consistency approaches

Efficiency strategies (also referred to as ‘dematerialization’) try to reduce our resource consumption by most effective resource use through increased resource productivity. So, efficiency is mostly concerned with production side changes and relies on (technological) innovations in the design of products, their life cycles and reusability (Linz 2002; BUND et al. 2008). Examples for efficiency strategies are e.g. improvements of building insulations in order to save energy or a company that uses warmed up cooling water generated during production processes to heat the factory. The logic behind this strategy is that “efficient” production uses less materials and energy input per product or service, thereby consuming less natural resources. So it does not ask for a reduction of products or services themselves, but for a reduction of the input needed to generate those. *Consistency* strategies, on the other hand (also referred to as ‘compatibility between nature and technology’), aim at more environmentally-friendly products and technologies that use resources and services of ecosystems without harming them (Linz 2002; BUND et al. 2008). Consistency strategies want to overcome the environmental disturbances caused by our production and consumption through creating a symbiosis between industrial and natural processes, embedded in a circular economy without generating waste and emissions (Linz 2002; BUND et al. 2008). Concrete examples for consistency strategies are the shift from harmful fossil energy toward renewable and low- or no-carbon energy like biofuels or the shift from plastic bags to compostable bags e.g. made from plant-based starch. Accordingly, consistency strategies also do not aim at a reduction of actual consumption rates, but at making our existing consumption rates less environmentally harmful (Linz

2006). So, both efficiency and consistency strategies try to address our overconsumption and the environmentally harmful impacts that comes with it but allow consumption rates to remain largely unchanged. However, various scientific scholars argue that these two dominant strategies alone, even when properly combined, will not be able to solve our overconsumption issue and the various crises connected to it, unless they are embedded in a sufficiency strategy (Bengtsson et al. 2018; Krüger 2020; Linz 2002; Sandberg 2021; Tröger and Reese 2021). Both efficiency and consistency strategies are at the core of current environmental policymaking and in the mainstream of current sustainability debates (Krüger 2020; Winterfeld 2002), though “failing to deliver an economy that can operate within planetary boundaries” (López and Teufel 2022). As an exemplary policy, the globally applied Sustainable Development Goal 12 on sustainable consumption and production is strongly efficiency-focused and thus inadequate for reaching sustainable levels in practice (Bengtsson et al. 2018). And also Germany’s National Programme on Sustainable Consumption (BMUB, BMJV and BMEL 2016) addresses sufficiency only two times and in a very marginal way, reduced to the individual level without mentioning any structural potential of its application. While being doubtlessly necessary and ambitious, these current efficiency and consistency approaches can literally be described as “insufficient” for the depth of transformative change required. Because, according to Göpel (2016: 40) “[t]he prime agenda became that of decoupling economic growth from environmental destruction, or doing more with less. Doing less was and is simply not in the cards, anywhere or for anybody (...) The mental model continued to be blind to any possible solutions that would imply ‘sufficiency’ or ‘enough’ as possible goals”.

A widely discussed and empirically identified shortcoming of efficiency strategies is the so-called “rebound-effect”. This describes the phenomenon of increased resource productivity leading to cost savings (not just savings in resources, but also in economic terms), which in turn incentivizes even more production and thereby resource consumption. This represents a paradox dynamic that counteracts the initial goal of efficiency approaches. A concrete example by Linz (2002) can illustrate these dynamics: A heating system that has been technologically optimised by requiring less energy input presents a strong incentive to heat even more (and thereby create even more absolute consumption of energy) than before because it simply became cheaper; or to use the resulting savings for consumption of resources elsewhere (e.g. deciding to eat out more often because it is more affordable through savings in energy consumption). This is especially true under current competitive market conditions, where efficiency generates surpluses and enhances growth mechanisms. This paradox has been identified by various extensive analyses on efficiency approaches’ environmental impacts (Jackson 2016; Kallis 2017; Sandberg 2021). In addition to that, global rates of efficiency increase have grown too slow or even stagnated, thus being outweighed by growing rates of resource consumption (Jackson 2016; Sandberg 2021; UNEP and IRP 2019; Wackernagel and Rees 1997). Consistency strategies as well face serious limitations. The associated basic innovations are assumed to be lying far in the future, without showing immediate positive impacts to the extent needed right now, and the dimension of (unintended) negative side-effects have just started to become visible (Linz 2002). For example, the abovementioned shift from fossil energy toward biofuels can create various environmental and societal challenges (e.g. land being used for biofuels instead of food, mostly in countries of the Global South), even though its initial aim was to reduce precisely such impacts.

Sufficiency as an essential complement

Many scholars therefore argue that both strategies cannot reduce our overconsumption, unless they are embedded in a sufficiency strategy (BfN 2021; Potočník et al. 2018; Linz 2002; López and Teufel 2022; O’Neill et al. 2018; Sandberg 2021). In accordance with these scholars, this thesis views sufficiency as a necessary principle to find new ways of living. The reasoning behind is its ability to reach to the root of our overconsumption issue. Sufficiency does not seek to satisfy our existing needs and desires with less or less harmful resources, but it questions our needs and desires and our demand for resources itself. In order to develop a more sustainable way of living, the affluent world has to ask itself “How much is

enough”? Sufficiency asks for an absolute reduction of our resource demand by proposing a maximum level of consumption and a “withdrawal from what has seemed to be our “natural” (albeit unfairly large) share of the cake” (Callmer 2019: 6). Sachs (1993) summarised four popular sufficiency principles which highlight its clear break with the currently dominant economic and cultural paradigm and can be translated as ‘Deceleration’, ‘Deglobalization’, ‘Decluttering’ and ‘Decommodification’¹. Disciplinary similarities and overlaps with research fields like De-growth (Tröger and Reese 2021), Post-Growth and the Economy of the Common Good become obvious thereby.

Sufficiency strategies can fundamentally address the multiple crises caused by current overconsumption. An absolute reduction in resource demand is highlighted and recommended as the most important approach towards halting biodiversity loss, addressing pollution and climate change as well as protecting ecosystems and its various ecosystem services, not only in the affluent parts of the world where sufficiency is to be practised, but also in other regions of the world (BfN 2021; López and Teufel 2022). This is especially true for regions which currently suffer from externalisation of costs of our consumption levels. With regards to potentially negative environmental impacts of sufficiency strategies, Samadi et al. (2018) expect them to be completely unproblematic from a nature conservation perspective, while instead holding a promising potential for achieving climate protection targets. And with regards to social justice challenges caused by overconsumption, as described in chapter 1.1, sufficiency can present a key strategy to stop “stealing away” from others and to reduce or even stop the externalisation of costs to other parts of the world and future generations. Sufficiency can also liberate enough environmental space for marginalised non-affluent countries and groups to meet their basic needs (Persson 2022) and to rightfully increase their own consumption levels (Potočník et al. 2018). From a justice perspective, sufficiency appears as a question of responsibility. As Sachs (1999: 174) phrased it: “In future, for industrialised countries and classes, justice will be about learning how to take less rather than how to give more. Whoever calls for equity will have to speak for sufficiency” (Sachs 1999: 174, cited in Callmer 2019: 6).

However, under current conditions, sufficiency presents the by far most challenging sustainability strategy to be applied or even mainstreamed, because it is least politically and economically compatible. This is also why Kahlenborn et al. (2019) conclude with a rather reserved assessment of sufficiency’s (transformative) potential to be implemented, unless there is strong political support rising. And this strong political support is what several scholars are calling for. They are calling for current (environmental) policymaking to shift from purely efficiency- and consistency-based approaches towards more sufficiency-oriented goals (Schneidewind and Zahrnt 2014a; López and Teufel 2022). And first steps into this direction are already happening: Two publications recently published by the Federal Agency for Nature Conservation (BfN) in Germany strongly recommend the promotion of sufficiency as a transformative pathway in the countries’ policymaking (BfN 2021; López and Teufel 2022). The transformative potential of sufficiency is suggested to be “critical” due to its alternative logics fundamentally challenging our dominant economic growth paradigm, thereby initiating the necessary shift towards a new economic paradigm and new framework conditions that organise our way of living in a more sustainable manner.

¹ the mentioned translations are formulated by e.g. Göpel (2016), based on Sach’s original four E’s (German): ‘Entschleunigung’, ‘Entflechtung’, ‘Entrümpelung’ and ‘Entkommerzialisierung’

2.2 The need for change agents - on the role of nature conservation associations

The need for transformative change towards sufficiency and a new and more sustainable logic behind our consumption patterns is diametrically opposed to the well-established logics of economic growth and the consumerist culture in affluent parts of the world (Linz 2002). These logics need to be fundamentally redesigned in order to meet sufficiency goals and values, which in turn requires a broader social transformation (Linz 2002; Schneidewind and Zahrnt 2014b). Such a sufficiency-oriented transformation depends on actors who promote it. Göpel (2016: 40) “place[s] humans as sense-making actors at the locus of intentional change”. She highlights that purposefully acting people are the driving force behind system changes and “can operate in all parts of society, business, non-governmental organizations, culture and even in political decision-making” (Göpel 2016: 30). The relevant question to ask is “Who can contribute to promoting sufficiency?”

The need for change agents

The particular interest of this thesis lies in actors who can promote sufficiency in the specific context of Germany, as one representative within the group of affluent countries and societies. Business and industry actors are very unlikely to pursue sufficiency-oriented business models, unless a wider reform of our economic system is implemented, refraining from economic growth. This wider reform would have to be shaped by politics, establishing new framework conditions for the economy to operate in (Bocken and Short 2019). But also political actors cannot be expected to promote such radical demands as the one for sufficiency (Spangenberg and Weiger 2017) due to their embeddedness in established structures and their strong dependence on broad public support (Stengel 2011: 228). Thus, “inconvenient truths” like the need for sufficiency and a radical change in our consumption and production patterns is very unlikely to provoke political will and support, unless strong public support and media coverage for sufficiency arises (Stengel 2011: 228).

Various scholars instead suggest that there is a crucial role of forward-thinking civil society actors (i.e. individuals, groups and organisations) who initiate and persistently advocate for sufficiency (Göpel 2015; Knieling et al. 2021; Linz 2004; Schneidewind and Zahrnt 2014b; Spangenberg and Weiger 2017; WBGU 2011). By doing so, these civil society actors prepare the ground and act as “catalysts for a politics of sufficiency” on a more structural level (Schneidewind and Zahrnt 2014b: 136). Results from transition research suggest that individuals and strategic groups can play a much bigger role in transforming social systems than usually accorded to them and can function as role models and trendsetters who rebel against a given status quo that seems almost impossible to be changed (Göpel 2015). These crucial individuals and groups are referred to as “change agents” (or “pioneers of change”), highlighted as key actors in transformative processes also by the German advisory council’s 2011 flagship report (WBGU 2011). They are actively and strategically engaged in spreading awareness of ideas for change and concepts for its realisation. Change agents can illustrate how a desired change can look like in practice through experimental spaces and pilot projects (Knieling et al. 2021; Schneidewind and Zahrnt 2014b). Supported by a certain power over ideological values, norms and behaviour, they can provide impulses for action at times and under conditions that actually tend to paralyse impulses (WBGU 2011). Our given path dependencies and structural arrangements around growth-oriented and consumerist logics (as described in chapter 1.2) represent just such paralysing conditions for a change towards sufficiency.

Nature conservation associations as change agents

The question remains: Which civil society actors in Germany can act as change agents for sufficiency? Various scholars concerned with this question agree on nature conservation associations (Ger. “Umweltverbände”) as having a primary pioneering role in promoting for sufficiency (Kurwan 2021; Ober 2013; Roose 2003; Schneidewind and Zahrnt 2014b; Spangenberg and Weiger 2017; Zahrnt, Stoll and Seitz 2017). Throughout the past, since their foundation, they have always had a crucial role in raising

awareness for the critical state of nature and our planet as a whole (Ober 2013). Especially Germany's major nature conservation associations (i.e. BUND, NABU, WWF and Greenpeace) act as role models and trendsetters by significantly influencing the general perception of environmental movements and discourses in Germany through different forms of public appearances and media coverage (Roose 2003, Ober 2013). Over decades, they have given numerous impulses for action against the well-established status quo by advocating for a clean and functioning environment, the protection of species, the establishment of protected areas, more sustainable energy, mobility and consumption and by building resistance against nuclear power, intensive animal husbandry, logging and deforestation, to just name a few of their key areas. Their work as change agents is strategic and organised. They use a range of different interventions in order to attract attention to and generate public pressure for specific environmental topics on their agenda. These interventions range from generating and spreading knowledge to campaigning, protesting, performing public actions as well as formulating political demands and influencing politics through lobbying activities (Kurwan 2021). This broad spectrum of activities holds great potential for comprehensive and strategic alignment of sufficiency promotion, while also enabling outreach to several audiences and target groups.

According to Spangenberg and Weiger (2017), nature conservation associations are both “driven by politics” and “drivers of politics” (own translation) at the same time. As driven ones, they try to prevent environmental degradation resulting from political decisions, while as drivers of politics they try to defend sustainability goals and practices against other powerful interest groups in order to embed sustainability targets into Germany's political landscape (ibid.). They act as “watchdogs” whose central task is to demand and monitor sustainability topics to be integrated and implemented in the political landscape (Zahrnt, Stoll and Seitz 2017). And “[t]hanks to their independence they are able to take risks and to push hard for sufficiency. They can make sufficiency policy the guiding principle of campaigns in different policy fields, for example in transport policy, in agricultural policy or in waste management policy” and “they can set the tone within their own sphere and engage their members as agents for sufficiency” (Schneidewind and Zahrnt 2014b: 141f.). Their independence gives them legitimization to question and deconstruct the status quo. Their influence on public opinion and their public impact is supported by a high level of trust among society. Results of a representative population survey on environmental awareness in Germany (Kuckartz 2002) have shown that the task of developing solutions to environmental challenges is primarily entrusted to nature conservation associations, instead of formalised environmental protection authorities or political actors. According to Spangenberg and Weiger (2017), much of the successful integration of sustainability topics in national and international politics and the adoption of respective agreements during the last decades was due to nature conservation associations and their sustained efforts. This illustrates their already existing role as change agents in German society and suggests an equally strong potential as change agents for sufficiency. Through their structures (reaching from federal, to state and local level) and their wide range of potential influence (reaching from their own members to the general public, businesses and politicians) they can promote new concepts and visions on a broad scale and address sufficiency on a structural level. Spreading a sufficiency-message through nature conservation associations can present a powerful pathway for gaining public support and ultimately to more political willingness to consider this approach.

2.3 Research interest and research questions

As illustrated above, there is strong consensus amongst many scholars in Germany that nature conservation associations represent a central change agent for the promotion of sufficiency and a transformation guided by this principle. However, there is a lack of research on the relationship between these organisations and the topic of sufficiency. The role of actors in promoting and mainstreaming sufficiency generally remains underrepresented in current research. Scientific studies in the German context have explored sufficiency rather from a theoretical point of view (Lamberton 2005, Linz 2002, Princen 2005, Sachs 1993, Sachs 2015, Sandberg 2021, Stengel 2011). Some studies also started looking into sufficiency's status of implementation in different fields of action, e.g. its integration into political instruments of different political levels (Ekardt 2016, Ekhardt 2018, Linz 2015, Kopatz 2016), specifically housing policy (Bohnenberger 2021, Kenkmann et al. 2019, Weyland 2020), in urban development and planning (Böcker et al. 2021, Stadt Zürich 2014) as well as in municipal climate protection concepts and master plans (Schmitt et al. 2015). This highlights sufficiency as a currently vibrant research field covering various actor levels and fields of action. Nevertheless, the research landscape appears to have a current bias towards studying specific fields of action and instruments. Only one study has been identified that takes an actor-centric perspective on sufficiency and explores the role of energy cooperatives in Germany as promoters of sufficiency amongst their client households (Frick et al. 2022). Accordingly, the work presented in this thesis will provide first systematic insights into precisely that relationship between some of Germany's major nature conservation associations and the topic of sufficiency.

According to Ober (2013) it still remains unclear to which extent conservation associations are able to address such complex and systemic questions like the one posed by sufficiency. This is assumed due to the fact that they traditionally have rather focused on classical ecology and nature conservation topics like pesticides and genetic engineering, and here they have built expertise, networks and access to politics. But for addressing systemic socio-economic issues, Ober (2013) assumes, they lack the knowledge and prerequisites to develop appropriate strategies. Leibenath et al. (2021) emphasises that nature conservation communities must address sufficiency more strongly than they currently do. On the one side, they should explore appropriate strategies to promote and communicate sufficiency in the broader society and in politics, while on the other side start reflecting a sufficiency-principle within their own structures in order to carry it internally (ibid.).

This call for action and the numerous emphasis on nature conservation associations as change agents is what the focus of my thesis builds upon. It explores their role as change agents for sufficiency and a sufficiency-oriented transformation. Due to a lack of existing research on specific actors and their role for sufficiency promotion, this thesis presents an exploratory research design and seeks to find answers for the following research questions through empirical evidence:

1. Do nature conservation associations promote the topic of sufficiency?
2. If yes, how do they promote sufficiency and what is their related work characterised by?
3. Which transformative potential does their sufficiency-related work have?

Finding answers to these questions can help to better understand the relationship between conservation associations and the topic of sufficiency. It can help to assess and reveal their role as change agents promoting a sufficiency-oriented transformation and it can provide insights into structural conditions and path dependencies that prevent them from unlocking their potential as change agents.

3 Methodology

An explorative research approach was chosen, starting with the selection of concrete cases of German nature conservation associations. A mixed-method research design was applied to study these associations, including qualitative content analysis of empirical data in the form of documents, supported by semi-structured expert interviews. The following sub-chapters describe the methodological choices and present initial reflections on potential limitations and concerns.

3.1 Selection of nature conservation associations

The role of nature conservation associations as change agents for sufficiency promotion is studied by exploring a limited number of cases in the German context. For this thesis, the four major associations *BUND*, *NABU*, *WWF* and *Greenpeace* (together with their respective youth associations *BUNDjugend*, *NAJU*, *WWF Jugend* and *Greenpeace Jugend*) were selected. They have been selected as the cases of interest since they represent the biggest and most popular associations in Germany with the highest numbers of supporting members (see latest numbers in Table 1; youth associations are not represented with numbers due to a lack of data) and the strongest public influence on civil society and the environmental discourse due to their broad thematic coverage and media representation (Roose 2003: 238, Sperfeld and Zschiesche 2014: 52, 99). Their strong supporter base results in substantial financial resources (see latest numbers in Table 1) that enabled a high level of professionalisation during the past (Sperfeld and Zschiesche 2014: 56). Based on their established recognition and available resources in combination with their role as change agents discussed in chapter 2.2 it can be assumed that *BUND*, *NABU*, *WWF* and *Greenpeace* hold a significant potential for the promotion of sufficiency in Germany. They shape public and political agendas through generating and spreading environmentally relevant knowledge, public protests and actions, and through established access to the political landscape and lobbying work (Kurwan 2021: 19, Sperfeld and Zschiesche 2014: 88). This broad access and outreach potential would theoretically enable sufficiency promotion on a broad scale and in different areas of society, thus preparing the ground for a more systematic sufficiency-oriented transformation.

In distinction to “youth associations” (*BUNDjugend*, *NAJU*, *WWF Jugend*, *Greenpeace Jugend*), this thesis will use the terminology “adult associations” when referring to *BUND*, *NABU*, *WWF*, *Greenpeace*.

Table 1: Numbers of supporting members and financial resources in associations

Nature conservation associations	Supporting members (2021)	Income (2021)	Source (Annual Reports)
BUND (Bund für Umwelt/Naturschutz Dtl.) <i>BUNDjugend</i>	674.740 ---	40.5 mio € ---	<i>BUND</i> 2022 ---
NABU (Naturschutzbund Deutschland) <i>NAJU</i>	798.000 ---	76 mio € ---	<i>NABU</i> 2022 ---
WWF (World Wildlife Fund for Nature) <i>WWF Jugend</i>	803.737 ---	113 mio € ---	<i>WWF</i> 2022 ---
Greenpeace <i>Greenpeace Jugend</i>	632.781 ---	76.8 mio € ---	<i>Greenpeace</i> 2022 ---

3.2 Document analysis

The four nature conservation associations and their role as change agents for sufficiency promotion was studied using a qualitative content analysis according to Mayring (2014). This type of analysis is adequate for answering all underlying research questions (see chapter 2.3) since communicative contents and documents are essential evidence for the way conservation associations address and promote sufficiency within their work. By applying a systematic and rule-bound procedure of category-based coding on documents, it is possible to explore the four different associations in a reliable and transparent manner and to produce generalised results, but also a comparison (Mayring 2014) between BUND, NABU, WWF and Greenpeace on whether and how they communicate about sufficiency.

Determination of material sample and analytical unit

The underlying material sample included within this analysis consists of all publicly available materials with direct reference to the topic of sufficiency that can be identified via the four conservation associations' official websites. The official websites were chosen as an entry point for material sampling because this communication channel is assumed to be the main channel of outward communication and to give the broadest insight into how and what BUND, NABU, WWF and Greenpeace communicate about and what topics they promote in which way (contrary to e.g. social media channels which target a much narrower audience). At the same, this also allows for a reduction of the potential material corpus to a manageable scope.

In order to identify materials with direct reference to the topic of sufficiency, each official website (including websites of the respective youth associations BUNDjugend, NAJU, WWF Jugend and Greenpeace Jugend) was screened by applying the website-internal search function using the keywords "Sufficiency", "Suffizienz" (Ger.) and "suffizient" (Ger.). Other terminologies which may have strong thematic overlaps with the topic of sufficiency (e.g. de-growth, post-growth, consumption) were not applied in order to focus on specifically sufficiency-related materials only and to explore on how this concept is explicitly being taken up by conservation associations. The resulting "hits" on the websites, meaning published materials, were collected as a first step (BUND/BUNDjugend: 49 hits, NABU/NAJU: 36 hits, WWF: 9 hits, Greenpeace: 5 hits). As a second step, this initial list of published materials was further reduced based on certain exclusion criteria. Listed materials were excluded from the sample corpus when the keyword terminologies only appeared as a side note (e.g. in related weblinks on the bottom of a website article), or when the exact same content was presented in different forms (e.g. an interview being published as a website article, but also within a member magazine; or a summary document that presented redundant content in comparison with the respective main publication). In addition, there were two cases (material ID N33 and W6) where materials were published in association. Even though these cases were only identified through one of the official websites, they were also attributed to the list of published materials of the respective other nature conservation association. This material sampling process resulted in an overall corpus of 83 published materials with direct reference to sufficiency, obtained from website screenings in September/October 2022 (BUND/BUNDjugend: 37, NABU/NAJU: 32, WWF/WWF Jugend: 8, Greenpeace: 6) (see Appendix 1).

The content-analytical units of this qualitative content analysis refer to textual features of these materials exclusively, but not to elements like pictures, graphics etc. The recording unit comprises all 83 published materials. The coding unit comprises a subordinate clause (referring to the minimum portion of text which can be coded), while the context unit comprises a whole paragraph (referring to the largest text component which can be coded). Here it is important to emphasise an important distinction applied during the document analysis: some published materials addressed sufficiency as a "central topic" (i.e. sufficiency being the dominant topic of interest in that material), while other addressed sufficiency as a "marginal topic" (i.e. sufficiency being mentioned one or several times, while the dominant topic of interest in this

material is a different one). In cases of sufficiency being the central topic, the entire material was analysed with the underlying coding scheme; while those materials addressing sufficiency only as a marginal topic were only analysed based on the respective paragraph that contained the keyword “Sufficiency”, “Suffizienz” or “suffizienz”. This presents an important analytical distinction because in those cases of marginal mention of sufficiency, codes may mistakenly be attributed to sufficiency, while they in fact refer to the dominant topic of interest (e.g. “transformation” or “post-growth”).

Development of a category system

This list of 83 materials published by BUND, NABU, WWF and Greenpeace, as well as its youth associations, was analysed with an underlying category system that should help find answers to the research questions. A mixed procedure between deductive and inductive category development was applied. In the first step, an initial category system has been retrieved deductively during a general and broad-based literature review on the theoretical background of sufficiency. Based on this, a total number of six main categories was determined to inform the analysis, comprising the following (see Appendix 2, left column)

1. Narratives
2. Key areas of society
3. Target audiences
4. Intervention forms
5. Fields of action
6. Sufficiency practices

These categories were extracted from a broad corpus of scientific literature addressing the conceptual dimension of sufficiency and its potentials for our society. In the following, I want to present a short reasoning, based on existing literature, for why each of these categories have been included in the analysis.

Narratives are highlighted as key leverage points for transformative change and for pioneering strategies aiming at paradigm shifts, according to many scholars (Brand and Wissen 2018, Göpel 2016, Tröger and Reese 2021). At this stage, broad acceptance and support of sufficiency is very limited. Sufficiency has a rather devalued status in our socio-political systems due to its truncated interpretation as loss of freedom and comfort (Stengel 2011: 183), “eco-dictatorship” (Heyden et al. 2014:12), sacrifice and the absence of well-being (Linz 2002: 9). The “overarching ideational framework or paradigms” and its “deep cultural wiring and its mental path dependencies” need to be deconstructed by change agents and replaced by new imaginaries that ignite change (Göpel 2016: 32, 46f.). Positive narratives related to sufficiency and a non-consumerist culture must be highlighted (Heyen et al. 2013: 13, Linz 2002: 55) and new stories must be told. The category *narratives* (mainly based on concrete suggestions for positive narratives from literature) has been included within this analysis in order to explore how conservation associations address precisely this issue of narrative building. *Key areas of society* refer to actors and areas within society which should be held responsible for transforming their structures and practices towards sufficiency. In scientific literature, sufficiency is continuously emphasised as a mission for the *entire* society. Sufficiency “only shines when all social actors are covered by it, i.e. not only consumers, but also entrepreneurs and politicians” (Winterfeld 2007: 51), civil society and research (Schneidewind and Zahrnt 2014b, Zahrnt, Stoll and Seitz 2017). By analysing this category, one can assess whether BUND, NABU, WWF and Greenpeace capture this broad societal approach or rather address certain societal niches. *Target audiences* have been included in this analysis as an additional category in order to explore which actors are specifically being addressed by nature conservation associations and their sufficiency-related materials or initiatives. This allows a general assessment of their main target groups for sufficiency promotion and enables a cross-checking whether those actors and areas of society being

held responsible (i.e. key areas of society) are also directly addressed with concrete sufficiency demands. *Intervention forms* are of specific interest to research on protest and social movements, due to their communicative and strategic potentials for inspiring and mobilising people for certain topics and agendas (Held 2021). In this thesis, intervention forms are understood as formats or activities through which a sufficiency message is intended to reach an audience. Various *fields of action* have been identified in scientific literature to highlight which parts of our society and our allday lives must be transformed in a way that halts current overconsumption rates, e.g. food, mobility, housing, planning, consumption (Schneidewind and Zahrt 2014a), economy, finances and energy (Winterfeld 2007: 51 f.). The category *sufficiency practices* seeks to move beyond the often abstract term “sufficiency” and explore very concrete and practical forms of implemented sufficiency. By analysing *sufficiency practices* within published materials, one can identify how nature conservation associations imagine this sufficiency-oriented world to look like in practical terms and which suggestions they formulate in order to get there.

Exploring empirical materials published by BUND, NABU, WWF and Greenpeace with regards to these main categories allows for a broad overview on how they communicate sufficiency; on what positive stories and imaginaries they tell about sufficiency (*narratives*), which areas in society they hold responsible (*key areas of society*), whom they specifically address with their own sufficiency materials (*target audiences*) and how they address them (*intervention forms*), but also which areas in society and our lives are essential to become sufficiency-oriented (*fields of action*) and how exactly that could look like in practical terms (*sufficiency practices*). Due to the novel character of this thesis, the described category system represents a predominantly *explorative* approach, instead of following methodological approaches of already existing research publications.

For each main category, a number of sub-categories was developed. The first set of sub-categories was determined through a literature-based deductive approach only (see Appendix 2, right column, all entries not marked). After testing this first set of sub-categories on a limited share of the published sufficiency-materials (each association included, starting with the most extensive materials), the category system has been altered by adding additional sub-categories inductively identified by exploring the empirical materials (see Appendix 2, right column, all entries marked). This resulted in a final category system of 6 main categories and 66 sub-categories explored in an iterative approach within all published materials. The results generated by this qualitative content analysis of published sufficiency related materials are presented in a quantitative manner (i.e. frequencies of the coded categories), complemented by qualitative excerpts from the original material content in chapter 4.

3.3 Semi-structured expert interviews

The category-based document analysis of published materials provides insights into the ways in which BUND, NABU, WWF and Greenpeace communicate about sufficiency externally. However, valuable information about internal dynamics of the associations’ work on sufficiency cannot be captured with this approach. Internal insights may have explanatory power for results obtained from the document analysis, and may also provide further value for exploring the role of conservation associations as change agents. Therefore, the research design in this thesis was complemented by expert-interviews with representatives of the selected conservation associations. Interview partners were identified through snowball method, i.e. through references in analysed documents, desktop research and recommendations by contacted candidates and were contacted via email (except for one expert being approached during a conference). Unfortunately, no expert interview could be arranged with representatives from Greenpeace, thus they present the only association remaining unreflected within this interview approach.

A total number of six expert interviews (4 female, 2 male) was conducted in November 2022 with representatives of BUND and its youth organisation BUNDjugend, NABU and WWF (see Table 2). All of these

representatives can be considered sufficiency experts, to various degrees, within their respective associations. For BUND and NABU, interview partners represented both the federal level association as well as state level associations. In order to protect the anonymity of all interview partners, names and any personalised information has been left out, thus references within the thesis will only be made on the assigned interview-ID. The interviews were all conducted via online video conferences and lasted between 40 and 70 minutes. The interview language was German. All interviews were recorded and partially transcribed (in German) for further qualitative content analysis.

Table 2: List of interview partners

Interview-ID	Nature Conservation Association	Date	Format
BUND-Expert 1	BUND	10/11/2022	video conference
BUND-Expert 2	BUND	10/11/2022	video conference
BUNDjugend-Expert	BUNDjugend	03/11/2022	video conference
NABU-Expert 1	NABU	17/11/2022	video conference
NABU-Expert 2	NABU	04/11/2022	video conference
WWF-Expert	WWF	11/11/2022	video conference
<i>no interview</i>	<i>Greenpeace</i>	<i>---</i>	<i>---</i>

The particular research interest was to explore subjective perspectives and experiences from interview partners with regards to their association's work and positioning on sufficiency promotion. Informal and implicit knowledge that cannot be obtained from an "outside view" on their websites was of central interest. Hence, the interview followed a semi-structured qualitative research approach with a set of pre-determined aspects of interest for reliable and comparable qualitative data amongst different interview partners, while also enabling open-ended communication that allows for new aspects to come up and for individual opinions to be shared, e.g. towards rather sensitive topics. The original interview-guide (in German) with pre-defined questions is included in Appendix 3 and included the following:

- Which relevance or priority does the topic of sufficiency have in your association, also in comparison to other topics you work on?
- Which concrete activities does your association implement with regards to sufficiency?
- Where do you think the association's most considerable scope of action lies, for promoting sufficiency?
- Does your association collaborate with other actors on the topic of sufficiency?
- Where do you see barriers and obstacles in your association's sufficiency-related work?
- How would you assess the transformative potential of nature conservation associations in general, but also with regards to promoting a *sufficiency-oriented* society?

Insights obtained through these expert interviews are presented qualitatively in chapter 4 mainly by complementing the document-analysis results with further explanatory quotes and references. All quotes of and direct references to interviews represent own translations.

The material-based content analysis combined with complementing expert interviews will provide insights for answering *research question 2*, on *how* exactly nature conservations do promote sufficiency and what their related work is characterised by, as well as *research question 3* on the *transformative potential* of their sufficiency-related work.

3.4 Limitations of selected methodology

This choice of methodological approaches comes with certain limitations that should be reflected upon. First of all, the narrow focus on the concept and terminology of “sufficiency”, both during an initial general literature review as well as during material sampling on the official websites of BUND, NABU, WWF and Greenpeace (and their respective youth associations), bears the risk of overlooking further studies and aspects that could have been relevant for sufficiency-related research but are captured under different discourses and terminologies, e.g. de-growth, post-growth, Economy for the Common Good, socio-ecological transformation. However, this thesis seeks to explore the sufficiency-concept specifically and how that concept is being taken up by conservation associations. The choice of specific cases (i.e. the four major conservation associations BUND, NABU, WWF and Greenpeace) of course cannot represent the entirety of Germany’s landscape on nature conservation associations and organisations. By choosing the four established major associations, this thesis might overlook additional relevant activities performed by other actors. Nevertheless, the four selected associations can be seen as the most powerful players within this landscape and therefore present a representative choice of relevant change agents within the civil society-led environmental community. In addition, interview partners could not be represented in a well-balanced manner between the different conservation associations studied. While BUND appears slightly overrepresented, voices from Greenpeace have not been heard at all. Accordingly, findings and interpretation of Greenpeace’s sufficiency promotion remain limited to the material-based content analysis and may provide an incomplete picture. Ultimately, this study has a normative approach in the sense that it assumes sufficiency as a necessary guiding principle for a required systemic transformation. In order to also allow for more critical perspectives on sufficiency, expert-interviews were used to also explore rather challenging aspects of sufficiency for the individual interview partners. Apart from this, shortcomings of sufficiency approaches are not highlighted within this thesis and should be further explored in future research.

4 Findings

This chapter presents all findings from the analysis of sufficiency-related materials published on the official websites of BUND and BUNDjugend, NABU, WWF and Greenpeace as well as insights gained via expert interviews with representatives of the associations. As an entry point, chapter 4.1 presents brief profiles of each association, while chapter 4.2 describes their general positioning on sufficiency. Chapter 4.3 explores the different sufficiency narratives built and used in order to promote sufficiency. Chapter 4.4 illustrates which key areas of society are held responsible by conservation associations, while chapter 4.5 looks into the different target audiences directly addressed. Forms of intervention used in order to generate outreach are presented in chapter 4.6. Chapter 4.7 summarises all findings on most important fields of action and concrete suggestions for sufficiency practices formulated by BUND, NABU, WWF and Greenpeace. Chapter 4.8 highlights some of the challenges faced by representatives of associations when doing sufficiency advocacy. All results, except for the challenges in chapter 4.8, are presented by association, to allow a differentiated assessment and to identify differences and similarities between these conservation associations.

4.1 Brief profiles of the four nature conservation associations

A brief insight into the profiles of each nature conservation association can present important background information on similarities and differences, as well as their roles within Germany's environmental discourse and their ways of engaging with the public and other actors. All four associations can draw on immense reach and support within German society as well as a solid financial foundation for promoting their respective environmental agendas, as illustrated in Table 1. BUND and NABU can be seen as sharing similar characteristics, since both represent German-based grassroots associations based in bottom-up democratic decision-making structures on all levels. They are both federally organised and consist of more than 2,000 local, regional and national groups, as well as international branches (BUND as *Friends of the Earth Germany*, NABU as *NABU International*). BUND and NABU show strong ties with their youth associations (BUNDjugend and NAJU), also on a structural level as representatives are part of the federal level executive board. Greenpeace and WWF instead, represent national sections of a generally international organisation and show a much more centralised structure and agenda-setting (Sperfeld and Zschiesche 2014). Their youth associations (Greenpeace Jugend and WWF Jugend) do not appear as strongly integrated into the associations' decision-making structures. While BUND and NABU show similar thematic profiles and are thus in higher competition with each other, Greenpeace and WWF rather supplement each other's focus areas (ibid.). However, WWF emphasises its cooperative role with regards to business actors and the state, in contrast to Greenpeace (ibid.). NABU also cooperates with business actors (e.g. Volkswagen), while BUND emphasises its total independence from them. BUND, NABU and Greenpeace show systemically relevant high rates of volunteering within their associations, while WWF provides no environment for volunteering apart from educational projects (ibid.). Differences also occur in relation to main forms of intervention being applied. While Greenpeace focuses on public and media-effective protests (and 'stunts'), NABU highlights the importance of cooperating with political actors through lobby work, and WWF focuses on business and political cooperation (Roose 2003). This general background information on the associations' different profiles can provide further insights into their role as change agents and their transformative potential.

4.2 General positioning on sufficiency

As an entry point into the empirical results, I want to give an overview on the general positioning of BUND and BUNDjugend, NABU, WWF and Greenpeace with regards to promoting sufficiency. I want to highlight the scope and depth to which these conservation associations contribute to sufficiency promotion and present information on how well-integrated the topic of sufficiency is within their organisational structures at this stage. This helps to better situate presented findings in subsequent chapters. The general positioning of each association is determined through interview insights and generalised impressions obtained from analysing publicly available materials.

The screening of all associations' websites resulted in a total number of 83 sufficiency-related materials, which were included in this analysis. A full list of all identified materials is included in Appendix 1. The year of publication can only be stated for some of the materials, while others left no reference. Each published material was classified with regards to the scope of sufficiency as either a "central topic" (i.e. sufficiency being the dominant topic of interest) or a "marginal topic" (i.e. sufficiency being mentioned one or several times, while the dominant topic of interest is a different one). Figure 1 illustrates the amount of sufficiency-related materials published by each nature conservation association. This shows that BUND/BUNDjugend as well as NABU published a significantly higher amount of sufficiency-related materials on their websites compared to WWF and Greenpeace.

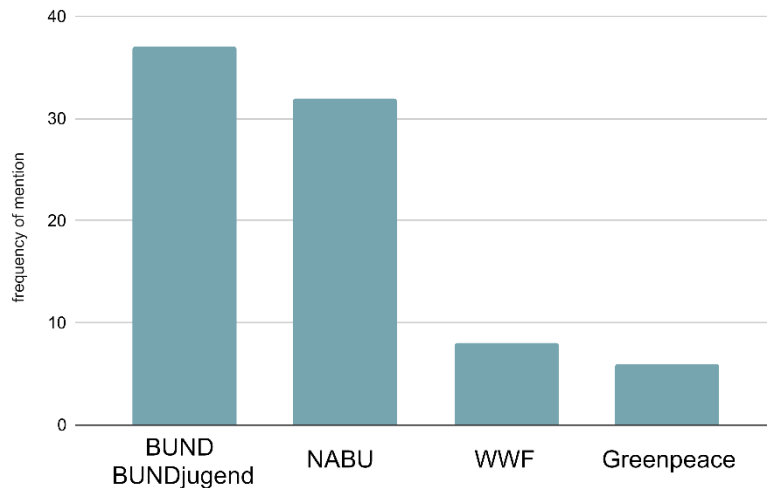


Figure 1: Amount of published materials with direct sufficiency-reference

BUND/BUNDjugend's general positioning on sufficiency

As illustrated in Figure 1, BUND and BUNDjugend together, with a total of 37 materials between 2015 and 2022, published the highest overall number. In the majority of these (22 materials), sufficiency is represented as a “central topic”. The associations promote sufficiency through a very broad spectrum of materials and publications. This includes extensive and detailed reports, studies and (political) position papers, but also through dedicated articles in blogs, website sections, and membership magazines, as well as brochures, flyers and stakeholder interviews. This already indicates that the promotion of sufficiency is considered important. To be noted is that the youth organisation BUNDjugend, with 11 published materials, contributes a considerable share of this overall scope of materials (9 published independently; 2 published in cooperation with BUND). All of these materials address sufficiency as a “central topic”. Due to this considerable role of the youth organisation in promoting sufficiency, I will refer to both entities explicitly throughout this thesis. However, in order to reduce complexity and because both associations work closely together on sufficiency topics, I will mostly refer to them as one organisation by using the term “BUND/BUNDjugend”. Whenever clear differentiations between both organisations are deemed necessary, this will be clearly marked.

The comparably extensive scope of sufficiency promotion identified through material analyses can be explained and deepened further through interview insights with representatives of both entities. In order to understand BUND/BUNDjugend's efforts in sufficiency promotion, it is important to mention its pioneering role in the publication of the groundbreaking ZD I study in 1996² (followed by ZD II study in 2008³), which considerably influenced the sustainability discourse in Germany and presented one of the first publications in the German context prominently calling for sufficiency as a guiding principle in society and politics against the background of the globally unequal share of resource consumption (interview BUND-Expert 1). Based on this historical foundation, the promotion of sufficiency was of great interest for BUND since then. It is being strategically integrated into various thematic departments and even institutionalised through a dedicated *Referent:in für Nachhaltigkeit*⁴, which indicates a sort of sufficiency mainstreaming within BUND over a long time and created a rather common line within the association and amongst its members:

² BUND and Misereor (1996) *Zukunftsfähiges Deutschland. Ein Beitrag zu einer global nachhaltigen Entwicklung*. Wuppertal-Institut für Klima, Umwelt, Energie GmbH (eds.). Birkhäuser Verlag, Basel/Boston/Berlin.

³ BUND, Brot für die Welt and EED (eds.) (2008) *Zukunftsfähiges Deutschland in einer globalisierten Welt: Ein Anstoß zur gesellschaftlichen Debatte*. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Fischer-Taschenbuch-Verlag, Frankfurt.

⁴ own translation from German original: “sustainability officer”

At that time, BUND also conducted a strategy process related to its self-image, and it was very clear that sustainability and sufficiency are part of that self-image, and the motivation was that sufficiency should somehow be integrated into all other topics. BUND held various workshops with its scientific working groups, which are around 20. (...) to ask themselves 'What does the topic of sufficiency have to do with my field of work?' (...) which was then also translated for the local and district groups and so that it is actually very well anchored there (interview BUND-Expert 1, own translation).

(...) that's why I would say it's sort of a mainstreaming process to some extent. And you can definitely see that it has bargaining power (interview BUND-Expert 2, own translation).

For a very long time now, there has been a sustainability officer (...). This personnel works on sustainability, but it actually works on sufficiency. I think from this, one can see how that topic is treated at BUND (...) This sustainability officer always works on projects together with respective thematic specialists on traffic, housing, agriculture, etc. That is a great strength (...) This means that the topic of sufficiency is very strongly linked with the thematic areas at BUND. And thus can also have a stronger impact on a broader scale (interview BUNDjugend-Expert, own translation).

BUND representatives also mention that their public call for sufficiency was sort of pioneering work, not only against its unpopular and politically and economically incompatible status, but also within the landscape of German conservation associations, since no other organisation made considerable contributions at the time they started:

(...) in the political debate, however, this [ZD I] study was an impetus because this claim that we must not consume more than any other citizen of the earth was simply scandalous (interview BUND-Expert 1, own translation).

For us as BUND, it is also important to take up the most important topics, where no one else really cares. So sufficiency has been a topic that everyone has only touched with pointed fingers. And the nature conservation associations? There wasn't much competition. And we just kept it up, even if it didn't make big headlines, but it did prepare the ground (interview BUND-Expert 1, own translation).

Sufficiency-related work is and has been anchored within BUND/BUNDjugend structures in various ways. The aforementioned dedicated personnel has been in charge of addressing sufficiency continuously over the past 20 years (interview BUND-Expert 1) and contributes to the structural integration of sufficiency into various thematic fields at BUND. Sufficiency is also integrated within the federal level *Arbeitskreis Postwachstum*⁵ (interview BUNDjugend-Expert) and the BUNDjugend Berlin chapter's *Kollektiv Postwachstum*⁶. BUNDjugend had also established a dedicated regional state level *Arbeitskreis Suffizienz*⁷ which was active between 2014 and 2019 with current discussions on reviving its activities (interview BUND-Expert 2). Between 2018 and 2020, the youth organisation implemented its first sufficiency project titled *Mit Suffizienz zum guten Leben - für alle*⁸, followed by its present sufficiency project *SYSTEMwandel - Genug für alle*⁹ (interview BUNDjugend-Expert). BUND and its youth organisation BUNDjugend work closely together on sufficiency topics and have established dedicated exchange formats (ibid.) Representatives from BUNDjugend emphasised that within the youth organisation, sufficiency is much more connected with and embedded in a more radical debate on post-growth and transformation than is the case for the adult association (ibid.). Overall, BUND's long-standing tradition and established strategic approach to sufficiency-related work marks a clear difference from the other conservation associations analysed. It can explain the comparatively strong positioning of BUND/BUNDjugend in comparison to NABU, WWF and Greenpeace and the considerably greater scope of sufficiency materials published.

⁵ own translation from German original: "Working Group on Post-Growth (Economy)"

⁶ own translation from German original: "Post-Growth (Economy) Collective"

⁷ own translation from German original: "Working Group on Sufficiency"

⁸ own translation from German original: "With sufficiency to a good life - for all!"

⁹ own translation from German original: "SYSTEMchange - enough for all!"

NABU's general positioning on sufficiency

As illustrated in Figure 1, NABU also shows a comparably high number of 32 sufficiency-related materials identified via its website between 2014 and 2022, mainly consisting of website articles with the exception of a few (political) position papers and reports. In the case of NABU, its youth organisation NAJU only contributes one of the identified materials where sufficiency is presented as a “marginal topic”, thus playing a subordinate role in the analysis. I will therefore only refer to “NABU” throughout this thesis, although material by its youth organisation is also considered under this term. Even though NABU published a considerable number of materials addressing sufficiency, one should note that the majority of these materials (25 materials) present sufficiency only as a “marginal topic” meaning the dominant topic of interest in that material is a different one. The high number of materials addressing sufficiency indicates that NABU pays attention to the sufficiency topic, while its predominantly marginal focus at the same time highlights that sufficiency at this stage is not comprehensively addressed by NABU.

These material-related findings can be explained and deepened further through interview insights with NABU representatives. According to NABU-Expert 1, the topic of sufficiency is mainly situated within NABU's *Team Energiepolitik und Klimaschutz*¹⁰, which has a strong focus on promoting wind power and photovoltaics, resource efficiency and addressing issues related to the building sector. The department's link to sufficiency topics grew organically out of members' criticism towards the promoted expansion of renewable energies, motivated by their nature conservation concerns. Instead they called for increased consideration of sufficiency. Even though sufficiency cannot outweigh the need for renewable energy promotion, this criticism contributed to an increased consideration of sufficiency within the association. Apart from *Team Energiepolitik und Klimaschutz*, sufficiency is addressed within its *Team Ressourcenpolitik*¹¹, its *Team Landnutzung*¹² addressing issues related to agriculture and animal stock. After having been established as a topic in NABU's *Arbeitsgruppe Nachhaltigkeit*¹³ in the past, sufficiency issues are now addressed in its honorary *Bundesfachausschuss*¹⁴, which advises the association's Executive Management Board. Sufficiency is reflected upon within NABU's internal structures in practical terms through its *Arbeitsgruppe Umwelt*¹⁵ (interview NABU-Expert 1). To be noted is NABU's regional state level association in Baden-Württemberg which is actively promoting sufficiency and planning on a sufficiency campaign in the coming year (interview NABU-Expert 2).

However, despite this broad embeddedness of sufficiency within NABU's structure, it is very important to emphasise that there is no clear sufficiency position existing in the association yet. NABU currently undergoes an internal strategic process of positioning itself with regard to sufficiency (interview NABU-Expert 1, interview NABU-Expert-2). This can partly be attributed to bottom-up demand from within the association and involves negotiation processes internally on different levels (both at federal and regional state level) that should result in an official positioning to the outside:

(...) we have this internal debate where people keep asking "What are we doing about this [sufficiency]?" and "Can't we do more there? Wouldn't that be important, that we do more?" That always comes from voices within the association. (...) And we are commissioned to develop a position (...) that can then also be published. (...) it is not only, but also, inwardly directed communication that we are trying to instigate or to put in the foreground. (...) And we have also considered offering another webinar or something similar for our active members, in order to make the topic somehow tangible and to explain it (interview NABU-Expert 1, own translation).

Just because we are expanding wind power plants or open-space photovoltaic plants, we will not manage to achieve the climate targets. As a result, it has actually become more and more important for us, and active members, primarily volunteers, who have always said, 'Here in the federal state branches, we actually have to be much more concerned

¹⁰ own translation from German original: “Energy and Climate Policy Department”

¹¹ own translation from German original: “Resource Policy Department”

¹² own translation from German original: “Team Land Use”

¹³ own translation from German original: “Working Group on Sustainability”

¹⁴ own translation from German original: “Federal Expert Committee”

¹⁵ own translation from German original: “Working Group on Environment”

about sufficiency'. Because no one else is actually doing it. Nothing really happens in politics. That's why it's actually our task to promote the topic a bit more and to prioritise it a bit more on our agenda (interview NABU-Expert 2, own translation).

Patterns observed in NABU's published materials, e.g. the big share of materials addressing sufficiency only as a "marginal topic", can certainly be explained by this current lack of a clear sufficiency positioning. Once the internal process is completed, one will likely see direct effects within NABU's sufficiency-related publications. But what is certain already now is that NABU understands sufficiency as a cross-cutting topic that touches upon its various established thematic fields and has to address both individuals as well as the structural level (interview NABU-Expert 1).

WWF's general positioning on sufficiency

Figure 1 shows that WWF published a total number of 8 sufficiency-related materials between 2010 and 2022, all of them addressing sufficiency as just a "marginal topic". Sufficiency is mentioned in political position papers regarding climate protection, a publication on sustainable economic development and studies related to the EU's Structural and Cohesion Policy. Only one of these materials has been published by WWF Jugend, referring to sufficiency in a very limited manner. Therefore, its role is considered as minor and all references throughout this thesis will be attributed to "WWF" only, although material by its youth organisation is also considered under this term. The scope and depth of WWF's sufficiency-related materials strongly indicates that the organisation does not pay particular attention to the promotion of sufficiency. This is also supported by insights gained during an interview conducted with a WWF representative, stating that sufficiency may be mentioned by WWF in some cases, but the concept is not strategically integrated within the association (interview WWF-Expert). In fact, internally sufficiency presents a rather controversial topic for the association due to the critical questions being raised, e.g. its growth-critical dimension (ibid.). WWF presents a "market-friendly" player who is involved in corporate partnerships and seeks to continue these partnerships (ibid.). However, a sufficiency principle follows contrary logics compared to those being practised within corporate actors at this stage. This trade-off presents a potential conflict area for WWF and makes sufficiency, at least this stage, rather unattractive and incompatible. Nevertheless, WWF calls for sufficiency in some of its published materials (as will be presented in the following subchapters) which indicates that there is a general acknowledgement of its importance. This may evolve into a stronger integration of sufficiency in WWF's work in the future, as also stated by the interview partner:

Therefore: sooner or later WWF will have to open up to the topic. That is a process. But one that others go through as well. But it is becoming increasingly clear (interview WWF-Expert, own translation).

Greenpeace's general positioning on sufficiency

Greenpeace published a comparably low amount of sufficiency-related materials with a total of 6 materials between 2012 and 2022 (see Figure 1). No sufficiency-related materials published by its youth organisation Greenpeace Jugend have been identified. The majority of materials on Greenpeace's website addresses sufficiency only as a "marginal topic", while the dominant topic of interest is a different one in each case, e.g. environmental policy demands or a national energy strategy. Only one material which depicts an expert interview, addresses sufficiency as a "central topic". This pattern indicates that Greenpeace also does not pay particular attention to the promotion of sufficiency. Nevertheless, Greenpeace does mention sufficiency in some cases and even quite prominently within its environmental policy demands by stating that "[i]nstead of the dogma of unlimited growth and the illusory solution of a 'green economy', Greenpeace calls for a guiding principle of sufficiency. Not ever more consumption, but the reduction of the ecological and social footprint of our production and consumption through a culture of frugality is a key response to the ecological crisis" (Greenpeace, G04: 9, own translation). This certainly

indicates that sufficiency is acknowledged as an important topic. Unfortunately, it was not possible to conduct interviews with Greenpeace representatives. All assessments on the association's scope and depth of sufficiency-related are therefore based solely on the analysed documents and could not be examined in more detail through further explanatory information that could potentially arise from conversations with representatives.

In summary, BUND/BUNDjugend show a strong historic foundation and structural embeddedness of sufficiency within their associations, which is also highlighted by a large number of comprehensive sufficiency-related materials. NABU strongly acknowledges sufficiency, also within its own structures, and contributes to its broader sufficiency promotion, but is still in a positioning process at this stage. WWF and Greenpeace show general acknowledgement of the topic's importance, but do not pay particular attention to promoting it. Against the backdrop of this first impression on the associations' general position on sufficiency, I want to explore further details on how BUND/BUNDjugend, NABU, WWF and Greenpeace address and promote sufficiency with regards to narratives, key areas of society, target groups, forms of intervention, fields of action and concrete suggestions for sufficiency practices.

4.3 Narratives

As described in chapter 3.2, experts and scholars agree that the dominant paradigms of a consumerist culture and growth-oriented logics are in contradiction to values and goals embedded in sufficiency thinking, thus they need to be deconstructed and replaced with new and positive narratives (i.e. imaginaries, ideational frameworks, interpretations) which highlight advantages arising from reduced consumption (Göpel 2016, Heyen et al. 2013, Tröger and Reese 2021). This chapter explores how BUND/BUNDjugend, NABU, WWF and Greenpeace contribute to building such positive narratives on sufficiency in order to promote its acceptance. All 83 published materials have been analysed with regards to deconstructing negative narratives on sufficiency as well as building alternative positive sufficiency narratives.

Results on deconstructing negative sufficiency narratives

There was a total of 19 statements in published materials which take up existing negative narratives. A total of four different negative narratives has been identified: 1) "sufficiency is nothing but an unrealistic utopia", 2) "sufficiency is retrograde", 3) "sufficiency is sacrifice and loss" as well as 4) "sufficiency is authoritarian". It is to be noted that 16 out of these identified 19 statements are formulated by BUND/BUNDjugend. The remaining conservation associations show just one statement each. While most statements make efforts to negate or deconstruct negative narratives, the one statement identified in WWF's materials (W03) shows a tendency of reproducing the narrative *sufficiency is sacrifice*:

The sufficiency strategy reaches certain limits. It demands material self-limitation from society in order to achieve the goal of sustainable development. This strategy encounters strong criticism insofar as it proposes a voluntaristic sacrifice and redistribution strategy (WWF, W03: 11, own translation).

NABU brings up the *sufficiency is sacrifice and loss* narrative by reinterpreting it:

When sacrifice becomes pleasure - lived 'sufficiency' in camps (...) Sleeping outdoors for a night - The greatest adventure, however, is the temporary sacrifice of one's own bed (NABU, N06: n.p., own translation and italics).

An actual deconstruction of the underlying logics behind negative narratives on sufficiency is partly performed by Greenpeace, correcting the *sufficiency is authoritarian* narrative (G01), and in a more comprehensive manner by BUND/BUNDjugend, who provide dedicated materials which serve readers as an

“argumentation guideline” for concrete counter-arguments against the narratives *sufficiency is nothing but an unrealistic utopia, sufficiency is sacrifice and loss and sufficiency is authoritarian* (e.g. B05, B20, B44):

Driving a car is a privilege for a certain group, which thus takes away a lot of space from other people. (...) The current situation is a restriction of freedom for everyone who does not drive a car and prefers other forms of mobility - but cannot move forward safely in urban traffic. When it comes to the freedom to park downtown in a large car: Yes, that freedom would be taken away. But the freedom to have one's mobility needs met should still be there - but not necessarily by car. One does not have a basic right to waste energy (Greenpeace, G01: n.p., own translation).

(...) young environmental activists show that a sufficiency-oriented lifestyle can be fun, enriches one's own life and promotes a sense of community. The ideas and ideals of a sustainable degrowth society, some of which are considered utopian and criticised for it, are already being lived by these young people. They are role models, pioneers and experimenters and thus living proof of a possible social change and cultural change of mentality (BUNDjugend out association, B44: n.p., own translation).

Turning the sacrifice argument around: What are we sacrificing now? Point out what we sacrifice in our society: Free movement as pedestrians, an ad-free view of the architecture of our cities, durable products that we can repair and update (BUND, B05: n.p., own translation).

My freedom is limited when flying becomes more expensive! There is no right to cheap flights at the expense of other people and the environment. Flying restricts the freedom of people who are already affected by global warming or will be in the future (BUND, B05: n.p., own translation).

Do you want to go back to the Stone Age? We need technical innovation, not sermons of renunciation! Sufficiency is not directed against technical progress. But it often brings new risks with it. And social innovations such as car sharing have nothing to do with sacrifice, but with clever use that protects the environment and the wallet (BUND, B20: 19, own translation).

This indicates that BUND/BUNDjugend are particularly concerned about addressing negative narratives in order to deconstruct and correct existing reservations against sufficiency.

Results on building positive sufficiency narratives

A total of 141 statements building positive narratives on sufficiency have been identified across all analysed materials. Eight different positive narratives have been classified as follows:

1. “protecting the environment”
2. “enabling global justice”
3. “surviving in the long run”
4. “enhancing quality of life”
5. “saving money”
6. “gaining more independence”
7. “leaving economic growth behind”
8. “securing economic advantage”

First, it makes sense to elaborate the wider meaning and scope behind each of these positive sufficiency narratives in order to gain a better understanding of the underlying logics, goals and values promoted by BUND, NABU, WWF and Greenpeace. Each narrative will be shortly explained and illustrated via exemplary quotes from the original material. The *protecting the environment* narrative is a more generic term for different environmentally-focused goals and values mentioned by conservation associations, which

frame sufficiency as a means to e.g. end the climate crisis (N06), halt biodiversity loss (B06), protect our natural resources (B04), reduce our ecological footprint (G04) and achieve environmental goals (N01):

There will be no climate protection if we don't cut back considerably (NABU, N06: n.p.).

How can we all have a good life and at the same time protect the climate and protect the earth's resources? (...) Sufficiency policy makes a real contribution to a significant and absolute reduction in our consumption of energy, resources and land (BUND, B04: 3, own translation).

Preservation of biological diversity (...) can only become reality if we make sufficiency a central building block of our political strategy (BUND, B06: 3, own translation).

(...) Greenpeace calls for a guiding principle of sufficiency. Not ever more consumption, but reducing the ecological and social footprint of our production and consumption through a culture of frugality is a central response to the ecological crisis (Greenpeace, G04: 9, own translation).

Sufficiency is an indispensable partner in climate and species protection (...). This year, he said, Germany transgressed the Earth Overshoot Day as early as May 5. 'By the end of the year, we will have used 2.9 times the resources the Earth can renew in a year. We all need to roll up our sleeves to stay within natural limits (NABU, N01: n.p., own translation).

This *protecting the environment* narrative presents the only way in which BUND/BUNDjugend, NABU, WWF and Greenpeace establish a direct link between their core work on e.g. nature conservation and biodiversity protection on the one side, and the topic of sufficiency on the other side. However, the established links through this narrative remain on a rather generalised level, without addressing concrete natural assets (like land and water, wild flora and fauna, climate etc.) and what sufficiency can contribute here specifically.

The *enabling global justice* narrative summarises social and justice-related goals and values. In most cases, this narrative relates to sufficiency as a precondition for global justice and for reducing existing inequities between the global North and the global South (B09). Apart from that it frames sufficiency as a way to establish distributional justice (N01) and intergenerational justice (W09) as well as to enhance conditions for less privileged groups (B12):

First and foremost, sufficiency should be a strategy for the "developed" countries of the global North, because "less" is the order of the day here. Precisely in terms of global justice, the North must change its lifestyle in order not to limit the development opportunities of the global South. On the other hand, there are many voices in the global South that see the West's concept of development as an instrument of domination and emphasize their right to their own development. We should listen and see what we can learn from the South for a new lifestyle - and even better: discuss and learn together (BUND and BUNDjugend, B09: 67, own translation).

The golden rule of sufficiency is: less can be more. More quality of life, more sustainability and more distributional justice (NABU, N01: n.p., own translation).

(...) a life at the expense (...) of future generations cannot be a 'good' one. This means that it is mandatory one with lower resource consumption and footprint (WWF, W09: 8, own translation).

Sufficiency wants quality of life to be achieved without material wealth - and thus promote the quality of life of the less privileged groups in particular (BUND, B12: n.p., own translation).

The *surviving in the long run* narrative shows parallels with *protecting the environment*, but follows a much stronger anthropocentric perspective on the need for environmental protection. It articulates sufficiency as a requirement for safeguarding our fundamental livelihoods (B04) and to secure humanity's survival on this planet in the future (N32):

Resources that are not consumed are those that reduce our ecological footprint and increase humanity's chances of survival. That is why the idea of sufficiency must become central to all sustainability considerations (NABU, N32: 11, own translation).

Sufficiency means first of all: asking how much can be enough: How can we secure the abundance of our natural livelihoods in the long term? (BUND, B04: 3, own translation).

Sufficiency is being framed as a means to *enhancing our quality of life* by framing it as a way to achieve goals like (a new model of) prosperity (B02), better health and social cohesion (B04), deceleration (B02) and, in general, a happier and good life (B08):

The search for new models of prosperity (...) is a qualitative redefinition along socio-ecological objectives (...). A particular potential may lie in the appreciation of sufficiency lifestyles and forms of organization (WWF, W01: 50, own translation).

By protecting the climate and resources, we also improve our quality of life. By - among other things - strengthening our health and our cohesion (...) Our focus is on sufficiency (BUND, B04: 3, own translation).

'Sufficiency': ever heard of it? (...) numerous initiatives - including BUND - are campaigning across the country for deceleration, communal use of goods and less consumption. Sufficiency in action (BUND, B02: n.p., own translation).

Sufficiency also has the potential to make people happier (BUND, B08: 3, own translation).

Sufficiency as a narrative to *gaining more independence* may refer to increased self-determination and autonomy on an individual level (B09) on the one hand, but also to independence on a political or economic level (N22) on the other hand, partly also articulated against the backdrop of current conditions caused by the Russian invasion of Ukraine:

Experiencing autonomy: Sufficiency helps to free oneself a little from the seductions of the world of goods, to think for oneself and to act independently (BUND and BUNDjugend, B09: 55, own translation).

Against the backdrop of the energy crisis resulting from the Russian war of aggression on Ukraine and the long investment cycles in the building sector, it is essential to end fossil dependencies as quickly as possible and not to generate any further fossil lock-ins. In addition to the focus on a renewable heat supply, however, there also needs to be a stronger focus on energy efficiency and energy sufficiency measures (NABU, N22: 1, own translation).

The three remaining positive sufficiency narratives *saving money* (B09), *leaving economic growth behind* (G04 and B12) as well as *securing economic advantage* (W04) speak for themselves, when looking at the following quotes, thus no additional explanations on underlying goals and values are considered necessary:

Adhering to the principle of sufficiency tends to save money. The prerequisite is not to invest it in other new goods (BUND and BUNDjugend, B09: 55, own translation).

Instead of the dogma of unlimited growth and the bogus solution of a "green economy," Greenpeace calls for a guiding principle of sufficiency (Greenpeace, G04: 9, own translation).

That is why we must free ourselves from dependence on growth - and sufficiency contributes to enabling prosperity without growth. The transformation to a post-growth society can be shaped together! (BUND, B12: n.p., own translation).

(...) all investments in the field of research and strengthening the economy should always contribute to the ecological transformation of society and the economy (green economy). The focus must be on increasing efficiency and sufficiency in energy and resource consumption. This is the way to increase competitiveness in times of dwindling resources but high demand for eco-innovations, to secure jobs in the long term and to achieve environmental goals (WWF, W04: 6, own translation).

On a general note and looking at aggregated results across BUND/BUNDjugend, NABU, WWF and Greenpeace, most materials formulated several different positive narratives on sufficiency at the same time. Amongst the 141 statements identified, the most frequently used positive narrative is *protecting the environment* (45 cases in total), followed by the similarly frequent narratives *enabling global justice* (26 cases), *enhancing quality of life* (25 cases) and *leaving economic growth behind* (25 cases). However, there are clear differences between the four nature conservation associations regarding which of the mentioned narratives are being used and to where the focus lies. Figure 2 illustrates the frequencies of each positive sufficiency narrative used by the four nature conservation associations.

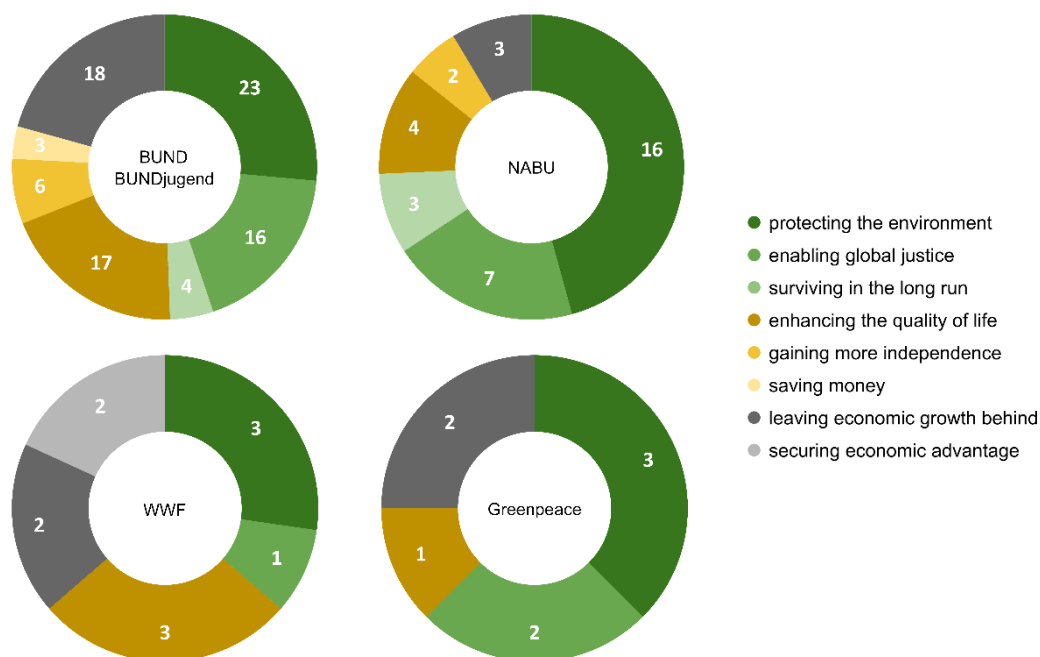


Figure 2: Narratives used by each conservation association

Figure 2 (top left) shows that BUND/BUNDjugend use seven out of the eight mentioned positive sufficiency narratives, including *protecting the environment* (23 cases), *leaving economic growth behind* (18 cases), *enhancing quality of life* (17 cases) and *enabling global justice* (16 cases), followed by less frequently used narratives like *gaining more independence* (6 cases), *saving money* (3 cases) and *surviving in the long run* (3 cases). BUND/BUNDjugend present the only conservation association that frames sufficiency as an opportunity to *saving money*. This overview illustrates that BUND/BUNDjugend use a broad spectrum of ways to frame sufficiency and to highlight various advantages arising from reduced consumption.

Figure 2 (top right) shows that NABU uses six out of the eight mentioned positive sufficiency narratives, including the dominant narrative *protecting the environment* (16 cases), followed by the rather moderately used narratives *enabling global justice* (7 cases) and less frequently used narratives *enhancing quality of life* (4 cases), *leaving economic growth behind* (3 cases), *surviving in the long run* (3 cases) and *gaining independence* (2 cases). Accordingly, NABU also uses a quite broad spectrum of positive narratives on sufficiency in order to shine light on its beneficial dimensions, while there is a clear focus on environmentally-focused goals and values that should motivate the framing and acceptance of sufficiency.

Figure 2 (bottom left) illustrates that WWF uses five out of the eight mentioned positive sufficiency narratives, including *protecting the environment* (3 cases), *enhancing quality of life* (3 cases), *leaving economic growth behind* (2 cases), *securing economic advantage* (2 cases) and *enabling global justice* (1 case). The few examples of WWF, from which impression can be obtained, suggest that it uses a more balanced relationship between different positive sufficiency narratives and does not set a strong thematic focus. Ideas and goals of saving money and gaining independence through sufficiency are not (yet) utilised. What is to be noted here is that WWF is the only conservation association that communicates sufficiency as a means to *secure competitive economic advantage in the long run* (W04, hereby specifically referring to EU innovation policies):

The focus must be on increasing efficiency and sufficiency in energy and resource consumption. In this way, competitiveness can be increased in times of dwindling resources but high demand for eco-innovations, jobs can be secured in the long term and environmental goals can be achieved (WWF, W04: 6, own translation).

Figure 2 (bottom right) shows that Greenpeace uses only four out of the eight identified positive sufficiency narratives, including *protecting the environment* (3 cases), *enabling global justice* (2 cases), *leaving economic growth behind* (2 cases) and *enhancing quality of life* (1 case). Also Greenpeace shows no strong thematic focus in the way they frame sufficiency, but a tendency towards environmentally-focused goals and values. The remaining positive narratives are not (yet) utilised in order to highlight sufficiency's advantages for society.

4.4 Key areas of society

This chapter presents results from exploring key areas of society identified, where nature conservation associations see the need and responsibility for sufficiency action. Analysing all 83 publicly available materials from BUND/BUNDjugend, NABU, WWF and Greenpeace resulted in a total of 183 identified statements which specifically highlight a key societal area. Most analysed materials refer to several key areas at the same time. A total number of 13 key areas of society has been identified:

- | | |
|---|----------------------------------|
| 1. politics (unspecified) | 7. businesses |
| 2. EU level politics | 8. organisations and initiatives |
| 3. federal level politics (Ger: "Bundespolitik") | 9. general public |
| 4. regional state level politics (Ger: "Landespolitik") | 10. members of the association |
| 5. local politics and municipalities | 11. science |
| 6. administration | 12. individual life |
| | 13. youth work |

Figure 3 gives an overview for each association regarding the spectrum and frequency of key areas identified. In the following each organisation is examined individually.

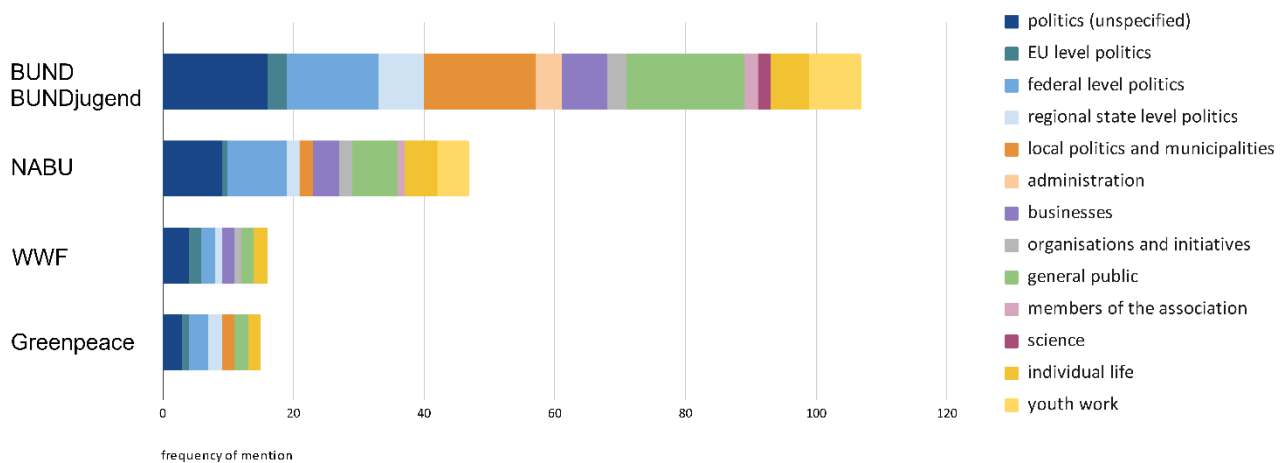


Figure 3: Key areas of society mentioned by each conservation association

BUND/BUNDjugend refer to all of these key areas, but to a different extent. The *general public* is mentioned most often (18 cases), mainly referring to a need for social transformation, value shifts or paradigm shifts in a consumerist culture. The second strongest key area is presented by *municipalities* (17 cases), where BUND and BUNDjugend call for e.g. cities to “develop incentives for their citizens”, for city council members to act as change agents, and for an integration of sufficiency principles into planning instruments such as master plans and urban land use plans. *Politics (unspecified)* is mentioned frequently (16 cases) with regards to the need for setting incentivising framework conditions as well as binding standards that guide resource reduction in our society beyond voluntary commitments. *Federal level politics* (14 cases) in specific are also very frequently mentioned, e.g. related to concrete targets and maximum limits of land use designation or to the standardisation of eco-friendly modular product design. These key areas make up the dominant share of what BUND and BUNDjugend consider essentials for an integration of sufficiency. Apart from that they refer to *youth work* frequently (8 cases) which is explained by the high share of materials published by the youth organisation BUNDjugend, providing youth education on sufficient lifestyles and its political dimensions. *Businesses* are a key area for sufficiency action (7 cases) due to sufficiency potentials existing throughout their entire production processes. To the same extent, *regional state level politics* (7 cases) are addressed, related to the need for land use designation targets and reformed parking space regulations, but also by pressuring federal politics through “Bundesratsinitiativen”¹⁶ to improve framework conditions for sufficiency. *Individual life* (6 cases) mainly refers to changes in consumption behaviour and to promoting sufficiency in one’s own social surrounding. *Organisations and initiatives* (3 cases) as well as *members of their own association* (2 cases) play hardly any role as a key area of society. It is to be emphasised that BUND is the only conservation association that communicates key areas for sufficiency as in *administration* (4 cases) and *science* (2 cases), calling for research activities related to sufficiency bearing the ground for informed political decisions.

NABU refers to a broad spectrum of key areas for sufficiency action as well following a similar pattern. The most frequently mentioned key areas for sufficiency action are *politics (unspecified)* (9 cases), e.g. referring to establishing more sufficiency-promoting framework conditions like defined upper limits for resource consumption and the promotion of a cascading circular economy. *Federal level politics* specif-

¹⁶ “Bundesratsinitiativen” in Germany give legislative power to the regional states to influence federal legislation via the “Bundesrat”

ically (8 cases) are mentioned frequently calling for the integration of sufficiency within Germany's National Bioeconomy Strategy, the National Energy and Climate Plan as well as the government's 65 percent renewable energy target. The *general public* is addressed frequently (7 cases) also pointing towards a societal paradigm shift needed, requiring holistic innovations on a societal and cultural level guided by sufficiency. On the level of *individual lives* (5 cases), sufficiency action is promoted through calling for a reduction of individual household resource consumption and private initiatives (e.g. housing projects, alternative mobility). Amongst *businesses* (4 cases), NABU sees specific potentials for sufficiency action within the building sector, circular economy and strong social and environmental protection standards throughout the value chain. *Youth work* (5 cases) is still frequently stated by NABU, referring to practical sufficiency experiences for children. More minor key areas, with only one case each, consist of *regional state level politics* (specifically calling for sufficiency principles being integrated into Brandenburg's Energy Strategy 2040), *municipalities* (demanding omission of new housing development and instead municipal promotion and coordination of alternative housing projects) and *organisations or initiatives* (2 cases each) as well as *EU-level politics* (revision of the EU's TEN-E Regulation¹⁷) and their *own association members* (1 case each).

WWF refers to a considerably narrower spectrum of key areas. Sufficiency action, according to WWF, is most frequently assigned to *politics (unspecified)* (4 cases) calling for more sufficiency-oriented promotion of innovations and a shift from land use growth limits to land use maximum levels. Sufficiency action in *EU-level politics* (2 cases) is promoted in relation to the EU's Structural and Cohesion Policy, that should integrate sufficiency more into innovation policy. *Federal level politics* (2 cases) as a key area is addressed within a political demand paper that calls sufficiency in the energy sector a prerequisite for achieving Germany's climate targets. *Regional state level politics* (1 case) are mentioned with regards to sufficiency integration into regional ERDF's Operational Programmes¹⁸. *Businesses* are only addressed in 2 cases, even though WWF is strong in business cooperations. WWF questions a current business orientation towards shareholder concepts here and calls for sufficiency principles within the economy, instead of green economy or bioeconomy. The *general public* and *individual lives* (2 cases each) are called to action with regards to value shifts towards sustainable consumption. *Organisations and initiatives* were just mentioned (1 case) without further explanations. None of the remaining key areas has been identified in WWF's materials.

Also, Greenpeace addresses a rather narrow spectrum of key areas. *Politics (unspecified)*, *EU-level politics* (1 case), *federal level politics* (3 cases each), *regional state level politics* (2 cases) and *municipalities* (2 cases) are called to e.g. integrate sufficiency principles into public procurement policy and housing policy. The *general public* (2 cases) is referred to when talking about moral appeals and voluntary rethinking towards more sustainable lifestyles, while highlighting that only political framework conditions can enable real enforcement on an individual level. None of the other key areas of society has been highlighted by Greenpeace.

4.5 Target audiences

This chapter presents results on analysing target audiences addressed by BUND/BUNDjugend, NABU, WWF and Greenpeace. The target audience, in this chapter, refers to the group of people or actors, published material is specifically being designed for (or in the case of materials reporting on associations' sufficiency-related actions, the target audience refers to the group of people or actors, this specific activity was designed for). A total of nine different target audiences have been identified:

¹⁷ The TEN-E Regulation sets out EU guidelines for cross-border energy infrastructure and energy transition

¹⁸ Ger.: "Europäischer Fonds für Regionale Entwicklung (EFRE)" is one of the main financial instruments of the EU's Cohesion policy to redress regional imbalances in the European Union.

1. politics (unspecified)
2. EU level politics
3. federal level politics (Ger: “Bundespolitik”)
4. regional state level politics (Ger: “Landespolitik”)
5. local politics and municipalities
6. organisations and initiatives
7. general public
8. members of the association
9. youth or children

The underlying target audience was assessed by examining introductory chapters for specific information on the target audience or by assessing the content and overarching nature of the material (e.g. position papers as being designed for political actors etc.). It is to be noted here that the target audience *general public* could theoretically be applied to all of the analysed materials, since all of them have been published via the conservation associations’ websites. But in order to perform a more distinct differentiation of target audiences, “general public” was only applied when the content and nature of the material was designed for citizens and generally interested people in the broader public, specifically.

Most of the analysed materials can be assigned to one specific target group, but some materials are also designed for several target groups at the same time. Figure 4 gives an overview on the spectrum of target audiences for each nature conservation association and where their focus lies.

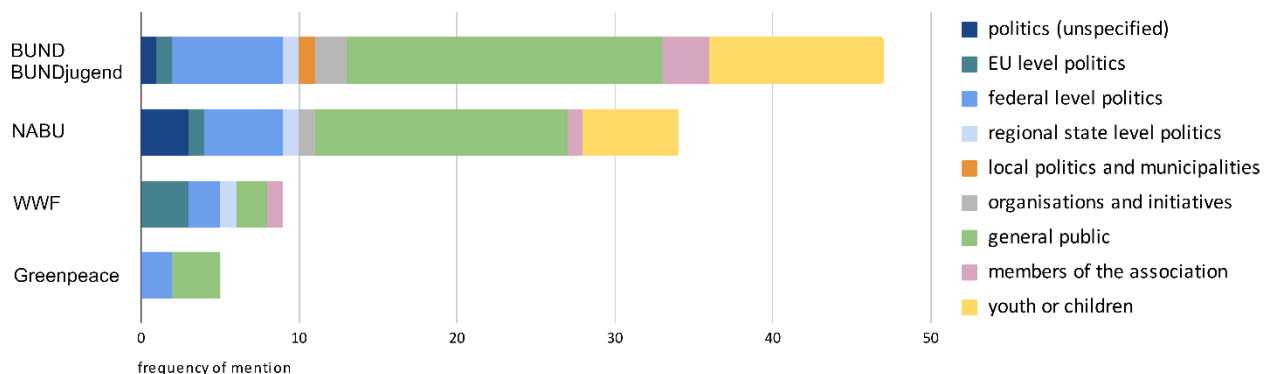


Figure 4: Target audiences directly addressed by each conservation association

BUND/BUNDjugend show the broadest spectrum of target audiences by publishing materials targeted towards all nine identified audiences. They have a clear focus on designing sufficiency materials or programs for the *general public* (20 cases), followed by the *youth or children* (11 cases) specifically, which can be attributed to many sufficiency-related contributions published by the youth organisation BUNDjugend. Another strong focus is on formulating direct policy suggestions or political position papers targeted towards *federal level politics*, or the government, (7 cases) by e.g. offering concrete federal policy options on strengthening sufficiency (B06), formulating the need to integrate sufficiency within Germany’s Sustainable Development Strategy 2021 (B15) or by demanding a sufficiency-oriented Digital Policy (B18). *EU level politics* is targeted in only 1 press release addressing President of the European Commission, Ursula von der Leyen, to promote sufficiency as a means to achieve EU environmental targets 2020 (B31). *Regional state level politics* are targeted through 1 extensive study illustrating federal

level policy suggestions for sufficiency. *Politics (unspecified)* are targeted in more general terms in 1 case, where BUND formulated sufficiency needs in politics during an event (B-N33). *Members of their own association* (3 cases) as well as *organisations and initiatives* (2 cases) also seem to play a minor role as a target audience. BUND is the only conservation association that designed materials for *local politics and municipalities* (1 case) in order to promote the integration of sufficiency on a municipal level through illustrating municipal policy options on strengthening sufficiency within municipal material consumption, mobility, energy as well as nutrition and agriculture (B06).

NABU also addresses a rather broad spectrum of target audiences in order to promote sufficiency. They have a clear focus on raising awareness for sufficiency among the *general public* (16 cases) through various website articles targeted at the interested public. *Children* at a young age are a quite prominent specific target group of their sufficiency-related program offerings (6 cases). NABU shows another focus on addressing *federal level politicians* or the government directly (5 cases), demanding a stronger integration of sufficiency into specific political strategies (e.g. N18, N21, N22). However, to the same extent NABU also targets *politics (unspecified)* (4 cases) within positioning papers (e.g. N31, N32) and during public events (N33). *EU level politicians* are directly targeted in 1 case, calling for sufficiency integration with EU's TEN-E regulation. The same applies to *regional state level politicians* with 1 publication being targeted towards Brandenburg regarding the state's Energy Strategy 2040. *Organisations and initiatives* are also approached in just one case, specifically criticising WWF and Greenpeace for signing a paper on the development of wind energy that lacks the integration of a highly necessary sufficiency strategy (N14).

WWF as well as Greenpeace have a much narrower spectrum of target audiences, also given their limited number of sufficiency related materials overall. WWF addresses 5 target audiences in total, with *EU-level politics* (3 cases) being the most dominant one. Here, WWF is comparably strong in comparison to the other conservation associations, by publishing two studies and one recommendation on the integration of sufficiency into instruments of European Structural and Cohesion Policy (W03, W04, W05). The same thematic applies when WWF targets *regional state level politics* (1 case) (W05). In addition, WWF approaches the German government (W08) as well as Chancellor Olaf Scholz specifically (W06) as actors of *federal level politics* (2 cases) with regards to sufficiency and its role for climate protection. *Its own association members* (1 case) are targeted by involving them in an internal working paper related to sufficiency (W09). The general public is targeted in 2 cases (W01, W07), even though an interview with a WWF representative pointed towards the general public being of central importance for sufficiency promotion:

(...) It would be desirable for WWF to first make a public statement [on sufficiency]. And to initiate a social debate. So really into the public, with broad reach (interview WWF-Expert, own translation).

Greenpeace shows a very narrow spectrum of target audiences, also given its very limited sufficiency-related materials overall, and only approaches two target audiences: *federal level politics* (2 cases) through the same letter towards Chancellor Olaf Scholz, but also through its environmental policy demands (G04) and the *general public* (3 cases), e.g. through website articles summarising expert interviews (G01, G02, G06).

In summary, BUND and NABU address a much broader spectrum of target audiences, compared to WWF and Greenpeace, while some evidence on target audience specialisation shows that BUND is the only conservation association specifically addressing local politics and municipalities, NABU has a strong standing on sufficiency work with children and WWF tends to address EU level politics for the integration of sufficiency.

4.6 Forms of intervention

Another element of investigation is related to the forms of intervention (or “forms of action”) nature conservation associations utilise in order to promote sufficiency. All 83 publicly available materials have been analysed accordingly, with each material being assigned to at least one intervention form and in some cases to multiple interventions combined. This resulted in five classified intervention forms, although expert interviews gave additional insights into certain protest forms used to promote sufficiency indirectly, leading to a total of six different categories of intervention forms:

Table 3: Overview of forms of intervention

Forms of intervention	Examples of concrete interventions
political work	political statements and demands, political dialog, political lobbying
knowledge sharing	written information e.g. publications, studies, reports, brochures, flyers, magazines, web and blog articles, social media
events and campaigns	conferences, panel discussions, symposia, congresses, radio, public actions, online talks
practical experimenting	offerings for practising sufficiency, e.g. do it yourself experiences, workshops, vacation camps, excursions, repair cafés
art and creative works	postcards, sketchnote and hidden picture
protest forms <i>mentioned in interviews only</i>	challenges and boycotts, blockades, public assembly demonstrations

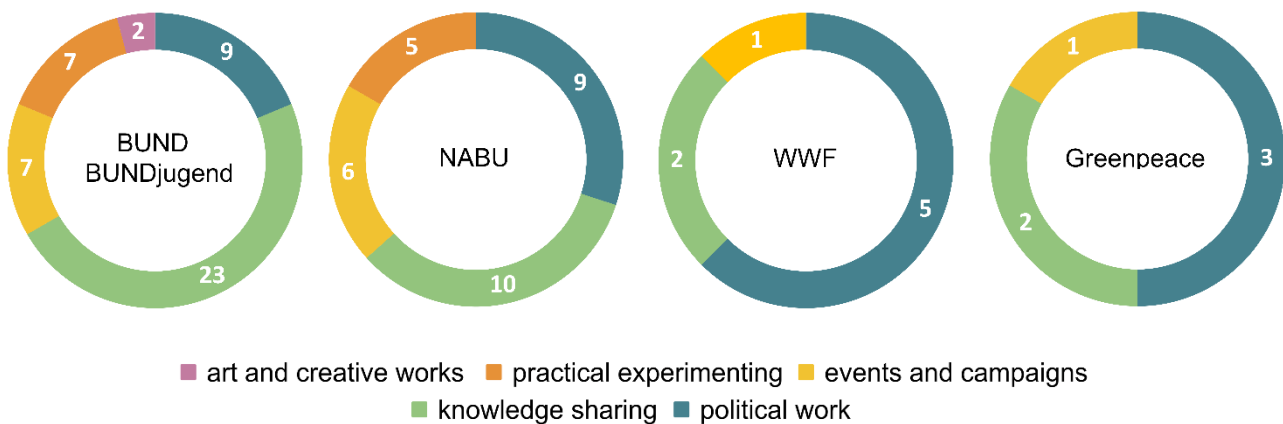


Figure 5: Intervention forms used by each conservation association

Figure 5 shows the spectrum and frequency of intervention forms used by each conservation association in order to promote sufficiency. BUND/BUNDjugend use the most diverse set of intervention forms by combining *knowledge sharing interventions* (23 cases) as the dominant action form, with *political work* (9 cases), *events and campaigns* (7 cases), *practical experimenting with sufficiency* (7 cases) as well as *art and creative works* (2 cases). BUND/BUNDjugend is the only conservation association that promotes

sufficiency through *art and creative works*; in this case through a set of postcards (B07) and a combination of a sketchnote and hidden picture (B41). Interview partners mentioned that *political work* to promote sufficiency is of particular importance for the adult association, while also showing a positive trend in the youth association, e.g. with youth party wings (interview BUNDjugend-Expert). While *knowledge sharing interventions* are more critical within the youth association with regards to political education work (interview BUND-Expert 2). The majority of 7 identified sufficiency interventions related to *practical experimenting* can be attributed to the youth organisation BUNDjugend, whereby additional interview insights showed that they are essential on a local level in order to overcome sufficiency's often abstract and "mind-boggling" appearance (interview BUND-Expert 2, interview BUNDjugend-Expert, own translation). Apart from that, expert interviews revealed that certain *protest forms* are found to be useful in order to indirectly promote sufficiency goals related to specific *topics*. For example, so-called "parking-days" are organised on a local level as strategic blockades of public traffic and parking spaces in order to highlight land overconsumption through car-related land use and demand alternative uses (interview BUNDjugend-Expert). In the past, BUNDjugend promoted the so-called "Klimafasten" (Eng., own translation: Fasting for the climate) which asks the public to reduce their own consumption and boycott a certain product during the fasting season (ibid.). In literature, such interventions are usually referred to as "challenges", providing opportunities for breaking everyday routines (Frick et al. 2022: 34). And also public assembly demonstrations are used to "deliver strong images", albeit demonstrations are considered to only work out for certain sufficiency-related *topics* (e.g. agricultural transition) instead of mobilising crowds for sufficiency itself (interview BUND-Expert 1).

Figure 5 illustrates that NABU-materials published represent a rather balanced set of interventions for sufficiency promotion, with *knowledge sharing* (10 cases) and *political work* (9 cases) being dominant. During an interview with a NABU representative, political work was highlighted as a central strategy in order to put environmental issues on the political agenda in Berlin. However, political work related to promoting sufficiency politics presents a challenging endeavour for the association due to its missing compatibility with the current political agenda setting. Nevertheless, NABU sees the need for filling an existing gap in the actor landscape in Berlin to promote sufficiency in politics:

And in this policy landscape, sufficiency is precisely not a particularly good winning topic. We don't achieve much with it, because we hardly have any dialogue partners who want to talk about it. (...) At the same time, there is no actor in the political arena in Berlin who contributes [to sufficiency] greatly, who has any relevance. So the question is, well, if someone is going to do it, and someone has to do it, who would be better suited than a nature conservation association? (...) So there is a point in doing it (interview NABU-Expert 1, own translation)

Additional interventions forms at NABU are *events and campaigns* (6 cases) as well as *practical experimenting* (5 cases), which mostly refers to their sufficiency programs offered for children during vacation camps. Practical experimenting of sufficiency practices is also promoted through NABU's so-called "Verbraucher-Tipps" (Eng., own translation: "consumer advice") that mainly address individual consumers and offer education on alternative consumer behaviour (interview NABU-Expert 1).

Figure 5 shows that WWF's limited number of materials focus on interventions related to *political work* (5 cases) in order to promote sufficiency. One case of *practical experimenting* is attributed to a workshop guideline published by the youth organisation WWF Jugend (W07). Interventions related to knowledge sharing is applied in one case, while this refers to an internal working paper gathering statements and positions related to sufficiency (W09).

The limited number of Greenpeace materials analysed show that *political work* presents the strongest intervention (3 cases), followed by the promotion of sufficiency through *knowledge sharing* (2 cases) and *events and campaigns* (1 case).

4.7 Fields of action and sufficiency practices

This chapter presents all results related to the fields of action (in the sense of “thematic fields in society”) that have been highlighted by BUND, NABU, WWF and Greenpeace as necessary fields where resource reduction through sufficiency measures is deemed necessary. While chapter 4.5 already indirectly indicated some of the important fields, conservation associations refer to, this chapter seeks to present a more detailed and systematic analysis on thematic fields of action.

All publicly available materials have been analysed, which resulted in a total number of 14 identified fields of action, as illustrated in Figure 6 (left side, descending order by total frequency of mention). These fields of action include *Energy, Consumption, Mobility, Nutrition and agriculture, Finances, Housing, Urban planning, Economy, General public, Science and innovation, Leisure and tourism, Work, Digitalization and Engagement*. Based on the assumption that nature conservations’ core work also focuses on “classical” conservation activities (e.g. related to regulatory instruments, protected areas, landscape and habitat management), another field of action *Nature Conservation* was included in the analyses, but has not been found reflected within analysed sufficiency materials.

To provide a more detailed insight, next to the 14 fields of action, into concrete demands and suggestions formulated by conservation associations, a number of concrete suggestions for sufficiency practices has been identified for each field of action additionally (see Figure 6, middle). How often BUND, NABU, WWF and Greenpeace refer to these concrete sufficiency practices in their various materials is illustrated in colour-coded numeric values in Figure 6 as well (right side; orange: no mention, light green: rather little mention, dark green: rather frequent mention). A field of action (left column) has been classified as “given” in the analysis if it was either *explicitly* named or if corresponding sufficiency practices *indirectly* referred to that field of action. Therefore, numeric values given for the frequencies of fields of action and the frequencies of sufficiency practices may differ.

Figure 7 illustrates the spectrum and frequency of fields of action for each conservation association. When looking at the results, it is useful to combine the more generic results on fields of action with the colour-coded results presented in Figure 6, in order to get an insight into what concrete sufficiency practices BUND, NABU, WWF and Greenpeace promote within these fields. As Figure 7 shows, BUND/BUNDjugend are the only associations that call for sufficiency integration in all of the abovementioned fields. They formulate the need for sufficiency in *consumption* most frequently (19 cases) with a strong focus on practices that avoid new product purchases through a culture of sharing, borrowing, repairing etc. (e.g. through repair-café), and on zero-waste practices (e.g. zero waste municipalities). *Mobility* (15 cases) is another strong field, whereby BUND/BUNDjugend mainly refers to a mobility transition based on sufficiency, strengthening bicycles and public transport modes as well as promoting shared mobility. *Energy* (13 cases) appears frequently as well, mostly referring to energy sufficiency as a key principle, next to the expansion of renewable energies, and the need for municipal energy saving programs. Related to the *energy* field, BUND/BUNDjugend is the only association that calls for decentralised energy supply in municipalities and shared use of household appliances to practise sufficiency. *Nutrition and agriculture* (13 cases) is frequently mentioned and mainly promotes sufficiency through alternative food supply systems (e.g. community supported agriculture, urban gardening), a diet that is vegetarian or vegan and seasonal, regional or organic. The field of action *finances* (9 cases) is still quite frequently referred to with a strong focus on reducing subsidies for resource-intensive practices (e.g. in large scale agriculture and fuel-based mobility). Again, BUND/BUNDjugend is the only association calling for sustainable banking, regional currencies, basic income and life without money as concrete ways to practise sufficiency. Sufficiency in *housing* (8 cases) is also strongly represented within materials, in relation to communal ways of living (e.g. cluster apartments) and flat-exchange possibilities (e.g. home-swap platforms) mostly. *Urban planning* (8 cases) is another field of action in focus mainly concerned about reducing land consumption in municipalities (e.g. halting sealing by 2030 (net zero), preventing vacancies). Within the *economy* field of action (5 cases), BUND/BUNDjugend prominently calls for cascade use and circular economy approaches in order to achieve absolute resource reduction. It is the

only conservation association that demands sufficiency practices within the fields of *leisure and tourism*, *work* (e.g. working time reduction, job-sharing) and *digitalization*, even though these fields play a minor role. Beyond these fields of action, identified by a material-based analysis, interview insights provided additional information on BUND/BUNDjugend's current cooperation with the think-tank *communia* in order to address private sufficiency through alternative models of ownership in relation to *public luxury* and *public infrastructure* provision (interview BUNDjugend-Expert).

Field of action frequency of mentioning	Sufficiency practice suggested	BUND	NABU	WWF	Greenp.
Energy in 33 materials	- municipal decentralised energy supply	1	-	-	-
	- municipal energy saving programs	4	-	-	-
	- shared use of household appliances	1	-	-	-
	- use of energy alternatives (green electricity, biogas)	2	-	1	-
	- reduce household water consumption	2	1	-	-
	- reduce household energy consumption	1	2	-	2
Consumption in 32 materials	- avoid new product purchase (share, borrow, repair, DIY)	20	5	1	2
	- sustainability labels, eco-fair production of goods	-	1	-	-
	- reduce packaging & waste / zero-waste	9	2	-	1
Mobility in 23 materials	- reduce private car use	5	2	-	1
	- strengthen shared mobility	8	-	-	-
	- strengthen public transport	7	1	-	1
	- strengthen bicycles	12	3	-	1
	- introduce speed limit	3	1	-	1
Nutrition and agriculture in 22 materials	- vegetarian / vegan diet	6	-	-	2
	- seasonal / regional / organic nutrition	7	1	-	-
	- reduce food waste & food rescue	3	-	-	-
	- alternative food supply systems	6	3	1	-
Finances in 18 materials	- sustainable or green banking	1	-	-	-
	- regional currencies	1	-	-	-
	- finding ways to live without money	1	-	-	-
	- enable basic income	1	-	-	-
	- reduce subsidies for resource-intensive practices	7	1	1	2
	- align funding programs with sufficiency	-	-	3	-
	- collect environmental taxes and charges	3	-	-	2
Housing in 15 materials	- reduce living space	3	2	-	1
	- communal living & flat exchange	5	1	-	1
	- improving energetic refurbishment of buildings	2	-	1	-
	- resource-efficient construction methods	-	1	-	-
Urban Development in 11 materials	- reduce land consumption	6	2	1	1
	- planning a compact city	3	1	-	-
	- provide municipal land for sufficiency practices	2	-	-	-
	- inter-municipal cooperation for shared infrastructures	1	-	-	-
Economy in 9 materials	- promote entrepreneurial solutions for sufficiency	2	-	2	-
	- ban calculated product wear and tear	4	-	-	-
	- cascade use / circular economy	8	1	-	-
General Public in 7 materials	- eco-friendly public procurement	4	-	1	1
	- reduce or ban advertising in public spaces	2	-	-	-
Science and innovation in 7 materials	- sufficiency-related research and innovation	3	1	3	-
Leisure and tourism in 5 materials	- choose more nearby travel destinations	2	-	-	-
	- choose resource-saving forms of mobility during travelling	2	-	-	-
	- decommercialising leisure time	2	-	-	-
Work in 3 materials	- reduce commuting time / workplace nearby	1	-	-	-
	- improve remote working conditions	1	-	-	-
	- offer sustainable forms of mobility at the workplace	2	-	-	-
	- working time reduction, flexible hours, job/workspace sharing	4	-	-	-
Digitalization in 2 materials	- resource-efficient software and hardware development	1	-	-	-
	- technological impact assessment	1	-	-	-
	- less demand for resource-intensive devices and applications	1	-	-	-
Engagement in 2 materials	- promote sufficiency within organisations	1	1	-	-
	- participate in sufficiency-related protests	1	-	-	-
Nature Conservation in 0 materials	-----	-	-	-	-

Figure 6: Fields of action mentioned (aggregated) and sufficiency practices by each association (orange: no mention, light green: rather little mention, dark green: rather frequent mention)

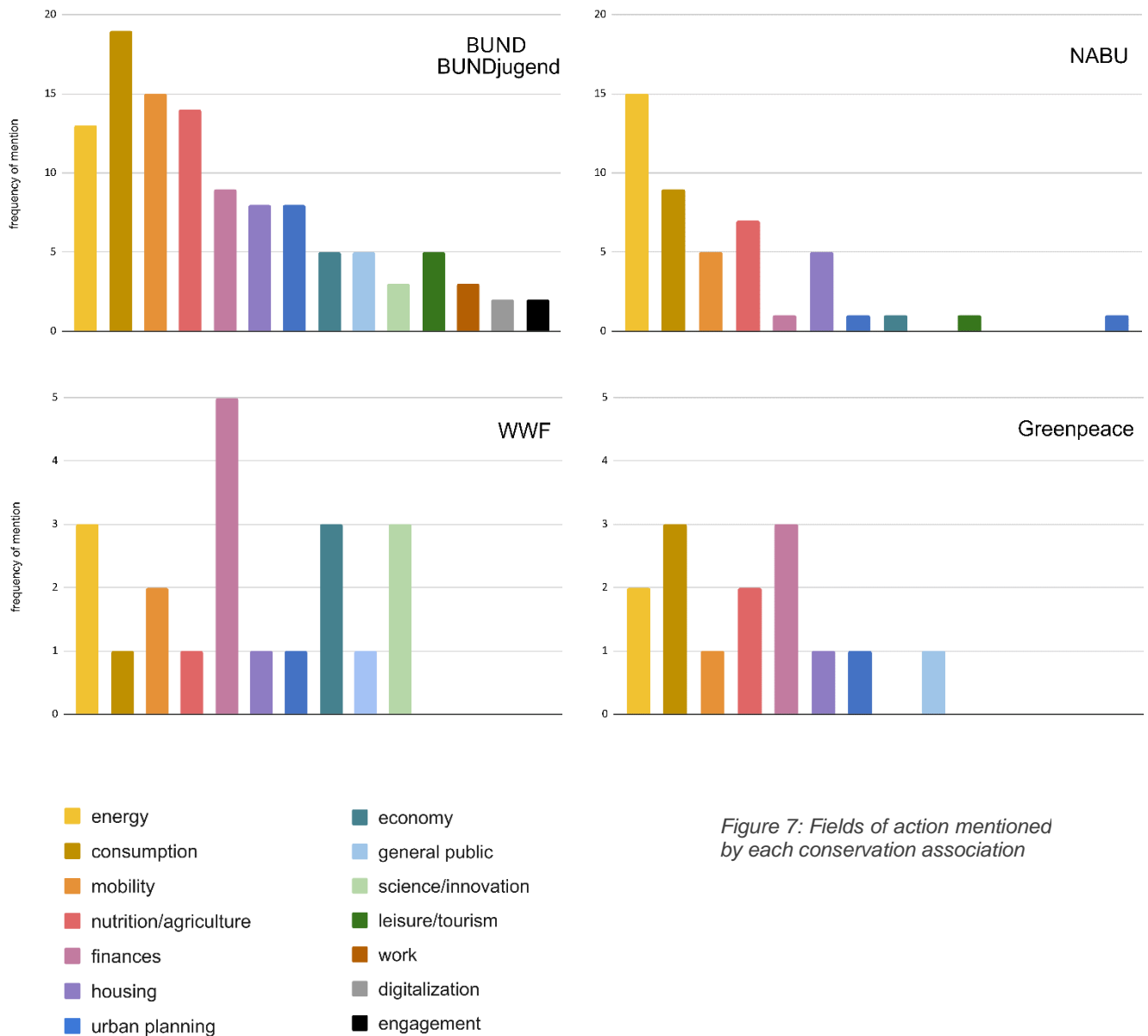


Figure 7: Fields of action mentioned by each conservation association

NABU shows a slightly different pattern in Figure 7 with *energy* (15 cases) being the dominant field of action calling for an energy transition that builds upon renewable energy expansion as well as sufficiency promotion. Concrete sufficiency practices in this field relate to energy and water consumption at household level. *Consumption* (9 cases) is mentioned by NABU very frequently, calling for an avoidance of new product purchase through developing better maintenance skills (also specifically amongst children). *Nutrition and agriculture* (6 cases) also mainly refer to sufficiency being practised via urban gardening and community-based agriculture. The *mobility* field (5 cases) is mainly referred to by NABU with regards to strengthening bicycle use, while *housing* (5 cases) also talks about reduced living space and communal living as sufficiency practices. The other fields of action play a rather subordinate role, with NABU being the only association to call for consumption that is guided by sustainability labels as a possibility for sufficiency pledges in value chains. The fact that *energy*, *consumption*, *nutrition and agriculture* and *housing* present dominant fields of sufficiency action within NABU strongly mirrors the way the topic is embedded within NABU's structures and thematic units (as described in chapter 4.1), i.e. the Energy and Climate Policy Department (energy and building sector), its Team Land Use (agricultural topics) and NABU's strong promotion of "Verbraucher-Tipps" (Eng. "consumer advice").

Even though WWF published a very limited overall number of materials related to sufficiency, the demands formulated show a very clear focus on *finance* (5 cases) (see Figure 7). Concrete suggestions for sufficiency action here relate to reduced subsidies for resource-intensive practices, divestment and financial redistribution towards sustainable consumption and production, as well as the integration of sufficiency criteria within funding programs (e.g. promoting entrepreneurial innovation based on sufficiency, or by integrating sufficiency into ERDF-funding programs at EU level). The latter is at the same time evidence for sufficiency demands in the field of *science and innovation* (3 cases) by e.g. demanding a stronger integration of sufficiency-criteria into the ERDF's Operational Programmes on regional state level. This very specific EU-level focus related to finance and innovation presents a distinctive feature compared to BUND, NABU and Greenpeace, where these fields play a minor role. Within the economy (3 cases), WWF also calls for a stronger circular economy and cascade use approach. The remaining fields of action are subordinate but can also be obtained from Figure 7 and its specifications in Figure 6. As Figure 7 also shows, Greenpeace and its limited number of sufficiency-related materials frequently mention the field of *housing* (3 cases), in relation to maximum limits of residential and commercial space or sealing, but also the promotion of reduced living space, communal living and planned flat exchanges (e.g. through house-swap platforms). In the field *consumption* (3 cases), Greenpeace also calls for an avoidance of new product purchases (specifically referring to repair cafés) and a reduction of packaging (e.g. via its own ReUse-Revolution platform promoting plastic-free living). The reduction of environmentally harmful subsidies (e.g. fossil energy) and an ecological tax reform is also suggested to enable sufficiency in the *finance* sector (2 cases). In the *energy* field (2 cases), Greenpeace addresses the need for sufficiency and maximum limits of energy use as a prerequisite for successful renewable energy expansion without overuse of land. Connected to that, there must be a reduction of household level energy consumption as well, according to Greenpeace. The remaining fields of action play a minor role but can be explored in Figure 7 and further details on suggested sufficiency practices in Figure 6.

4.8 Challenges in sufficiency advocacy

This chapter presents findings on challenges for nature conservation associations related to promoting sufficiency. All findings have been extracted from expert interviews with representatives of the associations exclusively and represent their personal experience in working on that topic. A total number of nine main challenges has been identified, which range from internal obstacles to overarching structural barriers. These will be presented in the following, in descending order by frequency of mention. Since these challenges represent very subjective social aspects of the work that association members do, it was found most useful to let selected voices of representatives speak for themselves:

1. Challenge to find the right narratives, framings and perceptions:

I think one of the hardest things to communicate is what we gain in the process. Why it makes sense to advocate for "less," as it seems to do at first. That's why we always use "modest". I think in the younger generation, you can talk more about a "less". Getting that across and communicating that we're not going to be worse off as a result is a challenge. This also raises the question of framing. So on the one hand, what are the central problems we are actually referring to? Are we doing this for reasons of global justice, climate justice, biodiversity loss? All of those can be named. What does one refer to? And also: does one use the term sufficiency or not? And how big is that term made? Is it "only" about everyone having enough to live on and therefore some have to give up something? Or is it also about saying that a new economy is needed that relates to both people and nature and also makes a positive contribution there. And that will not be the capitalist system. Of course, this all makes a big difference in terms of how far-reaching this is (interview BUNDjugend-Expert, own translation).

So to really give answers or to create images that represent such a future world. I think that would be something that we would at least try to tackle in the first step, to design such a future landscape or to create images of it. (...) But actually, the first step is to create a vision. What can the future look like? (interview NABU-Expert 1, own translation).

(...) That's something you have to think about when you're building campaigns or reaching out to the general public. We also have to convey that sufficiency does not just mean strict prohibitions, but that a change in society as a whole can also lead to a good life. For everyone. What do we want to convey as a key message, in order not to present ourselves as a prohibitionist association? (interview NABU-Expert 2, own translation).

2. Sufficiency is politically and economically incompatible:

Otherwise, of course, in the associations we also have a competition around (...) realpolitik windows and strategies of how politics should be influenced, on which levels and how exactly (interview BUND-Expert 2, own translation).

(...) sufficiency is also a questioning of the current economic system and the growth paradigm. And that goes against the fundamental core logic of this society, this economy, this politics. Of course, you'll run into a lot of headwind because you'll be accused of being a weirdo or that it's not even possible. It's a balancing act to say "Yes, we want to change the system" or to say "Yes, we want to change the system, but we want to take these small steps here, for now (interview BUNDjugend-Expert, own translation).

And in this policy field, sufficiency is precisely not a particularly good winning topic. We don't achieve much with it, because we can hardly find exchange partners who want to talk about it (...) it's already difficult to tell anyone "You have to make this a big issue in your constituency for the next election campaign. You can win something with it" (...) towards the outside, I think it's the trickiest thing to place and use this terminology and offer some political actor that they could win something with it (interview NABU-Expert 1, own translation).

3. Sufficiency versus traditional nature conservation:

And I think within the association, less now with BUNDjugend but more with BUND, it is a challenge not to lose sight of the core issues. Or to always create the link. So that we don't tell the person who is committed to nature conservation on the ground that his or her work is no longer important. Instead, we need to see that all of these things go together. Communicating this complexity in such a way that people understand it is a major challenge, not only within the association but also beyond (interview BUNDjugend-Expert, own translation).

And also in practical nature conservation there is a lack of connecting factors (...) Yes, and also fear of feeling threatened. To have the impression that one's own work is being devalued by saying "traditional nature conservation somehow does not have the social foresight for the serious system transformations that we need" (...) a question of what is really the overarching goal of nature conservation and sustainability associations (...) As far as the lines of conflict are concerned, I would say that they are more likely to be smoldering at the national level and perhaps also in regional state associations, where the distribution of funds and resources is at stake. And also among volunteers, where there is a high level of identification with "my topic" and "my project" (...) this horizon of the toad counters (interview BUND-Expert 2, own translation).

Why do we do this at all? You could just as easily say "Let's just focus on species protection, let's just do bird protection issues and that's it." But that's a bit short-sighted, if we look at the world we live in as a whole system (...) And that would then be the point that we also try to form a bracket with the topic of sufficiency. What does it actually mean and how are things related to each other? And why is the topic of sufficiency ultimately also important for the local birdwatcher, who perhaps wants his grandchildren to still be able to observe the red kite pair on site (interview NABU-Expert 1, own translation).

4. Lack of expertise within associations:

(...) it is absolutely necessary to have a position on sufficiency that is reasonably well-founded and also takes social aspects into account. This means that it also very quickly becomes interdependent and complex. And in the associations, the expertise, knowledge, awareness and sensitization for various issues of social inequalities is not necessarily there (...) the sensitization for diverse questions of social inequalities (...) I would classify the BUND, how it is composed, who is there and which life experiences are there and which disciplinary and professional backgrounds are represented, rather far away from that (...) And I think it would also be important to take a realistic look at the extent to which the associations are really capable of working on this topic (...) It is definitely the case that in the youth association the social justice impetus and what is traded under intersectionality is much more popular and more state-of-the-art than in the adult association. (interview BUND-Expert 2, own translation, own italics).

The problem, of course, is also the lack of competencies. Macro-economic competencies. We can demand whatever we want. (...) And the nature conservation associations have to realise that. We need economic competence to understand what our demands, if they were implemented, would really achieve. And then put the truth on the table. And work out social-ecological alternatives to the economic model. But as long as the competence does not exist, the nature conservation associations will simply demand, demand, demand (interview WWF-Expert, own translation).

(...) with sufficiency it is just a bit more difficult and of course goes beyond the classic nature and species conservation work that we have done. That is, for us, of course, something completely, completely new. There are no experience, which is why this process takes so long (interview NABU-Expert 2, own translation).

5. Sufficiency remains controversy internally and highly depends on individuals:

It's a bit like politics. The base has more radical demands than those sitting at the top. And it's the same with nature conservation associations (interview WWF-Expert, own translation).

A general learning would be that the topic is strongly dependent on individual people who drive it forward and occupy it. Depending on the level, they may or may not inspire people and pull them along. There is quite a high variance in how important the topic is at which level (interview BUND-Expert 2, own translation).

(...) but I also think it's sometimes a kind of self-help group, because the people who work on the topic strategically are confronted with similar challenges within their associations. That the topic is often dismissed as unprofitable and risky, and as too abstract (...) awareness of the fact that this is also controversial within the association. That would be very important in any case. That the position or the move in the associations is not simply a given, but is worked out and defended internally (interview BUND-Expert 2, own translation).

(...) in the associations we also have competition between different topics, subject areas, resources, campaign resources, for example, narratives, framings, staff positions (interview BUND-Expert 2, own translation).

(...) BUNDjugend. It has about twelve people and three doing FÖJ, four to five people are permanently employed, the rest are employed through projects. That means that there is always the question, at least from the main office: "Who can actually take care of these topics"? At BUND it is of course similar, but at the same time they are much larger and can therefore work on more topics. Now, for a very long time, there has been this position (...) which is also frequently financed by third-party funds (interview BUNDjugend-Expert, own translation).

And of course it always depends on the interests of the employees here. I have to make that clear. We have some topics that are, so to speak, mandatory tasks, and some topics that are not primarily so. And sufficiency is not yet really one of the mandatory tasks. But we want to do it anyway. And that means that, in addition to everything else, when you have a quiet minute, the tasks that are important to you always come up (interview NABU-Expert 1, own translation).

6. Sufficiency is too abstract and not easy to put into practice:

(...) as an obstacle I would also say that it is a very abstract-headed topic or will be for many people. (...) I would see the duty to deliver rather with the people who occupy the topic. And in the preparation of the topic, of course, a typical inhibition would be that it seems very academic, scientifically abstract. Perhaps for people who like to work practically (...) people are frustrated because there is a lot of talk and little happening directly (interview BUND-Expert 2, own translation).

(...) because our activists do a lot of practical work. So they go out and do something. And with sufficiency there is no practical work where you take a shovel and dig sufficiency. That means that the field of action is quite different and therefore also difficult (...) the topic comes hand in hand with such a level of abstraction, which makes it somehow difficult to serve it properly, so that you can address the people in the usual ways (interview NABU-Expert 2, own translation).

7. Sufficiency used as an “excuse” to avoid renewable energy expansion:

To some extent, it also came about because some critics of renewables said, "We don't need renewables, sufficiency is enough", and that's just not the case (interview NABU-Expert 2, own translation).

(...) it is important for us to argue within the association, so above all internally: Sure, we need sufficiency and we need to somehow establish other lifestyles. (...) But still we need renewable energy because it still won't be enough and it won't work (...) That always comes through voices from the association. And I have already indicated this, I have often experienced in the past that this is such a diversion (interview NABU-Expert 1, own translation).

8. Sufficiency can highlight unsustainable behaviour amongst association members:

In some areas of the association's internal work, I have difficulties with this. In other areas, I'm welcomed with open arms. I already mentioned the difficulties a little earlier. Because with strong sufficiency measures, I expose the contradictions in which some people do their conservation work. And that, of course, doesn't feel good for anyone, and that's why it's not always appropriate or recommended to do that. And that's why there are also limits to turning that inward (interview NABU-Expert 1, own translation).

9. Sufficiency promotion in which direction?

(...) many people are a bit tired. I've noticed that at our events, we're always given these tips: "You have to turn off the water, you don't have to save money, you have to drive less," and then, rightly, someone asks "Why is it always me? What about the industry, what about the infrastructure that we are provided with? So that's where you have to start". I think that's already a point, that many people feel so individually burdened. There's so much coming at me. And then they see nothing happening on the outside in industry and elsewhere. And that is a point that is of course also difficult as an association. How do we make the leap from the individual to the higher? (interview NABU-Expert 2, own translation, own italics).

This question of addressing politicians and working with them is really a central question. And of course there are also people in the movement who think that the current political system is problematic anyway, so why should we even be in an dialogue there (...) As a nature conservation association, and as a youth organisation, it is difficult to stand in between (...) It is important for us to be in dialogue. But it is also important for us not to be perceived as part of the problem within the movement. That, too, is a balancing act that I want to highlight. We are sometimes in a difficult situation here (interview BUNDjugend-Expert, own translation, own italics).

This summary of challenges illustrates that sufficiency advocacy is a controversial topic, not only with regards to external communication, e.g. towards politicians, but also internally amongst colleagues and members of the associations and their respective interests, motivations and resources. The complex, systematic, and sometimes abstract questions raised by sufficiency are new to (some of) the associations and challenge them to go beyond their established answers, approaches and expertise. By taking the identified challenges into account, sufficiency appears to be a profound learning and reflection process for nature conservation associations.

5 Discussion

The various findings presented in chapter 4 provide structured and differentiated insights on how BUND/BUNDjugend, NABU, WWF and Greenpeace communicate sufficiency within their advocacy work and what challenges they face. The following should present reflections upon some of the findings and its informative value regarding the underlying research questions posed in chapter 2.3. This helps render the role of these conservation associations as change agents for a sufficiency-oriented transformation.

On the general differences between the four studied conservation associations

First, it becomes clear that all of the studied conservation associations refer to sufficiency in an affirmative manner within their published materials as well as during conducted expert interviews and are in general support of promoting the concept as a means to achieve sustainable consumption patterns in our affluent society. Accordingly, they do promote the topic of sufficiency. However, the scope and depth to which these organisations actively promote sufficiency varies greatly.

BUND and its youth association BUNDjugend form by far the strongest and loudest voice and communicate a very clear and comprehensive positioning on sufficiency. They paint a comparatively precise picture of the sufficiency-oriented future they want to see and provide the most comprehensive set of suggestions for practical implementation and integration in a variety of different societal fields of action. Hereby they also move beyond the commonly established fields of action (i.e. mobility, agriculture, energy) and also address “side topics” amongst conservation associations like e.g. work, leisure and tourism and digitalization. Continuous attempts at strategic integration since the millennium have borne fruit, making BUND the only environmental association with the confidence of a strong sufficiency self-image. BUNDjugend moves even further and combines this with a clear post-growth-message. However, this strong positioning should not distract from the fact that, also within BUND (and less also in BUNDjugend), there is some internal friction on this issue existing and that the promotion of sufficiency depends on individuals who really drive this issue forward and defend it against other interests (see chapter 4.8). Sufficiency is therefore not a “given” and remains a controversial topic even when an organisation's structures already leave plenty of room for addressing it.

NABU also shows strong acknowledgement of the importance of sufficiency but is still in a current process of finding that official position and comprehensive picture of how they envision a “sufficiency-oriented” world. This is also supported by a NABU interview partner who stated that they first need “to really give answers or to create images that somehow represent a future world. I think that would be something that we would at least like to try to tackle in the first step, to design such a future landscape (...) to create a vision” (interview NABU-Expert 1). This sheds light on some of the difficulties that come with addressing such a “novel” and complex topic within conservation associations. Finding a common ground, filling this concept with life, is anything but trivial. This is especially true for bottom-up associations and all the implicit democratic decision-making processes that have to take place in order to develop a collective self-image (interview NABU-Expert 2).

WWF and Greenpeace are rather reserved about sufficiency. For WWF, taking up this issue is more of a controversy; therefore, there is a lack of internal integration into work processes and thematic areas, and an increase in sufficiency advocacy is unlikely to happen anytime soon (interview WWF-Expert). A potential explanation for this rather reserved attitude may lie in WWF's comparatively strong "market-friendliness" and its involvement with business actors in the context of strategic corporate partnerships, where sufficiency principles under current conditions seem incompatible (ibid.). For Greenpeace further explanatory information on their reserved sufficiency advocacy could not be obtained through interviews.

On the transformative potential of identified sufficiency narratives

Many scholars emphasise the strong need for building and spreading new and positive narratives for sufficiency in order to increase its acceptance and deconstruct its unpopular status in our current growth-oriented paradigm and our consumerist culture. This call from scholars can be considered fulfilled by nature conservation associations. Findings show that a broad variety of different positive sufficiency narratives is being advocated (eight in total, see chapter 4.3) in order to change people's perceptions on sufficiency. Next to their established focus on "protecting the environment", conservation associations also clearly acknowledge the systemic and social justice related dimension to our current socio-ecological crises, by building strong sufficiency narratives related to "enabling global justice" and "leaving economic growth behind". This shows that conservation associations are clearly and deliberately stepping out of their traditional line on environmental concern in order to communicate the need for sufficiency. Even though this has been the case for various other topics on their agenda before, sufficiency presents a new dimension and quality of radical socio-cultural transformative change demanded by them. The narratives used to advocate for sufficiency can be considered a strategically useful mix of different goal frames being addressed. Lindenberg and Steg (2007) refer to goal frames as the way in which people process information and act upon it, which directly guides their adoption of certain environmental behaviour, in this case adopting more sufficiency-oriented behaviour. The authors suggest three different types of goals people "adhere to" in order to inform their own perceptions and actions. These include *hedonic* goals (i.e. "to feel better (right now)"), *gain* goals (i.e. "to guard and improve one's resources") and *normative* goals (i.e. "to act appropriately"). The range of positive sufficiency narratives advocated by BUND/BUNDjugend, NABU, WWF and Greenpeace speaks to all of those different goals and can thereby, at least theoretically, guide a broad spectrum of people towards sufficiency. The narratives "protecting the environment", "enabling global justice" and "surviving in the long run" can be considered to inform *normative* goals. Normative goals present the strongest goals to successfully inform environmental behaviour, according to Lindenberg and Steg (2007). The fact that these three narratives are combined with further *hedonic* goal narratives (e.g. "enhancing the quality of life" and "gaining independence") and *gain* goal narratives (e.g. "saving money", "securing economic advantage") further strengthens a successful adoption of sufficiency-oriented behaviour. Combining different goal frames in narrative building in a compatible way, without conflicting one another, is a critical aspect (ibid.) in order to motivate sufficiency-oriented behaviour. BUND/BUNDjugend are particularly strong not just in building new positive narratives on sufficiency, but also in deconstructing and correcting existing negative narratives. Overall, nature conservation associations use new narratives as one of the key leverage points for creating new imaginaries and stories required for transformative change.

On key areas of society and untapped potentials

All four associations clearly see the need for a broad promotion of sufficiency and its integration on a structural level, which goes far beyond individual lifestyle decisions. Illustrated by the various key areas in society being held responsible and the various fields of action addressed. The general public and politics, federal politics in particular, appear as the most frequently addressed key areas and target audiences. This emphasises that structural changes as in cultural value shifts and overarching political and

economic paradigm shifts are at the centre of their attention. Hereby they show a high connectivity to the scientific discourse.

A notable observation is that BUND/BUNDjugend frequently refer to municipalities as important key areas and actors of sufficiency action, while other conservation associations address municipalities rather marginally. Also, scientific literature on sufficiency is rather reserved on this actor level. So here, conservation associations might have further potential in exploring concrete cooperations with cities and municipalities in order to identify ways of integrating sufficiency within municipal structures. This might hold a potential for their role as change agents inspiring transformative steps in cities and municipalities, which has not been given adequate attention by research so far.

Even though businesses and corporate actors are certainly covered in the examined associations fields of view, specific suggestions for business-internal sufficiency suggestions remain completely absent. This is not surprising for the case of BUND/BUNDjugend which strongly emphasise their conscious independence from corporate partnerships. But it is rather unexpected in the case of NABU, and WWF in particular, since both engage in strategic corporate partnerships in order to promote changes also within given economical structures. Addressing the overarching political framework conditions appears as the way to go for conservation associations to address change in our economy and businesses. *Direct* intervention and changes *within* businesses and their ways of operating, on the other hand, are not addressed. On the one side, this presents an untapped theoretical leverage potential for them to promote sufficiency principles also within established corporate partnerships and to advocate strategies for absolute resource reduction within companies. However, on the other side, interview insights also confirm that sufficiency's strong growth-critical character stands in fundamental contradiction to the (growth-oriented) business models run by corporate partners (interview WWF-Expert). Once a conservation association starts promoting sufficiency in the sphere of corporate partners, the cooperation might, simply, find its end. (ibid.). This illustrates clear structural limitations for conservation associations to act as change agents in the corporate world, even if it presents a main target group. This is especially true when parts of the associations' financial income depend on the willingness of business-partners to continue cooperating (interview WWF -Expert). Overall, business represents one key area in society, where BUND, NABU, WWF and Greenpeace may not have considerable potential as change agents, unless they provoke overarching political changes that set new rules for the economy to operate in. A potential opportunity to still address the need for change in the corporate world may be the revival of WWF's previous approach to stress sufficiency integration in (EU) Innovation Policies and support a "Finanzwende" (Eng., own translation: finance transition).

On the importance of youth associations

BUNDjugend is a good example for the importance of youth association's voices in pushing for such radical changes as the one for sufficiency and for reaching a distinct target audience which is supposed to live in this new sufficient world in future. Some interview statements from representatives also highlighted the youth organisation's engagement in sufficiency advocacy and their role of actually materialising this concept also within internal structures of the adult association (e.g. diet aspects at events following sufficiency-criteria) as well as in establishing alliances with critical actors, e.g. farmers associations (interview BUND-Expert-1) or reflecting an intersectional perspective on sufficiency, e.g. its risk to be classicist (interview BUNDjugend expert). Sufficiency-oriented goals and values are perceived to be more established amongst the youth, so they can dare to make more radical claims (interview BUNDjugend-Expert) and push the adult organization for stronger positions. Other youth associations did not appear to be advocating sufficiency in a considerable manner, while the WWF interview partner even wished for more cooperation with and support from the WWF Jugend (see interview WWF-Expert) with regards to advocating sufficiency within WWF. So here may lie some untapped potential in both promoting sufficiency amongst the young generation and pushing sufficiency take-up within the adult association.

On the transformative potential in eight societal subsystems

In order to explore the transformative potential of conservation associations' current sufficiency-related work, a conceptual approach suggested by *Umweltbundesamt (UBA)* (Engl: German Environment Agency) can be applied to assess the structural dimension of current approaches. This presents by far no comprehensive assessment of their transformative potential, which lies beyond the scope of this study. Instead, it should rather be seen as an approximation and first general estimation.

The conceptual approach suggested by UBA (2015: 27) highlights eight different subsystems, in which intentional initiatives and interventions should be carried out in a systemic and mutually reinforcing manner in order to unfold transformative potential: 1) *values and guiding principles*, 2) *individual lifestyles and behaviour*, 3) *social and temporal structures*, 4) *unsustainable physical infrastructures*, 5) *markets and financial systems*, 6) *products and technologies*, 7) *research, education and knowledge* and 8) *policy instruments and institutions*. These subsystems can be understood as the established "regime"-level within the popularly used multi-level perspective in the Transition Management¹⁹ approach (UBA 2015: 8); and these systems at this stage predominantly follow logics of economic growth and a consumerist culture. Innovations on a subordinate "niche"-level performed by pioneers of change or change agents are understood as crucial starting points that might contribute to altering dominant logics on the regime-level (ibid.). Nature conservation associations are interpreted as potential change agents who can promote sufficiency-innovations on a niche level with the intention to change dominant regime-level systems. The various findings presented in chapter 4 show that all eight of the suggested subsystems are addressed by nature conservation associations' sufficiency demands, even though in varying degrees. The following will present a brief assessment of each subsystem consideration in current sufficiency advocacy by BUND/BUNDjugend, NABU, WWF and Greenpeace, by referring to the sufficiency suggestions for various field of action, as presented in Figure 6 (middle column), and further content extracted from underlying empirical materials studied.

Values and guiding principles are reframed and corrected through various new and positive sufficiency narratives that seek to build new imaginaries and stories on how to be happy, well-off and morally responsible through more sufficiency-oriented lifestyles (chapter 4.3). As illustrated before, the used narratives even address several different goal frames, therefore being of particular effectiveness for different people and their individual perceptions. Especially BUND/BUNDjugend (e.g. narratives summarised in material B05), but also NABU, are particularly strong in addressing this first subsystem by using the most diverse set of alternative values and guiding principles.

Individual lifestyles and behaviour are being inspired towards more sufficiency orientation through various dedicated published materials that specifically address individuals and their possibilities to change consumption patterns (strong examples: BUND B09, B38 and B40). In some cases, sufficiency pilot projects and role models are presented that demonstrate how sufficiency can look like in practical terms and that such behavioural changes are indeed possible, also in given structures. Concrete inspirational examples include a communal living project in Werder (B39), young researchers awarded due to their sufficiency-related research work (B28) and various articles on NABU's practical sufficiency programs for children (e.g. N02, N03).

Social and temporal structures are less frequently addressed in conservation associations' sufficiency advocacy. Temporal structures are mostly mentioned through BUND's suggested work-related models of job- and room sharing, flexible working hours (B09, B11), reduced working hours (e.g. to 30 hours like the Swedish Gothenburg pilot study presented, B27) and even basic income (B09). The demanded introduction of a speed limit can also be considered an altered temporal structure. However, social practices are addressed by all four conservation associations by e.g. advocating for more communal and

¹⁹ Transition Management is a reflexive governance framework that renders transition processes on different levels of society and can offer a method for change to govern sustainability transitions from a multiple-actor-perspective

self-dependent sufficiency practices like sharing, borrowing, repairing and DIY-practices as well as communal living and flat exchanges (e.g. B39, N31, G01), shared use of household appliances (B09) and developing decommercialized leisure time activities.

Change and reconstruction of *unsustainable physical infrastructures* are considered in various ways, ranging from changes in mobility infrastructure for the benefit of bicycles, public transport and shared mobility, to the establishment of municipal decentralised energy supply, reduced living space and reduced land consumption (through e.g. compact city planning), municipal provision of land for the implementation of sufficiency initiatives, inter-municipal cooperation for shared infrastructures as well as energetic refurbishment of buildings and resource-efficient construction methods.

Markets and financial systems are considered in conservation associations' sufficiency advocacy by suggesting sustainable or green banking, reduced subsidies for resource-intensive practices, environmental taxes and charges, and the call for a change in economic structures towards a circular economy guided by the principle of cascade use, promotion of entrepreneurial solutions for sufficiency and a reduction or ban of public advertising that aims to maintain current overconsumption rates. Next to BUND/BUNDjugend, also WWF and Greenpeace are comparatively strong in promoting sufficiency within this specific subsystem.

Sustainable products and technologies are promoted through a very broad spectrum of different sufficiency suggestions, including energy alternatives (e.g. green electricity, biogas), the avoidance of new product purchases but instead following a culture of sharing, borrowing, repairing etc. Also, sustainability labels for eco-fair production and the conscious reduction of packaging and waste address this subsystem. All suggestions with regards to alternative food provisioning and forms of diets inform alternative products and technologies. The call for reduced subsidies and environmental taxes or charges for resource-intensive practices would have effects on product and technologies as well, just as new logics behind funding programs that promote sufficiency, eco-friendly public procurement and more resource-efficient technological development (e.g. software and hardware) would.

The subsystem related to *research, education and knowledge* with regards to sufficiency-oriented sustainability is inherently addressed by all nature conservation associations' work and interventions which always aim at general knowledge sharing, at educating e.g. the general public, political actors and the youth or conducting research on sufficiency themselves or in cooperation with external partners and institutes. In particular, youth work (especially BUND and NABU) and science (e.g. B09, B28) are also identified as key areas of society within empirical materials published by conservation associations.

The last subsystem related to *policy instruments and institutions* has also been addressed with regards to sufficiency in various ways. By identifying and directly targeting politicians (on EU, federal state, regional state and local level) and municipalities as central key areas and actors for sufficiency action they clearly refer to the need for institutional changes. Various specific policy instruments have also been addressed on different political levels on their potential for stronger sufficiency integration, e.g. the EU's Structural and Cohesion Policy and its ERDF Operational Programmes as well as the EU TEN-E regulation. On a federal level policy changes have been called for with regards to e.g. Germany's National Bioeconomy Strategy, the National Energy and Climate Plan, the government's 65 percent renewable energy target as well as the establishment of maximum limits of residential and commercial space or sealing. On a regional state level, Brandenburg's Energy Strategy 2040 can give an example. On a local level, policy and planning instruments such as master plans and urban land use plans have been considered regarding stronger sufficiency promotion.

In summary it becomes clear that BUND/BUNDjugend, NABU, WWF and Greenpeace together manage to address various niche-innovations for all of these central subsystems, thus paving the ground for incremental transformative change in the regime-level. Due to the associations' different focus areas, it appears as if their various niche innovations on sufficiency practices and demands within these eight subsystems would considerably gain strength when being looked at in a complementary way. Whether or not (some of) these sufficiency innovations have the actual potential to move from the niche level to

the regime-level and alter dominant established structures remains unclear and can only be assumed at this stage. This depends on multiple additional factors like the level of acceptance from actors outside of the change actor network on this niche level or the general potential for upscaling and anchoring within the regime level (UBA 2015: 20).

On the transformative potential - voices from within

During the conducted expert interviews, the representatives of the nature conservation associations studied were asked to assess their own transformation potential as a nature conservation association for a sufficiency-oriented transformation. This provides information on whether or not they see themselves as change agents, as proclaimed by various scholars (see chapter 2.4).

In summary they see themselves as strong change agents within the reach of their extensive membership at various levels nationwide, who also reflect a broad spectrum of Germany's population (interview NABU-Expert 1). The dimension of their own members and supporters is seen as a huge potential for building a collective voice on sufficiency that can gain importance in the political landscape and the general public (interview NABU-Expert 2). This potential however, is depending on the importance that is attributed to the topic of sufficiency within the associations and remains untapped as long as sufficiency continues to be a side topic (ibid.). Within the wider environmental movement niche, nature conservation associations are also recognised as important players, given that they actively engage in cooperations and alliances with other stakeholders (interview BUND-Expert 2). In order to unfold transformative potential a "mosaic of different stakeholders", with similar transformation goals but distinct strategies, is deemed necessary in order to complement each other's work (ibid.) and to join forces with actors who have expertise in a different field. Alliances and cooperations with other stakeholders were mentioned frequently during expert interviews as a key leverage point for association's sufficiency advocacy. Without alliances, nature conservation associations remain only "moderately" effective niche actors given established paradigms, structures, and power relations (interview BUND-Expert 2).

Interview partners identified the following stakeholders as the most strategically useful partners to overcome lines of conflict and join forces: 1) *unions and youth unions* (e.g. ver.di Jugend and IG Metall Jugend), 2) *corporate associations*, 3) *civic organisations* 4) *welfare organisations* (as providers of public services and social infrastructures) 5) *churches* (as intermediary actors between welfare organisations and nature conservation associations), 6) *scientists and independent research institutes* (e.g. Ecomet research partnership, Wuppertal Institute), 7) *migrant self-organisations*, 8) *other nature conservation associations* (as direct exchange partners on good practice, strategic orientation etc.) and 9) *development organisations* (e.g. Brot für die Welt, Misereor) and 10) *farming associations*. Alliances can unfold particularly strong transformative potential when they manage to establish cooperation and compromises between usually rather conflicting actors, e.g. the recently successful cooperation between BUNDjugend and the farmer's association Landjugend (interview BUND-Expert 1). However, a central precondition for successful alliances is an open attitude and willingness to compromise that moves beyond usually hardened fronts; or else finding a common language and common goals will remain challenging (interview BUND-Expert 2).

6 Conclusion

The findings generated in this thesis help render the role of German nature conservation associations (Ger: "Umweltverbände") as change agents for a sufficiency-oriented transformation. Research question 1 asked whether conservation associations do promote the topic of sufficiency. This is certainly given, since BUND/BUNDjugend, NABU, WWF and Greenpeace clearly acknowledge the importance of sufficiency within published materials and during conducted expert interviews. However, as indicated several times throughout this thesis, the scope and depth to which these organisations actively promote sufficiency varies greatly. This has been illustrated through a systematic analysis and comparison of all four associations' sufficiency-related work presented. These findings provide a differentiated and structured understanding of how associations are promoting the topic and what their work is characterised by (research question 2). It is characterised by a strategically useful mixture of positive sufficiency narratives being told as well as a broad spectrum of key areas in society and fields of action being covered, which confirms that conservation associations act upon the very structural and systemic dimension of sufficiency. Various target audiences are addressed with multiple different intervention forms. This establishes a basis for first estimations on their transformative potential as change agents (research question 3). While this thesis does not allow for a comprehensive assessment of their transformative potential, it does allow for a statement that environmental associations stimulate transformative processes in central subsystems of society through numerous niche innovations. However, the various challenges faced by BUND, NABU, WWF and Greenpeace urge to maintain a realistic assessment of their scope for action and their internal as well as structural limitations as change agents.

Further research should address the question of transformative potential in more detail in order to systematically identify leverage points for overcoming structural conditions and path dependencies that currently prevent conservation associations from unlocking their full potential as change agents. Generating further research findings on best practices for the establishment of strategic alliances with reluctant or rejective stakeholders presents one specific aspect which could help overcome some of the existing challenges. Such alliances can strengthen conservation associations' existing role as change agents beyond their niche in order to gain broad public support and ultimately more political willingness to consider sufficiency as a guiding principle to inform the required change.

7 Eidesstattliche Erklärung

Hiermit erkläre ich, dass ich diese Masterarbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt und die aus fremden Quellen direkt oder indirekt übernommenen Gedanken als solche kenntlich gemacht haben. Die Arbeit hat bisher keinem anderen Prüfungsamt in gleicher oder vergleichbarer Form vorgelegen und wurde auch noch nicht veröffentlicht. Ich erkläre mich damit einverstanden, dass die Masterarbeit mit Hilfe eines Plagiatserkennungsdienstes auf enthaltene Plagiate überprüft wird.

Berlin, 02. Januar 2023



8 Reference list

BfN (2021) Sustainable consumption for biodiversity and ecosystem services: Current state and future requirements in information, communication and international cooperation. Federal Agency for Nature Conservation (BfN). Berlin and Bonn.

Bengtsson, M. et al. (2018) Transforming systems of consumption and production for achieving the sustainable development goals: moving beyond efficiency. *Sustainability Science* 13, pp. 1533–1547. doi:10.1007/s11625-018-0582-1.

Bjørn, A. and Hauschild, M.Z. (2015) Introducing carrying capacity-based normalisation in LCA: framework and development of references at midpoint level. *The International Journal of Life Cycle Assessment* 20, pp. 1005–1018. doi:10.1007/s11367-015-0899-2.

BMUB, BMJV and BMEL (2016) National Programme on Sustainable Consumption: From Sustainable Lifestyles towards Social Change. Berlin.

Bocken, N. and Short, S. (2019) Transforming Business Models: Towards a Sufficiency-based Circular Economy. In: Brandão, M., Lazarevic, D. and Finnveden, G. (2020) *Handbook of the Circular Economy*, pp. 250-265. Edward Elgar Publishing. doi:10.4337/9781788972727.00028.

Bohnenberger, K. (2021) Can 'Sufficiency' reconcile social and environmental goals? A Q-methodological analysis of German housing policy. *Journal of Housing and the Built Environment* 36, pp. 171–189.

Böcker, M. et al. (2020) *Suffizienz als Strategie für eine nachhaltige Stadtentwicklung*. oekom Verlag. München.

BUND, Brot für die Welt and EED [eds.] (2008) *Zukunftsfähiges Deutschland in einer globalisierten Welt: Ein Anstoß für eine gesellschaftliche Debatte*. Fischer Taschenbuch Verlag. Frankfurt am Main.

BUND (2022) Jahresbericht 2021. Available at: https://www.bund.net/fileadmin/user_upload_bund/publikationen/bund/bund_jahresbericht_2021.pdf (Accessed: 20 December 2022).

Brand, U. and Wissen, M. (2018) What Kind of Great Transformation?: The Imperial Mode of Living as a Major Obstacle to Sustainability Politics. *GAIA - Ecological Perspectives for Science and Society* 27 (3), pp. 287-292. doi:10.14512/gaia.27.3.8.

Callmer, Å. (2019) *Making sense of sufficiency: Entries, practices and politics*. Doctoral Thesis. Stockholm: KTH Royal Institute of Technology. Available at: <http://kth.diva-portal.org/smash/get/diva2:1380175/FULLTEXT02.pdf> (Accessed: 20 December 2022).

Campbell, C. (2015) The curse of the new: How the accelerating pursuit of the new is driving hyper-consumption. In: K. M. Ekström (Ed.) (2015) *Waste management and sustainable consumption: Reflections on consumer waste*, pp. 29–51. Routledge. Abingdon and New York.

CBD (2022) Nations Adopt Four Goals, 23 Targets for 2030 In Landmark UN Biodiversity Agreement. Available at: <https://www.cbd.int/article/cop15-cbd-press-release-final-19dec2022> (Accessed: 20 December 2022).

Ekardt, F. (2016) *Suffizienz: Politikinstrumente, Grenzen von Technik und Wachstum und die schwierige Rolle des guten Lebens. Soziologie und Nachhaltigkeit - Beiträge zur sozial-ökologischen Transformationsforschung* 4.

Ekhardt, F. (2018) Suffizienz in der Landespolitik. Available at: https://www.bund.net/fileadmin/user_upload_bund/publikationen/ressourcen_und_technik/suffizienz_landespolitik_studie.pdf (Accessed: 20 December 2022).

Fleurbay, M. et al. (2014) Sustainable Development and Equity. In: Edenhofer, O. et al. (Eds.), Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, pp. 283– 350. Cambridge University Press. Cambridge and New York.

Potočník, J. et al. (2018) Sufficiency: Moving beyond the gospel of eco-efficiency. Friends of the Earth Europe (eds.). Brussels.

Frick, V. et al. (2022) Mit Suffizienz zur Energiewende: Wie Energiegenossenschaften Verbrauchsreduktion in Haushalten fördern können. Schriftenreihe des IÖW 224. Institut für ökologische Wirtschaftsforschung (eds.), Berlin.

Göpel, M. (2016) The Great Mindshift: How a New Economic Paradigm and Sustainability Transformations go Hand in Hand. Springer Cham. Berlin. doi:10.1007/978-3-319-43766-8.

Greenpeace (2022) Jahresbericht 2021. Available at: https://www.greenpeace.de/publikationen/B01501_%20Jahresr%C3%BCckblick%202021.pdf (Accessed: 20 December 2022).

Held, O. (2021) NGOs und die gesellschaftliche Mobilisierung. Journal für korporative Kommunikation 1, pp. 33-39. Köln.

Heyen, D. A, Fischer, C., Barth, R., Brunn, C., Griebhammer, R., Keimeyer, F. and Wolff, F. (2013) Mehr als nur weniger Suffizienz: Notwendigkeit und Optionen politischer Gestaltung. Öko-Institut Working Paper 3. Freiburg.

IPBES (2019) Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES secretariat, Bonn.

IPCC (2022) Summary for Policymakers. In: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. Cambridge, UK and New York. doi: 10.1017/9781009157926.001.

Jackson, T. (2016) Prosperity without Growth: Foundations for the Economy of Tomorrow, 2nd edn. Routledge. doi:10.4324/9781315677453.

Kahlenborn, W. et al. (2019) Auf dem Weg zu einer Green Economy. Wie die sozialökologische Transformation gelingen kann. transcript Verlag. Bielefeld.

Kallis, G. (2017) Radical dematerialization and degrowth. Philosophical Transactions of the Royal Society A 375 (2019). doi:10.1098/rsta.2016.0383.

Kenkmann, T. et al. (2019) Flächensparend Wohnen. Energieeinsparung durch Suffizienzpolitiken im Handlungsfeld „Wohnfläche“. TEXTE 104. Umweltbundesamt (eds.). Dessau-Roßlau.

Knieling, J. et al. (2021) Akteure und ihre Beiträge zur großen Transformation in ausgewählten Handlungsfeldern. Einleitung: Große Transformation, Akteure und Theoriekontexte. In: Hofmeister, S., Warner, B. and Ott, Z. (eds.) (2021) Nachhaltige Raumentwicklung für die große Transformation – Herausforderungen, Barrieren und Perspektiven für Raumwissenschaften und Raumplanung. Forschungsberichte der ARL 15, pp. 125-132. Hannover.

Kopatz, m. (2016) Kommunale Suffizienzpolitik: Strategische Perspektiven für Städte, Länder und Bund. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Berlin.

Kopp, T. et al. (2019) At the Expense of Others? How the imperial mode of living prevents a good life for all (I.L.A. Kollektiv ed.). oekom Verlag. Munich.

Krüger, T. (2020) Identifying strategic entry points for transformative politics towards a degrowth society: how to operationalize the concept of the “imperial mode of living” for empirical research. *Innovation: The European Journal of Social Science Research* 33, pp. 257-275. doi:10.1080/13511610.2020.1732196.

Kuckartz, U. (2002) Umweltbewusstsein in Deutschland 2002: Ergebnisse einer repräsentativen Bevölkerungsumfrage. Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (eds.). Berlin.

Kurwan, J. (2021) Exnovationsprozesse als sozialökologische Transformation? Eine vergleichende Analyse der Argumente von Gewerkschaften und Umweltverbänden zum Kohleausstieg in Deutschland. Wuppertaler Studienarbeiten zur nachhaltigen Entwicklung 23. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

Lamberton, G. (2005) Sustainable sufficiency – an internally consistent version of sustainability. *Sustainable Development* 13, pp. 53–68. doi:10.1002/sd.245.

Lage, J. (2022) Sufficiency and transformation - A semi-systematic literature review of notions of social change in different concepts of sufficiency. *Frontiers in Sustainability* 3. doi:10.3389/frsus.2022.954660.

Leibenath, M. et al. (2021) Naturschutz in Zeiten sozial-ökologischer Transformationen: Triebkraft oder Getriebener? *GAIA - Ecological Perspectives for Science and Society*, 30 (3), pp. 144-149.

Linz, M. et al. (2002) Von nichts zu viel: Suffizienz gehört zur Zukunftsfähigkeit. Wuppertal Papers 125. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

Linz, M. (2004) Weder Mangel noch Übermaß: Über Suffizienz und Suffizienzforschung. Wuppertal Papers 145. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

Linz, M. (2006) Was wird dann aus der Wirtschaft?: Über Suffizienz, Wirtschaftswachstum und Arbeitslosigkeit. Wuppertal Papers 157. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

Linz, M. (2015): Suffizienz als politische Praxis. Ein Katalog. Wuppertal Spezial 49. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

López H., V. and Teufel, J. (2022) Policy brief: Integrating biodiversity into sustainable production and consumption activities – the way forward for policy makers. Available at: <https://www.oneplanetnetwork.org/knowledge-centre/resources/policy-brief-integrating-biodiversity-sustainable-production-and> (Accessed: 20 December 2022).

Mayring, P. (2014) Qualitative content analysis: theoretical foundation, basic procedures and software solution. Klagensfurt.

NABU (2022) Jahresbericht 2021. Available at: <https://www.nabu.de/imperia/md/content/nabude/nabu/220902-jahresbericht-2021.pdf> (Accessed: 20 December 2022).

Ober, S. (2013) Forschungswende für die Große Transformation: Neue Ansätze in der Forschungspolitik. Available at: https://www.buergergesellschaft.de/fileadmin/pdf/gastbeitrag_ober_130510.pdf (Accessed: 20 December 2022).

O'Neill, D. W., Fanning, A. L., Lamb, W. F and Steinberger, J. K. (2018) A good life for all within planetary boundaries. *Nature Sustainability* 88 (1), pp. 88–95. doi:10.1038/s41893-018-0021-4.

Persson, O. (2022) Scaling sufficiency: Towards less material consumption. Doctoral Thesis. Stockholm: KTH Royal Institute of Technology. Available at: <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1690580&dswid=6924> (Accessed: 20 December 2022).

Rockström, J. et al. (2009) A safe operating space for humanity. *Nature* 461, pp. 472–475. doi:10.1038/461472a.

Roose, J. (2003) Lobbying für die "gute Sache": Umweltinteressen und die Macht der NGOs. In: Leif, T. and Speth, R. (2003) *Die stille Macht: Lobbyismus in Deutschland*, pp. 238-252. doi:10.1007/978-3-322-80513-3_16.

Sachs, W. (1993) Die vier E's: Merkposten für einen maßvollen Wirtschaftsstil. *Politische Ökologie* 11 (33), pp. 69-72.

Sachs, W. (2015) Suffizienz. *Umriss einer Ökonomie des Genug*. *UmweltWirtschaftsForum* 23, pp. 3-9. doi:10.1007/s00550-015-0350-y.

Samadi, S. et al. (2018) Strategien für eine naturverträgliche Energiewende: Analyse von Strategien zur Umsetzung von ambitioniertem Klimaschutz unter Gewährleistung eines hohen Naturschutzniveaus. Wuppertal Institut für Klima, Umwelt, Energie (eds.). Wuppertal.

Sandberg, M. (2021) Sufficiency transitions: A review of consumption changes for environmental sustainability. *Journal of Cleaner Production* 293. doi:10.1016/j.jclepro.2021.126097.

Schmitt, C. et al. (2015) Suffizienz-Maßnahmen und -Politiken in kommunalen Klimaschutzkonzepten und Masterplänen – ein Überblick. Institut für Energie- und Umweltforschung Heidelberg (IFEU) (eds.). Heidelberg, Berlin.

Schneidewind, U., and Zahrnt, A. (2014a) Politics of Sufficiency: The institutional framework for a sufficiency driven economy. *Ökologisches Wirtschaften* 29 (3), pp. 30–33. doi:10.14512/OEW290330.

Schneidewind, U. and Zahrnt, A. (2014b) *The Politics of Sufficiency: Making it easiest to live the good life*. oekom Verlag, Munich.

Spangenberg, J. and Weiger, H. (2017) *Radikale Vorreiter: Die Rolle der Umwelt-NGOs*. *Politische Ökologie* 148, pp. 42-49.

Stadt Zürich (2014) Suffizienz. Ein handlungsleitendes Prinzip zur Erreichung der 2000-Watt-Gesellschaft. Available at: <https://www.stadt-zuerich.ch/gud/de/index/departement/publikationen-broschueren/ds/suffizienz.html> (Accessed: 20 December 2022).

Steffen, W. et al. (2015) Planetary Boundaries: Guiding human development on a changing planet. *Science* 47 (6223). doi:10.1126/science.1259855.

Stengel, O. (2011) Suffizienz: Die Konsumgesellschaft in der ökologischen Krise. Wuppertaler Schriften 1. Wuppertal Institut für Klima, Umwelt, Energie (eds.). oekom Verlag. Munich.

Stockholm Resilience Center (2016) Resilience thinking can help us understand how to initiate and navigate large-scale transformations in social-ecological systems. Research Insights. Available at: <https://www.stockholmresilience.org/research/insights/2016-11-16-insight-1-transformations.html> (Accessed: 20 December 2022).

Tröger, J. and Reese, G. (2021) Talkin' bout a revolution: an expert interview study exploring barriers and keys to engender change towards societal sufficiency orientation. *Sustainability Science* 16, pp. 827–840. doi:10.1007/s11625-020-00871-1.

UNEP and IRP (2019) Global Resources Outlook 2019: Natural Resources for the Future We Want. Available at: <https://wedocs.unep.org/20.500.11822/27517> (Accessed: 20 December 2022).

UNICEF Office of Research (2022): Places and Spaces: Environments and children's well-being, Innocenti Report Card 17, UNICEF Office of Research – Innocenti. Florence.

Wackernagel, M. and Rees, W. (1997) Perceptual and structural barriers to investing in natural capital: Economics from an ecological footprint perspective. *Ecological Economics* 20 (1), pp. 3–24. doi:10.1016/S0921-8009(96)00077-8.

WBGU (2011) World in Transition: A Social Contract for Sustainability. Flagship Report. WBGU—German Advisory Council on Global Change. Berlin.

Weyland, M. (2020) A long way to go: Suffizienzpolitik im Handlungsfeld Wohnen. Available at: <https://www.ressourcenwende.net/blog/a-long-way-to-go-suffizienzpolitik-im-handlungsfeld-wohnen/17-03-2022> (Accessed: 20 December 2022).

WWF (2022) WWF Jahresbericht 2020/2021. Available at: <https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF/Jahresbericht-2020-2021.pdf> (Accessed: 20 December 2022).

Zahrnt, A., Stoll, G. and Seitz, K. (2017) Die Zukunft der Zukunftsfähigkeit: Ohne die Zivilgesellschaft geht's nicht. *Politische Ökologie* 148 (1), p. 20-28. oekom Verlag. Munich.

Appendices

Appendix 1: Overview of material sample

Material-ID	Association	Title of Material	Year	Sufficiency scope	Weblink (all links last accessed on 01.01.20)
B02	BUND	Her mit dem guten Leben!	n.d.	central topic	https://www.bund.net/ressourcen-technik/suffizienz/
B04	BUND	Die Potenziale von Suffizienz-Politik heben. Zahlen Fakten, Hintergründe für Mobilität, Ernährung, Wohnen	2021	central topic	https://www.bund.net/fileadmin/user_upload_bund/publikationen/ressourcen_und_technik/suffizienz_potentiale_suffizienzpolitik_impulspapier.pdf
B05	BUND & BUNDjugend	Mehr Lebensqualität – Weniger Ressourcenverbrauch: Argumente für Suffizienz	2018	central topic	https://www.bund.net/service/publikationen/detail/publication/mehr-lebensqualitaet-weniger-ressourcenverbrauch-argumente-fuer-suffizienz/
B06	BUND	Perspektive 2030: Suffizienz in der Praxis	2017	central topic	https://www.bund.net/service/publikationen/detail/publication/perspektive-2030-suffizienz-in-der-praxis/
B07	BUND	Postkartenset zur Suffizienz	2018	central topic	https://www.bund.net/service/publikationen/detail/publication/postkartenset-zur-suffizienz/
B08	BUND	Suffizienz in der Landespolitik	2018	central topic	https://www.bund.net/service/publikationen/detail/publication/suffizienz-in-der-landespolitik/
B09	BUND & BUNDjugend	Gutes Leben für alle! Eine Einführung in die Suffizienz	2017	central topic	https://www.bund.net/bund-tipps/detail-tipps/tip/gutes-leben-fuer-alle-eine-einfuehrung-in-die-suffizienz/
B11	BUND	Vorreiter Steinfurt: Ein Landkreis im Münsterland zeigt wie Suffizienz-Politik gemacht wird	2015	central topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/vorreiter-steinfurt-ein-landkreis-im-muensterland-zeigt-wie-suffizienz-politik-gemacht-wird/
B12	BUND	Suffizienz – was ist das?	n.d.	central topic	https://www.bund.net/ressourcen-technik/suffizienz/suffizienz-was-ist-das/
B13	BUND	Deutschlands Beiträge zur Erreichung der Sustainable Development Goals: ökologisch nachhaltig und sozial gerecht	2018	central topic	https://www.bund.net/service/publikationen/detail/publication/oekologisch-nachhaltig-und-sozial-gerecht/
B15	BUND	Nachhaltigkeitsstrategie jetzt verbindlich, ambitioniert und wirksam umsetzen!	2020	marginal topic	https://www.bund.net/fileadmin/user_upload_bund/publikationen/nachhaltigkeit/nachhaltigkeit_deutsche_nachhaltigkeitsstrategie_dialogfassung_stellungnahme.pdf
B18	BUND	Digitalpolitik im Zeichen von Suffizienz und Nachhaltigkeit!	2021	central topic	https://www.bund.net/fileadmin/user_upload_bund/publikationen/nachhaltigkeit/Suffizienz_Forderungen_Digitalpolitik_Suffizienz_Nachhaltigkeit.pdf

B20	BUND	Gut leben – nur wie? Maßhalten: Warum Suffizienz so wichtig ist	2017	central topic	https://www.bund.net/fileadmin/user_upload_bund/publikationen/bund/bundmagazin/bund_bundmagazin_4_2017.pdf
B21	BUND	BUND-Bewertung Wahlprogramm Bündnis 90/Die Grünen	2017	marginal topic	https://www.bund.net/service/publikationen/detail/publication/bund-bewertung-wahlprogramm-buendnis-90-die-gruenen/
B23	BUND	Wasserstoffstrategie	2022	marginal topic	https://www.bund.net/service/publikationen/detail/publication/bund-bewertung-wahlprogramm-buendnis-90-die-gruenen/
B24	BUND	Herausforderungen für eine nachhaltige Stoffpolitik	2019	marginal topic	https://www.bund.net/service/publikationen/detail/publication/herausforderungen-fuer-eine-nachhaltige-stoffpolitik/
B25	BUND	Umwelt und Entwicklung: Kein "Weiter so" wie bisher!	2019	marginal topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/umwelt-und-entwicklung-kein-weiter-so-wie-bisher/
B26	BUND	Einfach mal abschalten	2015	marginal topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/einfach-mal-abschalten/
B27	BUND	Revolution für das Gute Leben: Göteborg wagt das 30-Stunden-Experiment	2015	marginal topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/revolution-fuer-das-gute-leben-goeteborg-wagt-das-30-stunden-experiment/
B28	BUND	Ausgezeichnet: Der BUND-Forschungspreis 2018	n.d.	marginal topic	https://www.bund.net/ueber-uns/forschungspreis/
B29	BUND	Der BUND-Arbeitskreis Umweltchemikalien/Toxikologie	n.d.	marginal topic	https://www.bund.net/ueber-uns/organisation/arbeitskreise/umwelt-chemikalien-toxikologie/
B31	BUND	Kommentar: Alarmstufe rot für Klima und Umwelt in Europa: Nur tiefgreifender Wandel kann das Ruder rumreißen	n.d.	marginal topic	https://www.bund.net/service/presse/pressemitteilungen/detail/news/kommentar-alarmstufe-rot-fuer-klima-und-umwelt-in-europa-nur-tiefgreifender-wandel-kann-das-ruder-rumreißen/
B35	BUND	Kurswechsel 1,5 Grad	2018	marginal topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/kurswechsel-15-grad/
B36	BUND	Gutes Leben ohne Bauen	2015	marginal topic	https://www.bund.net/themen/aktuelles/detail-aktuelles/news/gutes-leben-ohne-bauen/
B38	BUNDjugend	MIT SUFFIZIENZ ZUM GUTEN LEBEN – FÜR ALLE!	n.d.	marginal topic	https://www.bundjugend.de/projekte/mit-suffizienz-zum-guten-leben-fuer-alle/suffizienz-eine-einfuehrung/
B39	BUNDjugend	Suffizienz – Gutes Leben. Was bedeutet Gutes Leben für dich? Wie können wir es für alle ermöglichen?	n.d.	central topic	https://guteslebenbujubrandenburg.wordpress.com/
B40	BUND	Besser (und) weniger. Ansätze für ressourcenschonendes und abfallarmes Handeln	2016	marginal topic	https://www.bund.net/service/publikationen/detail/publication/besser-und-weniger/
B41	BUNDjugend	Ein gutes Leben für alle. Eine Einführung in die Suffizienz	n.d.	central topic	https://www.bund-bawue.de/fileadmin/bawue/Dokumente/Themen/Nachhaltigkeit/BUND_Suffizienz_Sketchnote_klein.pdf
B42	BUNDjugend	SYSTEMWANDEL: ZUKUNFTSWERKSTATT #1	2022	central topic	https://www.bundjugend.de/termin/systemwandel-zukunftswerkstatt-1/

B43	BUNDjugend	EINE EINFÜHRUNG IN SUFFIZIENZ	n.d.	central topic	https://www.bundjugend.de/eine-einfuehrung-in-suffizienz/
B44	BUNDjugend	POSTWACHSTUM, SUFFIZIENZ, TRANSFORMATION? DEGROWTH!	n.d.	central topic	https://www.bundjugend.de/postwachstum-suffizienz-transformation-degrowth/
B45	BUNDjugend	Was ist Suffizienz?	n.d.	central topic	https://www.bundjugend.de/was-ist-suffizienz/
B46	BUNDjugend	SYSTEMwandel - Genug für alle!	n.d.	central topic	https://www.bundjugend.de/projekte/systemwandel/
B47	BUNDjugend	Suffizienz Einmaleins	2022	central topic	https://www.bundjugend.de/projekte/systemwandel/
B49	BUND	Genug für Alle, Genug für mich: Suffizienzpolitik jetzt umsetzen.	2022	central topic	- not available online anymore - (downloaded in September 2022)
B-N33	BUND & NABU	Windenergie, Planungsbeschleunigung und Artenschutz	2022	marginal topic	https://next.nabu-bw.de/s/eiHFmz9RdZYcJNt?dir=undefined&openfile=581480
B-W06	BUND & WWF	Klimaschutz unter deutscher G7-Präsidentschaft voranbringen	2022	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Klima/Offener-Verb%C3%A4ndebrief-zum-G7-Gipfel.pdf
N1	NABU	Suffizienz: Damit weniger mehr ist. Wie eine nachhaltigere Lebens- und Wirtschaftsweise gelingt	2021	central topic	https://baden-wuerttemberg.nabu.de/news/2021/september/30537.html
N2	NABU	So lief das Projekt "Suffizienz für Kinder" durch praktische Erfahrung	n.d.	central topic	https://bremen.nabu.de/kids-und-co/umweltbildungsangebot/26923.html
N3	NABU	NABU-Freizeiten: Suffizienz auf Rädern	2018	central topic	https://bremen.nabu.de/kids-und-co/freizeiten/24840.html
N4	NABU	Für eine naturverträgliche Energiewende! Klima- und Naturschutz gehören zusammen	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/gesellschaft-und-politik/deutschland/bundespolitik/30148.html
N5	NABU	Alles im Blick - Der aktuelle NABU-Blog zur Bundespolitik	2022	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/gesellschaft-und-politik/deutschland/bundespolitik/30148.html
N6	NABU	Wenn Verzicht zum Genuss wird - gelebte „Suffizienz“ auf Freizeiten	2018	central topic	https://bremen.nabu.de/kids-und-co/freizeiten/24803.html
N7	NABU	Kürbis im Klimawandel - NABU kocht Kürbissuppe mit Grundschule Arsten	2018	central topic	https://bremen.nabu.de/umwelt-und-ressourcen/25284.html
N8	NABU	Upcycling: Fackelbau	n.d.	central topic	https://bremen.nabu.de/kids-und-co/umweltbildungsangebot/25345.html
N9	NABU	Klimaschutz und Naturschutz - Zwei Seiten einer Medaille	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/klima-und-luft/klimaschutz-deutschland-und-europa/27465.html
N10	NABU	42. Naturschutztage enden mit neuem Besucher/-innen-Rekord	2018	marginal topic	https://baden-wuerttemberg.nabu.de/news/2018/januar/23736.html
N11	NABU	Ressourceneffizienz - Neue politische Leitlinie?	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/ressourcenschonung/ressourcenpolitik/14422.html
N12	NABU	Energieinfrastruktur klimafit machen - EU muss in den Schutz von Natur und Klima investieren	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/energie/stromnetze-und-speicher/29038.html

N13	NABU	BUND und NABU Sachsen verurteilen Planungen Tschechiens für neuen Atomreaktorblock in Dukovany	n.d.	marginal topic	https://sachsen.nabu.de/news/2016/21223.html
N14	NABU	Forderungskatalog kollidiert mit naturschutzfachlichen Anforderungen	n.d.	marginal topic	https://schleswig-holstein.nabu.de/politik-und-umwelt/energie/windenergie-aktuelles/26988.html
N15	NABU	Eine nachhaltige Bioökonomie? - Der schwierige Spagat zwischen Utopie und Realität	n.d.	marginal topic	https://www.nabu.de/wir-ueber-uns/veranstaltungen/31460.html
N16	NABU	NABU-Projekt Bürgerdialog Bioökonomie	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/nachhaltiges-wirtschaften/biooekonomie/28654.html
N17	NABU	Bürgerdialog Bioökonomie Ein Beitrag zur sozial-ökologischen Transformation	2021	marginal topic	https://www.nabu.de/imperia/md/content/nabude/biooekonomie/211021-bfn-skript_buergerdialog_biooekonomie.pdf
N18	NABU	Wie kann die Bioökonomie ihre Ziele erreichen? NABU legt ein Diskussionspapier vor	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/nachhaltiges-wirtschaften/biooekonomie/16845.html
N21	NABU	Die Wärmewende erfolgreich angehen - Dabei darf die Gebäudesanierung nicht vergessen werden	2022	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/energie/energieeffizienz-und-gebaeudesanierung/foerderung/32098.html
N22	NABU	Stellungnahme des NABU Bundesverbands zum Konzept zur Umsetzung der Vorgabe von 65 Prozent erneuerbaren Energien von neuen Heizungen ab 2024	2022	marginal topic	https://www.nabu.de/imperia/md/content/nabude/energie/120822-nabu-stellungnahme-65prozent-kriterium-ee-heizungen2024.pdf
N23	NABU	Ozeane in der Klimakrise - Regulierende und stabilisierende Kraft unseres Klimasystems immer mehr unter Druck	n.d.	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/klima-und-luft/klimawandel/11801.html
N25	NABU	1,5 Grad Celsius: Mit Ressourceneffizienz erreichen?	2019	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/abfall-und-recycling/veranstaltungen/26476.html
N26	NABU	Alles im Rückblick - Der NABU-Blog zur Bundespolitik 2021	2021	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/gesellschaft-und-politik/deutschland/bundespolitik/32500.html
N27	NABU	Alles im Blick - Der aktuelle NABU-Blog zur Bundespolitik	2022	marginal topic	https://www.nabu.de/umwelt-und-ressourcen/gesellschaft-und-politik/deutschland/bundespolitik/30148.html
N28	NABU	Brandenburger Klimabündnis ruft Politik zum Handeln auf	n.d.	marginal topic	https://brandenburg.nabu.de/umwelt-und-ressourcen/energie/31005.html
N29	NABU	Das Warten hat sich nicht gelohnt - Deutschlands integrierter nationaler Energie- und Klimaplan	2020	marginal topic	https://www.nabu.de/news/2020/06/28295.html
N31	NABU	Unsere Wohnungen sind schon gebaut. Suffizienz bei der Wohnfläche	2014	central topic	https://www.nabu.de/imperia/md/content/nabude/nachbarnatur/impuls/141220-nabu-impuls-stadtlandflaeche.pdf
N32	NABU	Holz statt Beton. Klimaschutz durch Holz – als Baustoff, nicht als Brennstoff	2021	marginal topic	https://www.nabu.de/imperia/md/content/nabude/nachbarnatur/impuls/210302-impuls_holzstattbeton.pdf
N33	NABU	NABU und BUND: Schneller Windenergieausbau mit System	2022	marginal topic	https://next.nabu-bw.de/s/eiHFmz9RdZYcJNt?dir=undefined&openfile=581480

N34	NAJU	Kernforderungen der NAJU zur Bundestagswahl 2021. Resolution der NAJU Bundesebene	2021	marginal topic	https://www.naju.de/app/download/14466526533/Kernforderungen_zur_BTW_2021.pdf?t=1621410595
N35	NABU	NABU-Kompass 2030. Unser Weg zu mehr Biodiversität und Klimaschutz	2021	marginal topic	https://www.nabu.de/imperia/md/content/nabude/nabu/210319-nabu-kompass-2030.pdf
N36	NABU	Wie uns unser gutes Klimagewissen täuscht. Rebound-Effekte beim Klimaschutz	n.d.	marginal topic	https://baden-wuerttemberg.nabu.de/umwelt-und-leben/umweltbewusst-leben/alltagstipps/muell/32346.html
W1	WWF	Ökonomien der Transformation. Ansätze zukunftsfähigen Wirtschaftens	2020	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Innovation/WWF-Studie-Oekonomien-der-Transformation.pdf
W3	WWF Jugend	Ideen stärken, die der Umwelt nutzen. EFRE-Förderung und Umweltinnovationen in Deutschland	2010	marginal topic	- not available online anymore – (downloaded in September 2022)
W4	WWF	Europa 2020 – UMWELTSCHONEND UND KRISENFEST. Muster für ein Operationelles Programm Umwelt (MOPU)	2013	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Muster_fuer_ein_Operationelles_Programm_MOPU.pdf
W5	WWF	Analyse der Fördermöglichkeiten für Umwelt- und Naturschutz durch die deutschen Operationellen Programme der EFRE-Förderung 2014–2020	2014	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/WWF-Analyse-EFRE-Langfassung.pdf
W6	WWF	Klimaschutz unter deutscher G7-Präsidentschaft voranbringen	2022	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Klima/Offener-Verb%C3%A4ndebrief-zum-G7-Gipfel.pdf
W7	WWF Jugend	Zukunftsmut tut gut. Ein Vorschlag für einen 90-minütigen Workshop zu (keinem) Wachstum und dem guten Leben für alle	2021	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Bildung/Zukunftsmut_tut_gut__Leitfaden__Sek_I_u_II_.pdf
W8	WWF	Klimaschutz - jetzt erst recht. MASSNAHMEN ZUR SCHLIESSUNG DER CO2-LÜCKE BEIM KLIMASCHUTZZIEL 2030.	2020	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Klimaschutz-Jetzt-erst-Recht.pdf
W9	WWF	Nachhaltiges, sozial-ökologisches Wirtschaften in Planetaren Grenzen	2020	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Innovation/Nachhaltiges-sozial-oekologisches-Wirtschaften-in-planetaren-Grenzen.pdf
G1	Greenpeace	Erdüberlastungstag: Routinen durchbrechen (Interview mit Frauke Wiese (Europa Uni Flensburg))	2022	central topic	https://www.greenpeace.de/engagieren/nachhaltiger-leben/erdueberlastungstag-routinen-durchbrechen
G2	Greenpeace	McPlanet 2012: rundum gelungen (Interview mit Jürgen Knirsch: Greenpeace Experte für nachhaltigen Konsum)	2012	marginal topic	https://www.greenpeace.de/ueber-uns/leitbild/mcplanet-rundum-gelungen
G3	Greenpeace	Klimaschutzplan: Plan B. Nationales Energiekonzept bis 2020	2007	marginal topic	https://www.greenpeace.de/publikationen/energiewende_final_neu2.pdf
G4	Greenpeace	Umweltpolitische Forderungen von Greenpeace	n.d.	marginal topic	https://www.greenpeace.de/publikationen/20170213_greenpeace_btw_forderungen.pdf
G5	Greenpeace	Greenpeace e.V. Gemeinwohlbilanz 2018 / 2019	2020	marginal topic	https://www.greenpeace.de/publikationen/gemeinwohlbilanz_greenpeace_2019.pdf
G-W6	Greenpeace	Klimaschutz unter deutscher G7-Präsidentschaft voranbringen	2022	marginal topic	https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Klima/Offener-Verb%C3%A4ndebrief-zum-G7-Gipfel.pdf

Appendix 2: Category system for qualitative content analysis

Main category	Sub-categories
Narratives	<ul style="list-style-type: none"> • sufficiency is an unrealistic utopia • sufficiency is retrograde • sufficiency is sacrifice • sufficiency is authoritarian
	<ul style="list-style-type: none"> • protecting the environment • enabling global justice • surviving in the long run* • enhancing quality of life • saving money* • gaining more independence* • leaving economic growth behind • securing economic advantage*
Key areas of society	<ul style="list-style-type: none"> • politics (unspecified) • EU level politics* • federal level politics (Ger: "Bundespolitik")* • regional state level politics (Ger: "Landespolitik")* • local politics and municipalities • administration* • businesses • organisations and initiatives* • general public • members of the association* • science* • individual life • youth work*
Target audiences	<ol style="list-style-type: none"> 10. politics (unspecified) 11. EU level politics* 12. federal level politics (Ger: "Bundespolitik")* 13. regional state level politics (Ger: "Landespolitik")* 14. local politics and municipalities 15. organisations and initiatives* 16. general public 17. members of the association* 18. youth or children*
Interventions forms	<ul style="list-style-type: none"> • political work • knowledge sharing • events and campaigns • practical experimenting • art and creative works* • protest forms

Fields of action	Sufficiency practices
<ul style="list-style-type: none"> • Energy 	<ul style="list-style-type: none"> • municipal decentralised energy supply* • municipal energy saving programs* • shared use of household appliances • use of energy alternatives (green electricity, biogas) • reduce household water consumption • reduce household energy consumption
<ul style="list-style-type: none"> • Consumption 	<ul style="list-style-type: none"> • reduce private car use • strengthen shared mobility*

	<ul style="list-style-type: none"> strengthen public transport strengthen bicycles introduce speed limit*
<ul style="list-style-type: none"> Mobility 	<ul style="list-style-type: none"> avoid new product purchase (share, borrow, repair, DIY) sustainability labels, eco-fair production of goods* reduce packaging & waste / zero-waste
<ul style="list-style-type: none"> Nutrition / Agriculture 	<ul style="list-style-type: none"> vegetarian / vegan diet seasonal / regional / organic nutrition reduce food waste & food rescue alternative food supply systems*
<ul style="list-style-type: none"> Finances 	<ul style="list-style-type: none"> sustainable or green banking* regional currencies* finding ways to live without money* enable basic income* reduce subsidies for resource-intensive practices align funding programs with sufficiency collect environmental taxes and charges
<ul style="list-style-type: none"> Housing 	<ul style="list-style-type: none"> reduce living space communal living & flat exchange* improving energetic refurbishment of buildings* resource-efficient construction methods*
<ul style="list-style-type: none"> Urban Planning 	<ul style="list-style-type: none"> reduce land consumption planning a compact city* provide municipal land for sufficiency practices* inter-municipal cooperation for shared infrastructures*
<ul style="list-style-type: none"> Economy 	<ul style="list-style-type: none"> promote entrepreneurial solutions for sufficiency ban calculated product wear and tear* cascade use / circular economy
<ul style="list-style-type: none"> General Public* 	<ul style="list-style-type: none"> eco-friendly public procurement* reduce or ban advertising in public spaces*
<ul style="list-style-type: none"> Science/Innovation* 	<ul style="list-style-type: none"> sufficiency-related research and innovation*
<ul style="list-style-type: none"> Leisure/Tourism* 	<ul style="list-style-type: none"> choose more nearby travel destinations* choose resource-saving forms of mobility during travelling* decommercialising leisure time*
<ul style="list-style-type: none"> Work* 	<ul style="list-style-type: none"> reduce commuting time / workplace nearby* improve remote working conditions* offer sustainable forms of mobility at the workplace* working time reduction, flexible hours, job/workspace sharing*
<ul style="list-style-type: none"> Digitalization* 	<ul style="list-style-type: none"> resource-efficient software and hardware development* technological impact assessment* less demand for resource-intensive devices and applications*
<ul style="list-style-type: none"> Engagement* 	<ul style="list-style-type: none"> promote sufficiency within organisations* participate in sufficiency-related protests*
<ul style="list-style-type: none"> Nature Conservation 	<p>-----</p>

Appendix 3: Interview guideline for semi-structured expert interviews

Interview-Leitfaden

Name:

Umweltverband:

Datum des Interviews:

Frage 1: Bitte stellen Sie sich doch zu Beginn kurz vor und erläutern Ihren persönlichen Bezug zum Thema Suffizienz innerhalb Ihrer Verbandsarbeit?

Frage 2: Wie schätzen Sie den Stellenwert des Themas Suffizienz innerhalb ihres Umweltverbands ein, vor allem auch mit Blick auf die anderen Themenfelder, die in ihrem Verband eine Rolle spielen?

Frage 3: Wie sehen Sie das Verhältnis zwischen traditionellem Naturschutz und Suffizienz innerhalb Ihres Umweltverbandes?

Frage 4: Welche konkreten Aktivitäten unternimmt Ihr Umweltverband im Themenbereich Suffizienz?

Frage 5: Wie schätzen Sie das Verhältnis zwischen innerverbandlichen Suffizienz-Aktivitäten einerseits, und Außenkommunikation zu Suffizienz andererseits ein?

Frage 6: Wo sehen Sie die bedeutendsten Handlungsspielräume für Ihren Umweltverband, um das Thema Suffizienz zu fördern?

Frage 7: Gehen Sie Kooperationen oder Allianzen mit anderen Akteur:innen ein, um das Thema Suffizienz zu bespielen?

Frage 8: Mit welchen Hemmnissen oder Widerständen sehen Sie sich in Ihrer suffizienz-bezogenen Verbandsarbeit konfrontiert?

Frage 9: Wie würden Sie das Transformationspotenzial von Umweltverbänden einschätzen, zu einer breit angelegten suffizienz-orientierten Transformation beitragen zu können?

Frage 10: Sind Ihnen noch weitere Aspekte wichtig, die ich im Rahmen meiner Fragen nicht abgedeckt habe, die Sie mir aber gerne mit auf den Weg geben möchten?