

# The experiences of Dutch livestock owners with wolf damage compensation schemes

Analyzing compensation payments through a lens of environmental justice



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# Abstract

After 140 years of absence, the Netherlands is once again housing one of Europe its largest predators, the wolf. This has caused human-wolf conflict to reemerge, of which the main cause is the depredation on livestock. To mitigate this conflict between farmers and wolves, the Dutch government has implemented a compensation scheme. Compensation schemes are one of the most common ways through which policy-makers try to mitigate human-wildlife conflict, but remain controversial. This research aims to create a deeper understanding of the perspectives, experiences and attitudes of Dutch farmers towards wolf damage compensation payments and thereby, wolf management more broadly by studying this tool through the Environmental Justice framework. A case study has been adopted on the South-Eastern provinces of the Netherlands, for which 15 semi-structured interviews have been conducted with the organization handling compensation payments, farmers organizations, an ecologist and livestock owners from this region. The findings suggest that the arrival of the wolf to the Netherlands has created new insecurities for farmers' livelihoods, which are caused by wolf presence itself and the system that has been set up to manage this presence and its impact. By analyzing farmers' experiences with compensation payments in a framework of environmental justice, this research demonstrates that only focusing on compensation is insufficient to create a sense of environmental justice among farmers, and thereby mitigate human-wolf conflict, since compensation payments alone are unable to address all challenges that cause insecurity among farmers. This study concludes that while compensation payments continue to be an important focus point of wolf policy, it can be understood as only a last step in building a supportive base for wolf presence in the Netherlands. Instead, more emphasis should be given to improvements at the beginning of the process, before damage has occurred.

**Key words:** *human-wildlife conflict, compensation payments, environmental justice, livestock depredation, livestock owners.*

# Summary

After 140 years of absence, the Netherlands is once again housing one of Europe its largest predators, the wolf. This has caused human-wolf conflict to reemerge, of which the main cause is the depredation on livestock. To mitigate this conflict between farmers and wolves, the Dutch government has implemented a compensation scheme. Compensation schemes are one of the most common ways through which policy-makers try to mitigate human-wildlife conflict, aiming to reduce the economic burden of livestock damage caused by large predators by sharing this burden with society at large. Nevertheless, such programs remain controversial.

This research aims to create a deeper understanding of the perspectives, experiences and attitudes of Dutch farmers towards wolf damage compensation payments and thereby, wolf management more broadly. The following main research question has been formulated: *How do livestock owners in the Netherlands experience the compensation scheme for wolf damage to livestock and how can these experiences be understood in light of their perceptions of environmental justice?*

To better understand the experiences of livestock owners with the wolf damage compensation program, these experiences are placed in David Schlosberg's environmental justice framework. This framework builds on the idea that justice is a complex phenomenon, and resultingly, feelings of injustice are not solely the result of inequities in the distribution of environmental impacts. Instead, the environmental justice framework takes a multidimensional conception of justice, focusing on three overlapping dimensions of justice: distributive justice, participatory justice and recognition justice.

To answer the research question of this study, a case study has been adopted on the provinces of Gelderland, North-Brabant and Limburg. In total, 15 semi-structured interviews have been conducted with the organization handling compensation payments (BIJ12), farmers organizations, an ecologist and livestock owners from this region.

The findings suggest that that livestock owners face a broad variety of challenges now that the wolf has reemerged in the Netherlands. Firstly, the category of distributive justice outlines injustices that livestock owners experience in relation to the distribution of compensation payments, subsidies and burdens. Here, it is highlighted that the Dutch compensation scheme neglects the importance of non-material costs of time and labor, and that the requirements for obtaining subsidy prevent many farmers from being eligible for a subsidy for preventative measures. In this light, all livestock owners argue that they are the ones who ultimately carry the burden of wolf presence in the Netherlands. Secondly, the participatory justice dimension illustrates farmers' dissatisfaction with the communication and payments process of BIJ12 due to its inaccessibility and slow disbursement process, their underrepresentation and inferior position in policy- and decision-making, and the unclear and ambiguous nature of wolf policy. Lastly, considering the aspect of recognition justice, it is shown that the importance of livestock farming and the challenges this industry faces due

to the return of the wolf are not always recognized by wider society. Farmers experience the trivialization of their wolf-related problems, whereby the problems wolf-resistant nets cause for farmers and other wildlife are largely ignored or neglected by those in charge of policy-making. Resultingly, many farmers worry about their future in livestock farming, with some even considering quitting. In the end, the return of the wolf has created a context of new insecurities to which farmers need to adapt, that are caused by wolf presence itself and the system that has been set up to manage this presence and its impact.

By analyzing farmers' experiences with compensation payments in a framework of environmental justice, this research demonstrates that only focusing on compensation is insufficient to create a sense of environmental justice among farmers, and thereby mitigate human-wolf conflict. Compensation payments alone are unable to address all challenges that cause insecurity among farmers. Studying compensation payments through a lens of EJ demonstrates a more complete understanding of what justice in relation to predator presence entails. It indicates that discontent with compensation payments does not only result from unequal distribution of costs, but also from the realization that compensation payments neglect other challenges that farmers consider to be important. This framework thereby provides insights in the problems that compensation payments cannot address, and thereby function as a barrier to reach human-predator coexistence. This means that in order to create public support for wolf presence among livestock owners, it is important to recognize these new insecurities and find solutions on how to reduce them. This study concludes that while compensation payments continue to be an important focus point of wolf policy, it can be understood as only a last step in building a supportive base for wolf presence in the Netherlands. Instead, more emphasis should be given to finding points of improvement at the beginning of the process, before damage has occurred. In this light, solving experienced flaws in the system will already lead to more acceptance of the wolf.

# Samenvatting

Na 140 jaar afwezigheid herbergt Nederland weer een van Europa's grootste roofdieren, de wolf. Dit heeft geleid tot een heropleving van het mens-wolf conflict, waarvan de belangrijkste oorzaak de predatie van vee is. Om dit conflict tussen veehouders en wolven in te perken, heeft de Nederlandse overheid een schadecompensatieregeling ingevoerd. Schadecompensatieregelingen zijn een van de meest gebruikelijke manieren waarop beleidsmakers conflicten tussen veehouders en wilde dieren proberen te verminderen. Het doel is de economische schade aan vee veroorzaakt door grote roofdieren te verdelen onder de gehele samenleving. Desondanks blijven dergelijke regelingen controversieel.

Dit onderzoek heeft als doel meer inzicht te krijgen in de perspectieven, ervaringen en de houding van Nederlandse boeren ten aanzien van vergoedingen voor schade door wolven en daarmee wolvenbeheer in het algemeen. De hoofdvraag van dit onderzoek was dan ook: Hoe ervaren veehouders in Nederland de schadecompensatieregeling voor wolvenschade aan vee en hoe kunnen deze ervaringen worden begrepen in het kader van hun perceptie van 'milieurechtvaardigheid'?

Om de ervaringen van veehouders met de schadecompensatieregeling voor wolvenschade beter te begrijpen, zijn deze ervaringen in David Schlosberg zijn raamwerk voor 'milieurechtvaardigheid' geplaatst (ook wel 'environmental justice' in het Engels). Dit raamwerk bouwt voort op het idee dat rechtvaardigheid een complex fenomeen is. Gevoelens van onrechtvaardigheid zijn niet alleen het resultaat van ongelijkheden in de verdeling van milieueffecten. Het begrip van 'milieurechtvaardigheid' gaat dan ook uit van drie elkaar overlappende dimensies: 'distributieve rechtvaardigheid' (in het Engels 'distributive justice'), 'participatieve rechtvaardigheid' (in het Engels 'participatory justice') en 'erkenningsrechtvaardigheid' (in het Engels 'recognition justice').

Om de onderzoeksvraag van dit onderzoek te beantwoorden, is een case study uitgevoerd in de provincies Gelderland, Noord-Brabant en Limburg. In totaal zijn 15 semigestructureerde interviews gehouden met de organisatie die de vergoedingen afhandelt (BIJ12), boerenorganisaties, een ecooloog en veehouders uit deze regio.

Uit de interviews komt naar voren dat veehouders met een breed scala aan uitdagingen worden geconfronteerd nu de wolf weer is opgedoken in Nederland. Bekeken vanuit het oogpunt van distributieve rechtvaardigheid blijkt dat veehouders onrechtvaardigheden ervaren bij de verdeling van vergoedingen, subsidies en lasten. Hierbij benadrukken veehouders dat de Nederlandse schadecompensatieregeling het belang van immateriële kosten als tijd en arbeid miskent, en dat de voorwaarden voor het verkrijgen van subsidie ervoor zorgen dat veel boeren niet in aanmerking komen voor een subsidie voor preventieve maatregelen. In dit licht stellen alle veehouders dat zij uiteindelijk de last dragen van de aanwezigheid van wolven in Nederland. Vanuit het oogpunt van participatieve rechtvaardigheid wordt de onvrede van boeren over het communicatie- en

betalingsproces van BIJ12 duidelijk. Dit is vanwege hun ontoegankelijkheid en het trage uitbetalingsproces. Verder benadrukken boeren hun ondervertegenwoordiging en inferieure positie in beleids- en besluitvorming, en het onduidelijke en dubbelzinnige karakter van het wolvenbeleid. Vanuit het oogpunt van participatieve rechtvaardigheid wordt aangetoond dat het belang van de veehouderij en de uitdagingen waar deze industrie mee te maken krijgt met het terugkeren van de wolf niet altijd erkend worden door de bredere samenleving. Boeren ervaren de banalisering van hun problemen met de wolf. De problemen die wolfwerende netten veroorzaken voor zowel boeren als andere wilde dieren grotendeels worden genegeerd of verwaarloosd door zij die verantwoordelijk zijn de beleidsvorming. Uiteindelijk maken veel boeren zich hierdoor zorgen over hun toekomst binnen de veehouderij en overwegen sommige zelfs te stoppen. Uiteindelijk heeft de terugkeer van de wolf een situatie gecreëerd van nieuwe onzekerheden, waaraan boeren zich dienen aan te passen. Deze onzekerheden worden veroorzaakt door zowel de aanwezigheid van de wolf zelf als door het systeem dat is opgezet om deze aanwezigheid en de impact hiervan bij te sturen.

Door de ervaringen van boeren met schadecompensatieregelingen vanuit het oogpunt van 'milieurechtvaardigheid' te analyseren, maakt dit onderzoek duidelijk dat slechts focussen op compensatie onvoldoende is om een gevoel van milieurechtvaardigheid te creëren onder boeren, en daarmee mens-wolf conflict te beperken. Compensatiebetalingen zijn niet voldoende om alle uitdagingen die onzekerheid veroorzaken onder boeren aan te pakken. Het bestuderen van schadecompensatieregelingen vanuit een lens van 'milieurechtvaardigheid' leidt tot een vollediger beeld van wat rechtvaardigheid met betrekking tot de aanwezigheid van roofdieren inhoudt. Het geeft aan dat onvrede met compensatiebetalingen niet slechts voortvloeit uit een ongelijke verdeling van kosten, maar ook vanuit het besef dat compensatiebetalingen voorbijgaan aan andere uitdagingen die boeren belangrijk vinden. Het raamwerk geeft hierbij een beter inzicht in het vraagstuk en het feit dat problemen die veehouders ervaren niet met alleen schadecompensatieregelingen opgelost kunnen worden. Zulke problemen blijven dan fungeren als een barrière tot het samenleven van mensen en roofdieren. Het is belangrijk om nieuwe onzekerheden te erkennen en oplossingen te zoeken hoe deze verminderd kunnen worden, om zo meer draagvlak te creëren onder veehouders voor de aanwezigheid van wolven. Dit onderzoek concludeert dat hoewel schadecompensatieregelingen op dit moment een belangrijk aandachtspunt binnen het wolvenbeleid zijn, het gezien zou moeten worden als een laatste stap in het opbouwen van draagvlak voor aanwezigheid van wolven in Nederland. In plaats daarvan moet er meer nadruk gelegd worden op het verbeteren van de start van het proces, dus voordat schade is opgetreden. Het oplossen van ervaren gebreken in het systeem kan hierin al leiden tot meer acceptatie van de wolf.

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# 1. Introduction

## 1.1. The return of the wolf

The wolf (*Canis Lupus*) has made a spectacular comeback on the European continent (Drenthen, 2015; Van Heel, Boerboom, Fliervoet, Lenders & Van den Born, 2017). While the wolf was a common appearance in Europe in previous centuries, the extermination of wolves during the 18<sup>th</sup> and 19<sup>th</sup> century has resulted in decreasing numbers in Eastern and Southern Europe and a total disappearance from West-European countries (Trouwborst, 2010). However, since the second half of the 20<sup>th</sup> century, the wolf has started to recolonize Western Europe.

In March 2015, the first wolf was spotted while roaming the northern part of the Netherlands, with a second sighting in 2016. Occasional sightings followed in the subsequent years (Wolven in Nederland, n.d.). In 2019, the return of the wolf to the Netherlands became official, as the first female wolf had officially settled in the Veluwe, had attracted a partner and ultimately, three cubs were born (IFAW, n.d.; WUR, 2019). As such, after 140 years of absence, the Netherlands is once again housing one of Europe's largest predators. According to the latest data, 11 wolves are now, 2 years after the first settlement, living in the Netherlands (Wolven in Nederland, 2021). While the wolf's fast 'recolonization' of Western Europe is partly due to reintroduction programs and international protection laws, such as the Convention of Bern and the EU Habitats Directive, the reemergence of the wolf can mostly be seen as '*spontaneous resurging of wildlife*' (Drenten, 2015, p. 319). Wolves have shown an incredible tolerance for human activities, managing their way through the multifunctional and fragmented landscapes that characterize Western Europe (Trouwborst, 2010). Yet, while wolves are currently thriving in Western-Europe, their relationship with humans remains controversial at best, with many varying perspectives and attitudes towards the wolf.

## 1.2. The controversial comeback of the wolf in Western Europe

As a consequence of the fast-growing wolf populations at the European continent, human-wolf conflict has reemerged. As the wolf is known to compete with mankind for both food and space, thereby making them natural competitors, the reappearance of the wolf in Western Europe has brought multiple challenges (Milheiras & Hodge, 2011; Trouwborst, 2010). Issues as livestock depredation, concerns for human safety and increased competition for game species show how the renewed presence of the wolf has consequences for a broad range of human activities (Trouwborst, 2010). This makes that, while wolves show a high tolerance for humans, this feeling is not always mutual; human tolerance towards wolves is not self-evident. Trouwborst (2010) argues that large carnivores often cause friction and are subject to debate, especially when large carnivores return after a long period of absence and societies have to become again adapted to living alongside them. In line with this argumentation, the return of the wolf and the challenges that come with this species have

resulted in conflicted debates at both national and local levels, that display the polarization between pro- and anti-wolf groups (Drenten, 2015). Such mixed responses to the wolf illustrate why wildlife management can be understood as both a biological and a socio-political problem (Bath, 1998).

### 1.3. The issue of livestock depredation

Baker, Boitani, Harris, Saunders and White (2008) argue that, while other challenges remain relevant, the main cause for human-wildlife conflict is the depredation on livestock by large carnivores. This can also be seen in relation to human-wolf conflict, as *'it seems that the presence and even more the return of wolves have always and everywhere generated conflicts with farmers'* (Skogen, Mauz & Krange, 2006, p. 80). The intense nature of farmer-wolf conflict after long periods of wolf-absence is, according to scholars as Trouwborst (2010) and Marino, Braschi, Ricci, Salvatori and Ciucci (2016), due to the fact that livestock keepers no longer conform to traditional husbandry practices and as such, are no longer accustomed to living with large predators as the wolf.

Also in the Netherlands, livestock depredation has been one of the key challenges that has received attention, already since the potential resettling of the wolf (Drenthen, 2015; Trouwborst, 2010). Here, comparable to other Western European countries, livestock is often kept behind low fences or narrow ditches, which forms no obstacle for wolves (Trouwborst, 2010). As a result, livestock is an easy prey for the wolf and farmers have increasingly experienced the loss of animals. According to BIJ12, the Dutch organization for livestock damage compensation, farmers lost 119 sheep to the wolf in 2019, which rose to 291 in 2020 (BIJ12, n.d.; Brandriet & Voss, 2021). In addition, there have been several 'mass killings' by lone wolves in the Netherlands, whereby a single wolf kills multiple sheep in one attack (Akinci, 2020). As such, it is not surprising that farmers start to perceive the wolf as a *'murderous beast'* (Akinci, 2020), that only brings economic and emotional hardship. Resultingly, it has been proven to be extremely difficult to increase the tolerance of farmers towards wolves (Marino et al., 2016).

### 1.4. Mitigating the conflict: compensation payments

One of the most common ways through which policy-makers try to mitigate human-wildlife conflict, is through the use of compensation schemes (Boitani, Ciucci & Raganella-Pelliccioni, 2010; Milheiras & Hodge, 2011; Van Heel et al., 2017), especially in areas where large predators have been reintroduced or are protected by law (Steele et al., 2013). With such schemes, the economic burden of livestock damage is shared with society at large, by paying livestock owners for depredation of their livestock (Milheiras & Hodge, 2011). The expectation behind those schemes is that compensation for depredation of livestock will lead to increased tolerance among livestock owners and thereby reduce the possibility of illegal killings (Boitani et al., 2010; Van Heel et al., 2017).

Compensation payments are widely applied in European countries that coexist with large carnivores (Trouwborst, 2010), but, at the same time, compensation programs are not a universally accepted conservation tool, as they are not necessarily perceived as beneficial by

all stakeholders involved (Boitani et al., 2010; Van Heel et al., 2017). While theoretically, compensation payment can be understood as a financial incentive for conservation practices, in reality, functionality is often based on mere assumptions (e.g. social acceptance, consistency of damage verification and reimbursement) (Boitani et al., 2010). As a result, compensation schemes have been called, among others, ‘expensive’, ‘controversial’ and ‘whimsical’ (Linnell & Cretois, 2018; Nyhus, Fisher, Osofsky & Madden, 2003), with researchers as Boitani et al. (2010) arguing that compensation payment is ‘*an unwise and unsustainable strategy to reduce the conflict*’ (p. 722). In addition, the assumption that such a financial incentive will reduce animosity towards predators has not yet been proven, with multiple studies in other countries showing that paying for livestock damage will not result in greater tolerance for large predators (e.g. Boitani et al., 2010; Marino et al., 2016; Agarwala, Kumar, Treves & Naughton-Treves, 2010).

### 1.5. Problem description

Despite the controversies, compensation schemes have been implemented in the Netherlands for livestock damage inflicted by wolves, as explained in the interprovincial wolfplan of 2019 (Vlasveld et al., 2018). In 2020, compensation for wolf damage was €73.878 (BIJ12, 2020). Livestock owners<sup>1</sup> must report (suspected) damage by a wolf at BIJ12 within 24 hours (BIJ12, n.d.). For now, damage will be fully reimbursed, but in 2022, the conditions for receiving compensation in designated ‘wolf-areas’ will become more strict and preventive measures will then become required (Rijksoverheid, n.d.; Vlasveld et al., 2018). Thereby, the Netherlands follows the example of other West-European countries, using wolf damage compensation payments to (try to) reduce the conflict and mediate negative attitudes towards the wolf (Schwerdtner & Gruber, 2007; Dickman et al., 2011).

However, while Dutch livestock owners themselves initially plead for such compensation tools (De Gelderlander, 2018), their actual experiences with the compensation program have so far not been studied. Dutch media articles imply that the current compensation program is received ambiguously. On the one hand, livestock owners are grateful for the existence of these compensation payments, but on the other hand, livestock owners express dissatisfaction with the current system (NOS, 2019; RTV Drenthe, 2020). A tragic example that illustrates this is the lawsuit against the Province Drenthe, where a sheep farmer claimed that the reimbursement of €1090 he received for his four slaughtered lambs was not sufficient enough, as this did not consider the indirect effects of the attack for the rest of his flock (Buring, 2020).

As such, there is a lack of understanding of the existing perspectives of Dutch farmers about the compensation schemes and the reasons behind these attitudes.

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<sup>1</sup> In this study, a livestock owner is simply defined as someone who keeps livestock, both for corporate use and as a hobby. The term livestock owner is used interchangeably with that of farmer. Here, livestock includes horses, goats, cattle and sheep, with the main prey of the wolf being sheep (BIJ12, 2021).

## 1.6. Research aim and Research questions

The aim of this study is to better understand the attitudes of Dutch livestock owners towards compensation payments for wolf damage to livestock and explore what reasons underlie these perspectives. Farmer's viewpoints on compensation payments and the underlying reasons in relation to environmental justice will be investigated.

This research aims to create a deeper understanding of the perspectives, experiences and attitudes of Dutch farmers towards wolf damage compensation payments and thereby, wolf management more broadly. As argued by Ottolini, de Vries & Pellis (2021), Bredin, Lescureux & Linnell (2018) and other scholars, conflicts with wildlife can easily escalate into conflicts between humans over wildlife and its management, due to different positions between individuals or groups. It is important to pay attention to such distinct stances, in order to mitigate these social conflicts. Better understanding how compensation payments (the main conflict mitigation tool in policy) are perceived by those who actually use and depend on them is the first step in finding new ways that lead to both better conservation and a resolution of the conflict (Jacobsen & Linnell, 2016). It is acknowledged that understanding does not immediately solve the conflict, but is crucial in reaching this goal, as it provides insight in current dissatisfaction and potential ways forward. The generated insights can potentially contribute to broader accepted, well-mediated wolf policy and management, fostering coexistence between livestock owners and wolves in the future. To better understand the experiences of livestock owners with the wolf damage compensation program, these experiences will be placed in David Schlosberg's environmental justice framework.

The following main research question has been formulated based on the problem description and research aim: *How do livestock owners in the Netherlands experience the compensation scheme for wolf damage to livestock and how can these experiences be understood in light of their perceptions of environmental justice?*

In order to answer this question, several sub research questions have been formulated:

1. How do Dutch livestock owners perceive the return of the wolf?
2. How do Dutch livestock owners experience compensation programs in terms of distributive justice?
3. How do Dutch livestock owners experience compensation programs in terms of participatory justice?
4. How do Dutch livestock owners experience compensation programs in terms of recognition justice?

To answer these research questions, this study is structured as follows: chapter 2 outlines the broader context in which compensation schemes are implemented. Then, chapter 3 provides an overview of the existing literature on compensation schemes. After this, chapter 4 explains the framework of Environmental Justice and the concept of wildlife value orientations in the theoretical framework. Chapter 5 continues to describe the methodological choices that have been made during this study. In chapter 6, the findings of this study are presented, which are organized by using the Environmental Justice

Framework. Following, chapter 7 analyzes these findings in relation to the wider discussion that exist around compensation schemes as a mitigation tool for human-wildlife conflict. Lastly, chapter 8 aims to answer the research question of this study. Here, it is concluded that only focusing on compensation is insufficient to create a sense of environmental justice among farmers, and thereby mitigate human-wolf conflict, since compensation payments alone are unable to address all challenges that cause insecurity among farmers. Thus, while compensation payments continue to be an important focus point of wolf policy, it must be understood as only a last step in building a supportive base for wolf presence in the Netherlands.

## 2. Contextual background

In this chapter, the broader context in which compensation schemes are implemented is discussed. Firstly, the complicated relationship between humans and wolves will be explained. Then, the difficulty of wolf management will be illustrated by looking at the polarization that has arisen in West-European countries after the reappearance of the wolf, taking the countries of France, Germany and Norway as an example. Thirdly, the existing perspectives within the Netherlands towards the wolf and its management will be analyzed. Lastly, the wolf damage compensation scheme as established in the Netherlands, the location of this study, will be explained.

### 2.1. The complex nature of human-wolf relations

Since the beginning of human history, tales exist about the conflicts between humans and wildlife. At the same time, there is still no definition of human-wildlife conflict (HWC) that is universally accepted (Frank, 2016; Ottolini et al., 2021). Fergusson (2002) describes human-wildlife conflict as *‘any interaction between humans and wildlife that results in negative impacts on humans social, economic, or cultural life, and on the conservation of wildlife populations, or on the environment’* (in Mmopelwa & Mpolokeng, 2008, p. 148), which has been taken over by organizations as the World Wide Fund for Nature (WWF, 2005) and the Food and Agriculture Organization of the United Nations (FAO, 2021). Other international organizations have adopted definitions that follow similar lines. However, scholars (e.g. Frank, 2016; Ottolini et al., 2021; Peterson, Birkhead, Leong, Peterson & Peterson, 2010) argue that such definitions entail limitations in itself. Firstly, these definitions are limited to a particular framing of HWC and potential solutions, whereby there is a focus on wildlife its negative aspects and trying to reduce negative interactions instead of fostering positive ones (Frank, 2016). Secondly, Peterson et al. (2010) argue that these definitions imply a human-wildlife dichotomy, in which it is assumed that human-nonhuman relations are always antagonistic in nature. Conflicts between humans and wolves are often described in similar ways, whereby attention is paid to the negative impacts that are either faced by humans or wolves (Hovardas & Korfiatis, 2012; Ottolini et al., 2021).

The wolf is believed to be the most controversial carnivore of the western world, with attitudes ranging from fascination and excitement towards hatred and fear (Fritts et al., 2003). Traditionally, attitudes towards wolves come with strong, negative emotions (Campion-Vincent, 2005; Salvatori & Linnell, 2005). Throughout European folktales, legends and natural descriptions, the wolf was presented as a beast, often attacking livestock, humans and especially children (Campion-Vincent, 2005). As such, irrational cultural perceptions shaped many aspects of the human-wolf relationship, whereby *‘persecution of the wolf has often been out of proportion to the threat it actually posed to people’* (Fritts et al., 2003, p. 289). This is still the case today, as many Western Europeans only know wolves from how they are depicted in movies and fairy tales (Drenthen, 2015). There, wolves often symbolize evil and this stereotype of ‘the Big Bad Wolf’ influences people’s perspectives and attitudes towards it (Jürgens & Hackett, 2017). Drenthen (2015) argues that since early

debates about wolves are mostly based on *'imaginary wolves'* (p. 320), they can easily escalate. In fact, public reactions towards contemporary wolf policies and management can often be considered as extreme. As such, how the wolf is culturally constructed, i.e. 'the symbolic wolf', often matters more than the biological facts that individuals know about wolves (Fritts et al., 2003).

Additionally, the conflict about wolves tends to be broader than just a disagreement about the return of the species and its management. This means that conflict surrounding the wolf is not necessarily about the carnivore per se, but also about broader issues that play in society (Drenthen, 2021; Hovardas & Korfiatis, 2012). In other words, the socio-political context in which human-wolf conflict occurs, needs to be taken into account. For example, human-wolf conflict is often linked to *'a cultural conflict of worldviews'* (Drenthen, 2021, p. 430), most often representing a rural-urban divide in the acceptance of the wolf, whereby rural communities generally show more hostility towards the species (Hovardas & Korfiatis, 2012). According to Drenthen (2021), farmer identity in Western Europe is partly based on the notion that *'wild nature'* needs to be controlled and that land is supposed to be cultivated, in order to be able to survive of the land. This leads to an increased importance of values as independence and autonomy among rural populations. The arrival of the wolf undermines this feeling, since farmers are unable to control the wolf (Drenthen, 2021). This comes together with a growing discomfort among opposing farmers about the movement that exists within urban society, who are, for a large part, welcoming the wolf. They are afraid that their perspective and worries about the wolf will not be seriously considered by urban society (Drenthen, 2021; Fritts et al., 2003). In this light, the wolf can be perceived as an urban symbol, whereby *'the wolf is presented as an urban appropriation of rurality'* (Hovardas & Korfiatis, 2012, p. 1278), with urban areas 'attacking' rural communities and their way of life through acceptance of the wolf (Hovardas & Korfiatis, 2012; Skogen & Krangle, 2003). Another important aspect that can influence the conflict over wolves and its management, is a general distrust in government institutions. For example, when the wolf reappeared in France, mountain sheep farmers accused government agencies and/or extreme environmentalists of deliberately reintroducing the species into the area, without consulting them first (Campion-Vincent, 2004). Similar stories can be found in Italy and Norway (Campion-Vincent, 2004; Skogen, Mauz & Krangle, 2008).

Treves and Karanth (2003) summarize the complexity of conserving predators like the wolf by stating: *"Carnivore management is as much a political challenge as a scientific one"* (p. 1496). The combination of biological, cultural and socio-political issues that come with the presence of wolves, make that wolf conservation is almost always controversial (Treves & Karanth, 2003). As such, it is not surprising that the return of the wolf to Western Europe has again been received ambiguously; i.e. throughout Western Europe, the wolf has sparked heated, polarized debates, raising questions about how to handle the renewed presence of the wolf (Trouwborst, 2010).



## 2.2. The broader trend of controversy in Western Europe

The broader trend of commotion that has risen throughout much of Western Europe after the reappearance of the wolf can be illustrated by looking at European countries as France, Germany and Norway. In these countries, the wolf has caused confrontations between anti- and pro-wolf groups, whereby debates and protests mostly are about management aspects and the impact of the wolf on farmers' livelihoods (Chandelier, Steuckardt, Mathevet, Diwersy & Gimenez, 2018).

### 2.2.1. France

Since the wolf has returned to France in the early 1990s, its presence has been subject to strong protests by sheep farmers and local politicians who represented the mountain areas where wolves had settled (Campion-Vincent, 2004). Even though almost three decades have past, the presence of the wolf in France remains controversial. Since 2004, French wolf management includes a regulation policy, with a wolf removal quota, in certain depredation hotspots. This dual management of protection and removal aims to mitigate the conflict between wolves and farmers, but farmers are still dissatisfied with the current protected status of the wolf (Chandelier et al., 2018). In 2014, French sheep farmers released around 300 sheep in front of the Eiffel Tower, as a protest against the wolf (RFI, 2014), with a similar event happening in 2017 when farmers travelled with their sheep towards the city of Lyon, calling for the right to kill wolves when they attack their flock (Reuters, 2017). French farmers believe that wolves are currently numerous enough for the European Union to allow for the active culling of wolves, with the president of the farmers' union 'Coordination Rurale' asking that *'France revisit the Habitats Directive so that wolves are classified as a pest'* (Oroschakoff & Livingstone, 2017). However, ecologists oppose the current management of wolves in the country, as the regulation policy already means a derogation from the EU's Habitats Directive (in which killing is only allowed in exceptional individual cases) (Chandelier et al., 2018). Resultingly, calls for the culling of wolf populations come with strong opposition from environmentalists and animal activists, who believe that the country needs to protect the rights of this species (France24, 2017).

### 2.2.2. Germany

Similar trends can be found in Germany, where the focal point of conflict is the predation on small livestock such as sheep, goats and alpacas. Here, wolf management is described as *'a kind of passive observation of the ongoing situation'* (Herzog, 2018, p. 206), focusing on protection of livestock through fencing rather than active management of wolf populations. Especially livestock owners have been lobbying for a more active management plan for the wolf (Herzog, 2018). Resultingly, after strong opposition from farmers against the protection of the wolf, it is since the end of 2019 legally allowed for farmers to take lethal action against the wolf when the animal is causing 'serious damage' to their livestock. The law aims to take away part of the fear that exists among rural communities towards the wolf (Deutsche Welle, 2019), as livestock depredation of wolves is on the rise in the country, with around 2900 animals being killed in 2019 alone (Deutsche Welle, 2021). However, the fact

that the new law was accepted with 361 votes in favor and 275 against (Deutsche Welle, 2019), further displays the division that exists around this topic.

### 2.2.3. Norway

In Norway, the wolf has limited economic implications, compared to other large predators that reside in the country, such as bears and lynxes. Instead, the debate around the wolf is often presented as a conflict between the rural and urban areas, whereby opposition to the wolf is perceived as supporting the rural, traditional way of life (Skogen, 2001; Lodberg-Holm, n.d.). Since the wolf is believed to be a threat to rural activities such as farming and hunting, the cultural identity of many individuals living in rural areas is shaped by opposition to the resurgence of the wolf (Lodberg-Holm, n.d.). This had led to a stark political divide over the wolf within the country, whereby protests are regularly held by both opponents and supporters of the species (Nijhuis, 2019). Both sides are dissatisfied with the current management actions of the government, with anti-wolf groups, mainly consisting of farmers, landowners and rural residents, stating that the government is not giving them enough freedom to kill wolves, and pro-wolf groups arguing that the government is currently killing too many (Berglund, 2019). The announcement that the government would cull more than half of the Norwegian wolf population caused outrage among conservationists, leading to pro-wolf protests across the country (Barkham, 2018). In fact, the conservation director of WWF Norway argues: *“We will be keeping the population down to a level that is critically endangered, which we think is against the law”* (Barkham, 2018).

The events happening in these three European countries illustrate the trend of polarization that is currently occurring throughout Western Europe, as there is considerable disagreement within society about how the wolf should be managed, mainly in terms of lethal control measures, and the implications that wolf presence has for (rural) livestock owners. Now that the wolf has recolonized the Netherlands, similar debates can be found here.

### 2.3. Existing viewpoints in the Netherlands

Even before the official return of the Wolf, a public debate started about how the Netherlands should deal with the resurging of wolves in its densely-populated landscape, in which the topics of safety and livestock concern predominated (Drenthen, 2015; Trouwborst, 2010). Wolves had already been spotted in Germany close to the German-Dutch border since 2010, leading to the realization that the return of wolves to the Netherlands was no longer an abstract idea, but a real possibility (Drenthen, 2015). Members of the Dutch parliament started to express their concerns about the potential arrival of the wolf. Some politicians already asked the Dutch government to provide adequate protection measures against the species, and others proposed to keep the wolf out of the country entirely, stating that it should be considered as an invasive alien species (Trouwborst, 2010).

When the first wolf was spotted in the Netherlands in 2015, its return resulted in mixed reactions throughout Dutch society; it was *‘met with a mixture of fascination, excitement and anxiety’* (Drenthen, 2015, p. 319). Surveys on the attitudes of the Dutch population

towards wolves suggest that these attitudes have remained relatively stable over the years. According to Intomart (2012, in Drenthen, 2021), 45% of respondents were open to the idea of having the wolf in the Netherlands, 32% was opposed, and the remaining 23% had a neutral stance in the matter. Now, six years after the first arrival of the wolf in the Netherlands, not much has changed about these numbers (Drenthen, 2021). Drenthen (2021) summarizes the general Dutch attitude towards wolves as a '*pragmatic attitude*', arguing that most Dutch citizens show both a willingness to coexist with this species, and a cautiousness for potential problems that might arise.

However, as Drenthen (2021) states: "*the extreme voices tend to be the loudest*" (p. 427), and resultingly, debates about the wolf easily lead to polarization between pro-and anti-wolf groups. Some groups argue that there is not enough room in the Netherlands to provide for the wolf and that contemporary Dutch landscapes are not suitable for wolves, while others believe that the return of the wolf can be seen as a return of 'true' nature to the Netherlands and welcome it as a positive addition to the country's biodiversity, not acknowledging the problems that might emerge with the reappearance of the wolf (Drenten, 2015; Drenthen, 2021; Van Heel et al., 2017). Organizations as [Wolven in Nederland](#) try to educate Dutch citizens about the wolf in order to take away people's irrational fears for wolves and thereby facilitate the coexistence of mankind and the wolf (Wolven in Nederland, n.d.), while organizations as [No Wolves Benelux](#) try to reach the exact opposite; they are critical of the arrival of the wolf and believe that coexistence is not possible (NowolvesBenelux, n.d.). Multiple times in the last five years, the Dutch Christian Democratic Party (CDA) has expressed thoughts about the possibility of reconsidering the protected status of the wolf within the European Union, meaning that wolf hunting would be allowed again. They fear that the free movement of the wolf will eventually lead to a catastrophe, especially since some wolves started to move through residential areas (Boef & de Bruijn, 2020; Hartman, 2018). The Dutch National Park De Hoge Veluwe also takes a positive position towards regulating wolf populations, as it fears that the presence of the wolf will disturb the balance within its landscapes by attacking the mouflon (*Ovis Orientalis*), considered to be the most important grazer for the maintenance of heather landscapes (Stichting het Nationale Park De Hoge Veluwe, 2019).

While Dutch debates about the wolf concern multiple challenges, such as the concerns for human safety and its impact on nature conservation more broadly, the key challenge that has received attention in the Netherlands since the reappearance of the wolf, is that of livestock depredation (Trouwborst, 2010). In the Netherlands, the wolf is especially opposed by sheep farmers, who perceive the wolf as a threat to their livelihood (Drenthen, 2021). This is in line with the broader trend visible in Europe, where the arrival of the wolf is met with fierce opposition from livestock farmers due to fear for their animals, as can also be observed from the examples of other Western European countries mentioned above. Since the arrival of the wolf makes keeping livestock more expensive due to additional costs (e.g. adapted fencing, guard dogs etc.) and time-consuming, as farmers have to start protecting their livestock again (Drenthen, 2021), some farmers are afraid that in a few decades, the

potential rise in wolf populations will force them either to keep their livestock inside or to abandon farming (NOS, 2021). This means that the arrival of the wolf has made the lives of Dutch livestock owners more difficult, since they have to adapt their herding practices to the new predator-present context, thereby potentially threatening farmers' way of life (Drenthen, 2021).

To prevent this from happening, the foundation 'Wolvenhek Fryslân' (n.d.) has proposed to close the door by building a 150 kilometer long fence around the province's meadow areas, with the aim to keep part of the province of Friesland wolf-free and thereby protect livestock. Others (e.g. Wolf-Fencing Nederland and LTO Nederland) argue that such a solution is not the way forward, as it enforces the division between nature and humans, i.e. the human-nature dichotomy, which has negative consequences for the rest of the landscape (LTO, n.d.; Zwerver & Radersma, 2021). This illustrates how also within the Dutch farming community, there is debate about the best way forward in terms of wolf management. Nevertheless, farmer organizations as [LTO Nederland](#) and [ZLTO](#) agree that the place of farmers and their animals within the Dutch landscape needs to be better taken into account when developing plans on how to manage the wolf within the Netherlands (Hakkenes, 2020; LTO, n.d.; ZLTO, n.d.). According to such organizations, the arrival of the wolf needs to be put back on the European agenda, in order to further discuss where and in what population sizes the wolf can exist in Europe in such a way that it does not or only little interfere with people's livelihoods (LTO, n.d.).

In order to mitigate the conflict between the wolf and livestock owners that currently persists in the Netherlands, the Dutch government has decided to implement a compensation program. The aim of this program is to support livestock owners through the provision of financial compensation when their livestock has fallen prey to a wolf. In the next section, the Dutch compensation program is explained.

#### 2.4. The wolf damage compensation scheme of the Netherlands

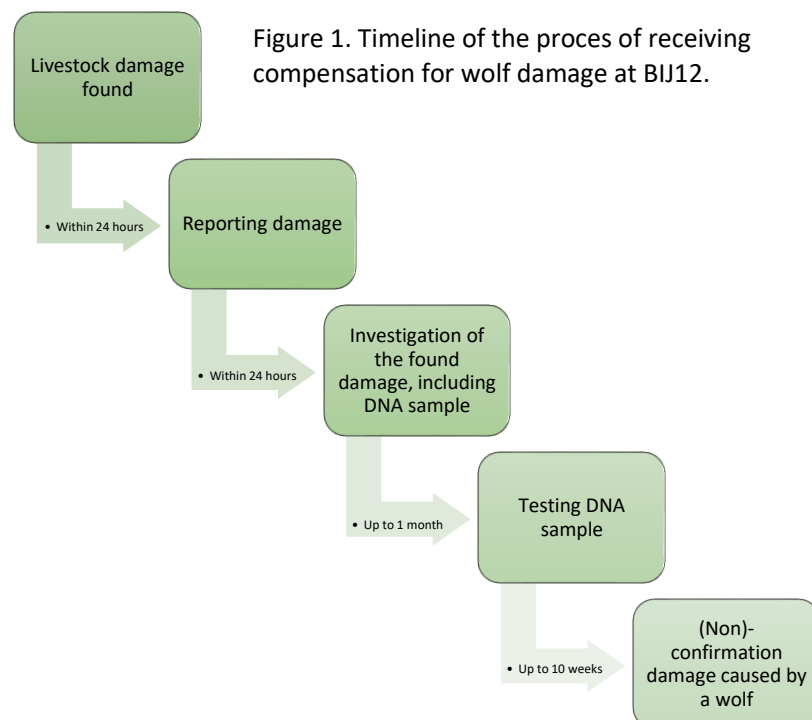
The twelve provinces of the Netherlands are responsible for the provision of compensation. The organization of [BIJ12](#) has been mandated by the Dutch provinces, to handle all aspects of compensation, including monitoring damages and the settling of damage claims. The organization is also responsible for educating livestock owners on potential proactive measures they can take to avert the wolf (BIJ12, n.d.).

Under certain conditions, BIJ12 compensates farmers for damages to crops or livestock animals, that have been caused by wildlife. Requesting compensation for wolf damage has been implemented as a separate system compared to other wildlife damages. Normally, damage needs to be reported as 'MijnFaunazaken', but in the case of the wolf, damage has to be reported directly at BIJ12. This means that there is a different procedure for damages that are caused by the wolf.

#### 2.4.1. The procedure for reporting damage

When a farmer suspects that the damage to his/her livestock is inflicted by a wolf, this damage needs to be reported at BIJ12 within 24 hours after the incident. This notification preferably comes with pictures of the damage, so that it can be assessed in advance whether it seems probable that the damage is the result of a wolf. When the wolf cannot be ruled out as the cause of damage, a representative of BIJ12 comes in, within 24 hours after the notification, for further investigation, which includes a DNA-test to exclude other species (e.g. dogs, foxes) and searching for track marks. BIJ12 states that in the meantime, the cadaver should be left untouched, to prevent the erasure from any important traces. During the visit, the farmer can already apply for compensation, even when it is not certain whether the damage has been inflicted by a wolf. This means that no request has to be made at 'MijnFaunazaken'. Compensation will then be granted when research shows with 'certainty' or 'high probability' that the wolf has indeed caused the death of the reported animals. 'Certainty' means that the wolf can be designated as the cause of death based on photographs or DNA, and 'high probability' means that this is based on track marks found in the field, as DNA is not conclusive in this case. DNA analyses are performed once a month, and focus on analyzing the species; a DNA test simply assesses whether a wolf or not has been the cause of damage (Vlasveld et al., 2018).

When this cannot be concluded with 'certainty' or 'high probability', it is assumed that a wolf is not the cause of the damages and compensation is refused (BIJ12, n.d.; Vlasveld et al., 2018). When damage is indeed proven to be caused by a wolf, BIJ12 compensates the livestock owner within 10 weeks after the DNA results came in. This means that in total, receiving compensation should take up to a maximum of 14 weeks, from the moment of reporting the damage until the moment of decision-making (BIJ12, n.d.). This timeframe is visualized in figure 1.



#### 2.4.2. What is compensated?

As of October 2019, a new directive for the taxation of wolf damage in the sheep farming sector has been established by BIJ12 (BIJ12, n.d.). In this directive, the taxation values of sheep as developed by Wageningen UR are presented (BIJ12, n.d.; Interview Representative BIJ12). According to BIJ12 (2019), the taxation value of sheep depends on many factors, such as breed, sex, age, health status and (stage of) gestation. All these factors have been appointed a certain economic value, that together determine the value of a single sheep (See BIJ12, 2019).

No claim can be made for a complete compensation of the entire damage. The compensation program in the Netherlands is only applicable to direct damages of the predation, meaning that consequential and collateral damages are not eligible for compensation. However, this does not mean that the Dutch compensation program only compensates for killed animals, as a few exceptions are made (BIJ12, 2019; Vlasveld et al., 2018). The interprovincial wolf plan (Vlasveld et al., 2018) explains that direct damage also includes the transport of cadavers, unborn lambs of killed, pregnant sheep, and animals that die during the attack even though they have not been directly attacked by the wolf, giving the example of sheep running into a ditch and drowning. The taxation directive also states that potentially, damages in the form of abortions or lost milk production (only in case of dairy sheep) can be compensated, as long as it can be demonstrated that this is a direct result of a wolf attack (BIJ12, 2019). Lastly, an exception is made for the treatment of injuries (BIJ12, 2019, n.d.). Sometimes, livestock animals are left injured, and need to be treated by a veterinarian. Then, farmers can request extra compensation at BIJ12 for the costs of treatment, which can be up to once the maximum taxation value. Of course, an animal can still die after it has been treated. When it can be proven that its death has been a result of the damage it has incurred by a wolf, compensation can be up to twice the taxation value: once for (a part of) the treatment costs and once for the taxation value of the deceased animal (BIJ12, n.d.).

#### 2.4.3. Requirements

In order to be eligible for compensation, there are certain requirements that a livestock owner have to adhere to in order to receive compensation. This means that when it is proven with 'certainty' or 'high probability' that the animals of a livestock owner have indeed been attacked by a wolf, this does not automatically mean that these damages are compensated.

Firstly, until the beginning of 2022, compensation can be granted to both corporate and hobby livestock owners. From 2022 onwards, provinces are no longer required to compensate hobby farmers, as livestock depredation is in that case seen as a '*general social risk*' that citizens are supposed to accept (Vlasveld et al., 2018, p. 20).

Moreover, to be eligible for compensation against wildlife, taking proper protection measures is a prerequisite for many species. This will also be the case for the wolf. Until the beginning of 2022, whether proactive measures have been taken against the wolf will not be

verified, meaning that farmers are able to receive compensation even when they have taken no preventive action. It is explained that this period will be used to prepare livestock owners for the arrival of the wolf (BIJ12, n.d.; Vlasveld et al., 2018). However, from 2022 onwards, compensation will not be granted when farmers living in officially designated '*wolf territory*' have not sufficiently protected their livestock (Vlasveld et al., 2018, p. 21). Within this regulation, exceptions are made for lone wolves, who are roaming through large areas in a short period of time, in search of new territory. As it cannot be predicted whether and where a wolf will attack, prevention measures are therefore no requirement for receiving compensation in such cases (Vlasveld et al., 2018). Additionally, hobby farmers can still request compensation after 2021 for lone wolf damage, as they live not in an official wolf territory (Vlasveld et al., 2018).

The interprovincial wolf plan states that livestock owners themselves are responsible for the protection of their animals, and the Dutch provinces are therefore not legally required to support farmers in undertaking these measures (Vlasveld et al., 2018). Nevertheless, some provinces (now Gelderland and Drenthe) have voluntarily decided to grant subsidies for its implementation (BIJ12, n.d.). Supporting preventative action is encouraged by the interprovincial wolf plan for three reasons: (1) it limits wolf attacks and thereby the requests for wolf damage compensation, (2) it prevents territorial wolves from specializing in livestock animals, and (3) it increases public support for the wolf in the Netherlands (Vlasveld et al., 2018).



### 3. Literature review

In the following section, existing literature on compensation schemes is examined. Here, the aim of compensation schemes, its benefits and potential flaws are further explored. Also, known experiences of livestock owners with compensation programs are elaborated on. Lastly, a gap in the literature on compensation programs has been identified, calling for a more holistic approach for studying compensation programs.

#### 3.1. Compensation schemes

The general intention of compensation schemes is to mitigate conflict between large carnivores as the wolf and livestock owners by (1) reducing economic losses, (2) increasing tolerance towards these animals and (3) reducing illegal killings (Karlsson & Sjöström, 2011; MacLennan, Groom, Macdonald & Frank, 2009; Marino et al., 2016). Increasing tolerance among livestock owners is an important aspect of the conservation of wildlife, as *'negative attitudes towards carnivores can hinder conservation efforts'* (Bautista et al., 2019, p. 309), possibly leading to illegal killings and public opposition towards management policies (Bautista et al., 2019; Boitani et al., 2010; Van Heel et al., 2017). Compensation payments therefore focus on reducing the impact of damage inflicted by large carnivores, but do not prevent actual damage from happening (Trouwborst, 2010).

While most compensation schemes try to reduce the impact of damage, the mechanisms through which they do so can differ, thereby creating a large variety of approaches (Bautista et al., 2019; Boitani et al., 2010; Steele et al., 2013). Mostly, compensation schemes for livestock can be placed on a spectrum ranging from ex-post compensation, whereby farmers are compensated after the damage has already occurred, to ex-ante compensation, or conservation-performance payments, in which expected damage is estimated and then already paid conditionally beforehand (Boitani et al., 2010). Within Europe, ex-post compensation payments are the most common (Bautista et al., 2019). Also in this research, the focus will be on ex-post compensation, hereafter called compensation, as this system is the one used in the Netherlands, the location of this study.

Compensation schemes are widely applied throughout Europe and the Americas, but are at the same time widely criticized (MacLennan et al., 2009; Treves, Jurewicz, Naughton-Treves & Wilcove, 2009). Their effectiveness has not (yet) been proven and it can be debated whether compensation actually reduces animosity towards large carnivores as the wolf (Boitani et al., 2010; Marino et al., 2016; Nyhus, Osofsky, Ferraro, Fischer & Madden, 2005). In fact, Bautista et al. (2019) state that having a main focus on compensation payments will not result in greater tolerance towards large carnivores; instead, focus should be on prevention, or proactive, measures, with evaluation of its effectiveness. Resultingly, multiple scholars describe compensation payments in negative terms (e.g. inadequate, cumbersome), pointing out downfalls and potential side-effects of these schemes (e.g. Boitani et al., 2010; Linnell & Cretois, 2018; Nyhus et al., 2003). Below, an overview is provided on the main flaws in compensation schemes that have been identified by scholars.



### 3.1.1. The debated flaws of compensation schemes

The main critique on compensation schemes is their financial unsustainability, creating an ever increasing economic burden as large carnivore populations are on the increase, while not reducing the conflict and enhancing tolerance (Boitani et al., 2010; Marino et al., 2016; Nyhus et al., 2005). Next to the compensation directly paid to livestock owners, ex-post compensation programs require a huge amount of human resources for the verification process of losses (Bautista et al., 2019; Milheiras & Hodge, 2011; Nyhus et al., 2005). Such compensation schemes require an officer from the authorized compensation agency to visit the location where damage has been reported, to evaluate the conditions under which the incident happened and to determine whether the damage was caused by a species which makes the farmer eligible for compensation (Milheiras & Hodge, 2011). As such, compensation payments, verification processes and general management of the program can cause compensation programs to become too expensive, when conservation efforts for wildlife succeed and the number of populations increases. This has for example been the case in Italy, where the compensation program became economically unsustainable and politically undesirable due to the high amount of compensations annually paid ( $\pm$  €1.825.440) and additional verification costs (Boitani et al., 2010; Marino et al., 2016). The study of Marino et al. (2016) describes how the regional administration of Tuscany (Italy) decided to move away from ex-post compensation schemes in 2005 towards ex-ante, insurance-based compensation, as the costs of compensation payments became higher due to an increase in predator population and thus also in conflict.

Moreover, the administrative process that comes with compensation programs makes reporting damage a lengthy process; there can be a long time in between the moment that the farmer initially reported damage and the moment that he actually receives its corresponding compensation (Milheiras & Hodge, 2011), i.e. it is not uncommon for those suffering from human-wildlife conflict to sometimes wait months or even years on their payments (Ravenelle & Nyhus, 2017). It has also been questioned to what extent this process can be considered transparent, since there is often insufficient information available about the (working of the) compensation program and accountability of the program (Marino et al., 2016). A lack of transparency about the process is known to reduce trust in compensation programs, thereby further triggering conflict (López-Bao, Frank, Svensson, Åkesson & Langefors, 2017).

The risk of compensation schemes becoming (too) expensive can be strengthened by the issue of 'moral hazard' (Bulte & Rondeau, 2005; Nyhus et al., 2005), *'whereby the prospect of compensation is thought to discourage the adoption of damage prevention measures, thus promoting farmers' perpetual reliance on compensation'* (Marino et al., 2016, p. 228). However, it should be noted that the costs of compensation schemes can be kept low when receiving compensation is made conditional on the prerequisite of using effective prevention measures (Bautista et al., 2019; Boitani et al., 2010; Milheiras & Hodge, 2011; Nyhus et al., 2005; Widman & Elofsson, 2018). For example, the study of Widman & Elofsson (2018) on large carnivore damage compensation programs in Sweden illustrates that these payments

are among the lowest in Europe, because one of the requirements for receiving compensation is adequately protecting livestock. However, such proactive measures are at the same time heavily subsidized by national wildlife agencies (Widman & Elofsson, 2018).

An important question that needs to be asked when setting up a compensation program, is that of 'how much'; i.e. what is a fair value for someone's loss? (Nyhus et al., 2003). Many compensations schemes only compensate the direct effects of livestock depredation (e.g. the animals predated). These programs do not take into account the indirect effects that attacks of large carnivores such as wolves can have on livestock, while such predators can actually cause a large variety of indirect effects (e.g. inefficient livestock weight gain, miscarriage) (Boitani et al., 2010; Steele et al., 2013). Barua, Bhagwat & Jadhav (2013) make a distinction between visible impacts (i.e. Injury, fatality, crop and livestock loss) and hidden impacts (i.e. health impacts, opportunity and transaction costs) of wildlife, and argue that conflict can have large psychosocial consequences that are not directly visible. This can result in the undercompensation of livestock owners (Ashcroft et al., 2010). The research of Steele et al. (2013) shows that *'total financial impacts of wolves on cattle production can be much larger than just the direct predation losses'* (p. 544), and they therefore argue that policy-makers need to consider these indirect effects if their aim is to increase the support for large carnivores and their conservation. As such, some view compensation programs as a useful tool to mitigate human-wildlife conflict as long as they adequately reimburse the true costs of livestock depredation by large carnivores (Morehouse, Tigner & Boyce, 2018). However, determining the fair price of such indirect impacts of human-wildlife conflict is more difficult, as these damages are difficult to measure and disagreement exists to what extend costs should be compensated (Nyhus, 2016). Resultingly, some conservationists and wildlife managers question whether compensation is a useful tool to mitigate human-wildlife conflict and have proposed to focus on alternatives (e.g. building wildlife barriers, expanding habitat) (Nyhus et al., 2005).

In short, Nyhus et al. (2003) conclude that *'the most effective compensation programs are fair, transparent – and most importantly, fast'* (p. 38). When the limitations of compensation schemes can be overcome, they are believed to be able to play an important role in reducing animosity towards large carnivores (Bautista et al., 2019). However, reaching agreement on what 'fair' compensation is, remains one of the most controversial aspects of compensation schemes (Morehouse et al., 2018).

### 3.1.2. The experiences of livestock owners with compensation payments

Compensation programs are accepted by most of the public (Boitani et al., 2010; Milheiras & Hodge, 2011). However, there is considerable difference between interest groups. Livestock owners are generally more likely to oppose the presence of the wolf in their agricultural areas, and therefore, also to contest the compensation programs, as those are perceived as supporting the conservation of the wolf (Boitani et al., 2010; Marino et al., 2016). In many European countries, a large share of farmers and shepherds rather see the wolf being actively managed, controlled or culled. This creates an interesting paradox, as the

ones that should ultimately benefit from the compensation programs are the ones that have the most reservations towards its implementation and use (Milheiras & Hodge, 2011).

Many reservations of livestock owners relate to the main pitfalls of compensation programs identified by scholars, that have been elaborated on in the previous subchapter. This can for example be seen in Tuscany (Italy), where 31.4% out of 127 sheep owners criticized the fact that the compensation scheme that was in place did not reimburse the indirect effects that were induced by the wolf (Marino et al., 2016). Similar feelings have been expressed in Finland, where there has been a call for better damage compensation (Bisi, Kurki, Svensberg & Liukkonen, 2007), and in Wisconsin (USA), where livestock owners find the compensation payments inadequate, as they do not consider emotional distress and the emotions and years of care that have been invested in each animal (Naughton-Treves et al., 2003). In Portugal, many livestock owners mentioned dissatisfaction with the current procedure, which is slow and results in delayed payments (Milheiras & Hodge, 2011).

However, at the same time, livestock owners should not be considered a homogenous group, as can be seen when considering studies as the ones from Marino et al. (2021) and Naughton-Treves et al. (2003). Naughton-Treves et al. (2003) show that only 44.8% of livestock producers are in favor of either reducing or eliminating the wolf population within Wisconsin, with similar percentages found on the allowance of lethal control for problem wolves which have killed either livestock or a family pet. The study of Marino et al. (2021) explains that farmers expressed different views on compensation programs, with some farmers stating that compensation payments should increase in order to ensure the sustainability of farming, while others believe that receiving compensation should be made conditional on the use of certain proactive measures. Such studies illustrate the polarization that exists around the best way to manage wildlife, with also considerable differences within the same interest group.

Marino et al. (2021) argue that intuitively, compensation programs should be implemented, but that at the same time, these programs should be approached with caution, due to its surrounding complexity and failure to increase tolerance. Nevertheless, both the general public and livestock owners specifically often expect compensation programs as a management strategy, meaning that the cancelling of these programs can sometimes lead to increased animosity towards wildlife and worsen the relationship between livestock owners and wildlife management agencies (Milheiras & Hodge, 2011; Marino et al., 2021; Naughton-Treves, Grossberg & Treves, 2003).

### 3.2. The knowledge gap: environmental justice

As can be seen from the analysis above, published literature on compensation programs mostly focus on the evaluation of compensation programs; especially on establishing principles for how such programs can work more efficiently and become better accepted by those who are supposed to benefit from those schemes, i.e. livestock owners (Jacobsen & Linnell, 2016). However, compensation programs are mostly analyzed in terms of distributional impacts, whereby there is particular focus on reducing imbalances in the

distribution of harms, through monetary compensation (Holifield, Chakraborty & Walker, 2018; Jacobsen & Linnell, 2016; Martin et al., 2013).

However, the experiences of livestock owners with such compensation programs need to be understood within the broader context of their perceptions of fairness or justice, as such programs are not always considered to be adequate or fair (Jacobsen & Linnell, 2016). Compensation programs often enforce a particular idea about what a 'just' outcome entails, but this is not always agreed upon by local people (Whiteman, 2009), for example because mitigating risk might be believed to be more just than being compensated for living with that risk (Martin et al., 2014). This means that there are significant differences between stakeholders in what they believe to be 'just' (Martin et al. 2013), and it is therefore not surprising that it remains challenging to establish what a 'fair' compensation program looks like (Morehouse et al., 2018). As Harvey (1998) states: *"conflict is not between just and unjust solutions, but between different conceptions of justice"* (p. 398). Human behavior is for a large part determined by people's perceptions of justice, meaning that many conflicts over wildlife and its management are caused by different, opposing visions of what 'fair' or 'just' wildlife management entails (Martin, Gross-Camp, Kebede, McGuire & Munyarukaza, 2014). As Schlosberg (2004) argues, solely focusing on the distributive aspect of justice does not provide insights in the underlying mechanisms of injustice, claiming that *'demands for the recognition of cultural identity and for full participatory democratic rights are integral demands for justice'* (p. 537). This means that farmers are not necessarily (only) dissatisfied with the compensation programs in terms of distributive justice, as their dissatisfaction can also arise from other experienced injustices in relation to political participation and recognition. Such discontent cannot be understood when compensation programs are merely analyzed from the lens of distributive justice.

As such, it is important to analyze compensation programs from an environmental justice perspective, so that this multidimensionality of justice is taken into account. Nevertheless, no research has been found on how livestock owners consider these compensation programs within a justice framework, with the only exception being the study of Jacobsen and Linnell (2016) named *'Perceptions of environmental justice and the conflict surrounding large carnivore management in Norway'*, taking a quantitative approach. In the next chapter, the framework of environmental justice is explained.

## 4. Theoretical framework

In this theoretical framework, the two main concepts of this study will be explained. Firstly, the theory and framework of radical environmental justice will be discussed, as the conceptualization of environmental justice will be used in this study to analyze the experiences of livestock owners concerning compensation programs. Secondly, the concept of wildlife value orientations will be explained, since livestock owners' value orientations towards wildlife are believed to influence their attitudes towards wildlife and its management, and thereby also their perceptions of environmental justice.

### 4.1. Radical Environmental Justice Framework

Environmental justice (EJ) is a core approach that focusses on the critical analysis of socio-environmental phenomena (Massarella, Sallu & Ensor, 2020). During the 1970s and 1980s, EJ first emerged in the United States in relation to civil right struggles against hazardous waste dumping, which was found to be interrelated to issues of race and class (Mohai, Pellow & Roberts, 2009; Schlosberg, 2003). Despite the fact that 40 years have passed since the introduction of the term environmental justice, the term remains equally relevant today and has been extended beyond issues of environmental pollution (Holifield et al., 2018). The concept of EJ has been applied for a variety of functions (e.g. in descriptive, normative or political ways) (Walker, 2012) and is characterized by its broad scope of environmental problems (Holifield et al., 2018; Massarella et al., 2020), ranging from energy (e.g. Sovacool, Martiskainen, Hook & Baker, 2019) to climate change (e.g. Vaughn, 2017) and conservation interventions (e.g. Hoang, Satyal & Corbera, 2019).

As a result, defining environmental justice has proven to be difficult (Holifield et al., 2018). Through the years, environmental justice has been mostly referred to as an issue of distributional equity (Svarstad & Benjaminsen, 2020). Everybody is affected by environmental problems, but there are differences in the extent to and the ways in which people are affected (Holifield et al., 2018). This understanding of environmental justice is based on the influential Theory of Justice from John Rawls (1971), in which justice is defined as *'a standard whereby the distributive aspects of the basic structure of society are to be assessed'* (John Rawls, 1971, in Schlosberg, 2003, p. 79). In other words, justice is hereby viewed as a type of social contract that establishes society its distributional relationship, meaning that justice is often reduced to what people did and did not get in society (Schlosberg, 2009).

However, scholars (e.g. Schlosberg, 2004; Young, 1990) increasingly argue that *'moving towards justice issues of distribution are essential, but incomplete'* (Schlosberg, 2004, p. 518). This means that justice in the environmental field is about more than the fair distribution of environmental impacts, as only focusing on distributional justice does not explain the underlying factors that cause or construct unequal distribution in the first place (Schlosberg, 2009; Young, 1990). Resultingly, injustice is not solely the result of inequities in

distribution, because there are underlying reasons why some people have or suffer more than others (Schlosberg, 2004; Young, 1990).

The recognition that (environmental) justice is a complex phenomenon that cannot be simply reduced to an issue of distribution, eventually led to the development of the radical EJ framework. The radical EJ framework has been first developed by scholar David Schlosberg. Schlosberg (2004, 2007) builds on the influential work of justice scholars as Young (1990), Fraser (1995) and Honneth (2001), and explains that environmental justice is about more than a fair distribution of impacts; it also includes recognition and political participation (Schlosberg, 2003, 2004). Political participation is about the involvement in the political process and decision-making (Svarstad & Benjaminsen, 2020). The aim of recognition is '*seeking equality between different ways of knowing the world*' (Martin et al., 2013, p. 124). The radical EJ approach therefore consists of three overlapping and interrelated aspects: (1) distributive justice, (2) recognition justice, and (3) participatory or procedural justice. These three elements have been derived from political philosophy, specifically the radical justice theory (Svarstad & Benjaminsen, 2020). Schlosberg (2007) argues that conflicts related to biodiversity can best be analyzed by applying a multidimensional conception of justice, especially in cases where both social justice and environmental sustainability overlap. This is because there is often conflict between the demand for conservation of biodiversity by society at large and the demand for social justice by those who actually live close its hotspots (Martin et al., 2013), making this conceptualization of EJ a suitable theory to analyze HWC. In the next sections, each of the three dimensions of justice is further elaborated on.

#### 4.1.1. Distributive justice

Distributive justice can be understood in the field of natural resource governance and conservation interventions, as a focus '*on the (uneven) distribution of benefits, harms and burdens of intervention*' (Massarella et al., 2020, p. 1). Martin et al. (2016) argue that distributive injustices often result in '*objective material harm*' (p. 256), which is in large carnivore conservation most notably associated with livestock depredation (Bredin, Lescureux & Linnell, 2018). Most efforts that study justice (also in the field of conservation interventions) focus on this distributive aspect of justice, emphasizing costs and benefits (Jacobsen & Linnell, 2016; Martin et al., 2016). The same can be said for existing literature on compensation programs for livestock depredation, which generally analyze this phenomena by solely looking at the economic implications (Bredin et al., 2018).

In conservation practice, compensation programs can be understood as a system of distribution; an intervention that aims to make conservation more fair by providing rights to benefits (Martin et al., 2013). By compensating externalities that arise due to the conservation of species that are considered to be problematic, such as the wolf, compensation programs try to distribute the costs of carnivore conservation more fairly across society (Jacobsen & Linnell, 2016; Plumer et al., 2018). Through compensation programs, costs of large carnivore conservation are not only borne by local populations who

coexist with these species, but are passed on to society at large, so those who reap the benefits of conservation (Milheiras & Hodge, 2011). In this light, compensations in relation to conservation are important for ensuring distributive justice. However, at the same time, compensation programs have been received ambiguously. Compensation programs come with certain implications about what just outcomes look like, but such ideas are not necessarily shared by all stakeholders (Whiteman, 2009). The access to compensation programs might be considered as 'fair' by certain stakeholder groups, but their understanding of environmental justice may differ from those who are supposed to benefit from them, since they may emphasize other dimensions of justice, for example the recognition of their life-style or their involvement in political processes (Martin et al., 2014). As such, HWC resolution will not occur when there is a sole focus on distributional justice, since this does not address other injustices felt by stakeholders (Jacobsen & Linnell, 2016).

#### 4.1.2. Participatory justice

Participatory justice, or procedural justice, is about the extent to which stakeholders have the opportunity to participate in the decision-making process (Bredin et al., 2018; Jacobsen & Linnell, 2016). This means that participatory justice looks at existing (in)equities in participation in planning processes (Holifield et al., 2018). Procedural justice therefore also describes the power struggles that occur between various stakeholder groups, whereby attention is paid to who in the process of decision-making has influence and who has not (Massarella et al., 2020; Svarstad & Benjaminsen, 2018). Some scholars (e.g. Svarstad & Benjaminsen, 2018) argue that, despite power being a core focus of the REJ-framework, power is rarely theorized or specified by building on theories of power available in the social sciences, calling for studies that analyze the usefulness of combining EJ with power theories.

Political participation is studied as both a prerequisite for and category of justice (Schlosberg, 2004; Young, 1990). Firstly, an analysis of procedural justice is believed '*to address both the inequitable distribution of social goods and the conditions undermining social recognition*' (Schlosberg, 2004, p. 519). This dimension of justice is especially seen as closely connected to distributive justice, since '*determining just distribution may be based on an attempt to determine what individuals or groups deserve to receive, or gaining agreement regarding a fair procedure for allocation*' (Martin et al., 2013, p. 123). As such, participatory justice is often defined as a precondition for equitable distribution. Sometimes, procedural justice is even included in the distribution dimension, when procedures are not seen as just or unjust in itself, but as only a means of facilitation towards equitable distribution (Martin et al., 2014). However, at the same time, fair political participation does not merely result in equitable distribution and recognition; it should also be seen as a good in itself, for instance in terms of freedom (Martin et al., 2014).

In relation to compensation programs, procedural justice focusses on participatory processes through which these schemes have been developed. As argued by Marino et al. (2016), participation is often absent in the development of compensation programs. Most of the decision-making tends to be at the national level (Stohr & Coimbra, 2013), with only



limited stakeholder participation and influence (Reinhardt, Kluth, Nowak & Myslajek, 2013). This means that dissatisfaction can be about more than the distributive aspect of compensation schemes, as stakeholders can also be dissatisfied about the extent to which they have control over the potential implementation of certain management interventions (Jacobsen & Linnell, 2016).

#### 4.1.3. Recognition justice

Recognition justice or ‘malrecognition’ focuses on ‘*lack of respect for cultural difference*’ (Martin et al., 2014, p. 169), considering ‘*whose identities, values, interest and knowledge*’ are perceived as legitimate, respected and taken into account (Massarella et al., 2018, p. 1; Bredin et al., 2018). As such, recognition justice does not focus on what can be considered as just or unjust, but instead acknowledges that justice is conceptualized in different ways (Lecuyer, White, Schmook, Lemay & Calmé, 2018). Recognition justice then pays attention to the differences in recognition between groups or individuals, since different groups (deliberately) receive different levels of recognition (Svarstad & Benjaminsen, 2020). Emphasizing distributive or procedural justice does not automatically result in recognition justice, as such a focus does not guarantee respect or equality (Martin et al., 2013; Massarella et al., 2018).

Often, recognition justice is understood as ‘*a requirement to achieve satisfactory distributive and participatory justice*’ (Jacobsen & Linnell, 2016, p. 205). Scholars (e.g. Fraser, 2000; Miller, 2003; Young, 1990) show that a lack of respect and recognition often results in unjust distribution and a decline in a group’s or individual’s political participation. Therefore, within this dimension of justice, it needs to be considered how certain hierarchies between stakeholders lead to a certain bias in terms of distribution and participation (Martin et al., 2013). Because of this understanding of recognition as an ‘inherent precondition’ for both distributive and participatory justice (Schlosberg, 2004, p. 519), not all scholars (e.g. Miller, 2003) accept recognition as a separate dimension of justice; in this light, recognition and respect are seen as integral to ideal types of distribution and participation (Schlosberg, 2004).

However, as Young (1990) and Schlosberg (2004) argue, recognition should also be understood as a good in itself, since a lack of recognition is a harm in itself, for example reflected in negative self-image or reduced self-esteem (Martin et al., 2016). This is also what Jacobsen & Linnell (2016) conclude from their study in Norway on environmental justice perceptions concerning large carnivore management of the stakeholder groups of sheep farmers, environmentalists and indigenous reindeer herders. The three stakeholder groups were found to hold completely different values and viewpoints in relation to the carnivore conflict. While such differences also underlie their opposing positions concerning distributive issues, stakeholders also highly value the recognition of their values, lifestyles and knowledge in itself, stating that this recognition is not always present (Jacobsen & Linnell, 2016). As such, considering the recognition-dimension of justice can lead to a more complex understanding of the different ways in which those affected by environmental



interventions *‘subjectively perceive, evaluate and narrate an issue, such as their perspectives on an environmental intervention’* (Svarstad & Benjaminsen, 2020, p. 4).

As Treves et al. (2009) argue: *“controversy over payment rules reveals clashing values regarding wildlife between those receiving and those paying for compensation”* (p. 4003). Recognition justice then considers whether all stakeholders’ interests, values, knowledge and identities have been recognized throughout the development of compensation programs and wolf management more broadly. So far, this has not always been the case, as for example in Germany. Here, receiving compensation in so-called ‘wolf regions’ is made conditional on taking preventive action, but there is considerable disagreement about what a wolf region entails and the existence of this prerequisite in itself, with livestock owners not always feeling like they are taken seriously (Stohr & Coimbra, 2013). When considering conservation practice, the dimension of recognition remains underacknowledged as a good in itself (Jacobsen & Linnell, 2016).

In conclusion, there is debate about which dimension(s) of justice should be ascribed the most relevancy, with scholars arguing to focus on distribution (e.g. Dobson, 2007), recognition (e.g. Fraser, 2009), or participation (e.g. Crocker, 2008). In this study, the approach of Schlosberg (2007) is followed, who does not consider one pillar of justice to be more important than the other. Instead, he points out that justice is multi-dimensional and that the three categories of environmental justice are interlinked. Injustices in one of the three dimensions of environmental justice might lead to outcomes of injustice in the other categories; for example, *‘in the same way as a lack of recognition can lead to outcomes of distributive injustice, unawareness of distributive injustices can lead to failures of recognition of affected stakeholders’* (Jacobsen & Linnell, 2016, p. 198). Resultingly, these categories of justice cannot be studied separately; they are both a good in itself as an inherent condition for justice (Schlosberg, 2004).

## 4.2. Wildlife value orientations

Wildlife Value orientations (WVO) are a theoretical approach used to gain insight in people’s values in relation to wildlife (Manfredo, Teel & Henry, 2009). To understand the theory on WVO, a broader understanding of the concepts of values and value orientations is required.

### 4.2.1. Values

Despite the wide application of the term, David Graeber (2001) argues that, *‘it is extremely difficult to find a systematic ‘theory of value’ anywhere in the recent literature; and it turns out to be very difficult to figure out what body of theory, if any, that any particular author who uses the term ‘value’ is drawing on’* (p. 1). He continues to argue that, while researchers have continually used the term ‘values’ in the past decades, only rarely a definition is provided about what they actually mean with this concept (Graeber, 2001). As such, values have been described and interpreted in several, distinct ways over the years. Kluckhohn (1949) has described values as *‘conceptions of the desirable’* (Kluckhohn, 1951, p. 395 in

Graeber, 2001, p. 3), in which values can be seen as standards that inform individuals about whether their desires are justifiable. Graeber (2001, 2005) builds on Marx's analysis of value, whereby value is understood as a way to give meaning to people's actions. These two definitions illustrate the ways in which values are generally perceived: either as '*guiding principles of life*' (Fischer, 2017, p. 2019) or modes of conduct (Fischer, 2017; Jacobs, Vaske & Sijtsma, 2014b).

While these definitions emphasize various aspects of the notion of values, Schwartz (2006) concludes that many definitions of basic values are (implicitly) based on six main characteristics: (1) values are beliefs, (2) values refer to desirable goals, (3) values transcend situations and contexts (4) values function as criteria, informing on for example the selection of policy (5) values are hierarchically structured, with some values being prioritized over others, and (6) action is guided by the relative importance of relevant values. In relation to this study on compensation schemes, it is especially the fourth characteristic that makes theories of values useful, as it means that someone's acceptance of compensation schemes is informed by their values. In the context of wildlife, basic values as guiding principles can relate for example to perceptions about how humans are allowed to use wildlife, the rights ascribed to wildlife and the value of wildlife for nature experiences (Zinn, Manfredo, Vaske & Wittmann, 1998).

#### 4.2.2. Value Orientations

In a broad sense, value orientations inform on how the basic values of individuals or groups are then applied in a certain context, i.e. they '*give contextual meaning to these values*' (Manfredo et al., 2009, p. 410). This means that they can be defined as '*patterns of basic beliefs that give meaning and direction to values*' in a specific context (Jacobs, Vaske, Dubois & Fehres, 2014a, p. 596). Value orientations aim to make values less abstract, combining ideas of what one finds desirable (the value) with basic assumptions about the nature of the world in which someone has to act upon these values (Kluckhohn, 1949 in Graeber, 2001). This means that while people may hold the same value, they can differ in their orientations, and therefore, act differently (Manfredo et al., 2009). Manfredo et al. (2009) exemplify this in the context of wildlife with the value of 'being humane to living beings': one person can interpret this as not harming wildlife under any condition, while another may consider it acceptable to kill wildlife provided that it does not suffer. Therefore, value orientations are known to lay the foundation for thoughts, attitudes and experiences with regards to, in this case, wildlife and its management (Jacobs, 2007; Manfredo et al., 2009).

#### 4.2.3. Wildlife Value Orientations

Generally, two main WVO can be distinguished that shape humans' relationship with wildlife (Jacobs, 2007; Manfredo et al., 2009): (1) domination wildlife value orientation, and (2) mutualism wildlife value orientation. Domination/utilitarian WVO is a '*view of wildlife that prioritizes human well-being over wildlife and treats wildlife in utilitarian terms*' (Manfredo et al., 2017, p. 774), whereas mutualistic WVO emphasizes equal relationships

between humans and wildlife (Manfredo et al., 2017). These value orientations are comparable to the materialism & mutualism value orientations of Jacobs (2007) and the self-enhancement & self-transcendence value orientations of Schwartz (2006). Some scholars (Gamborg, Lund & Jensen, 2019; Teel, Dayer, Manfredo & Bright, 2005) have added pluralist and distanced WVO next to the two general WVO identified in literature, to overcome the either/or distinction that is apparent when only considering mutualist and utilitarian value orientations towards wildlife. As Teel et al. (2005) argue, individuals can also hold both strong utilitarian and mutualistic WVO or hold neither. *‘Pluralists hold both a mutualism and a utilitarian value orientation towards wildlife’* (Teel et al., 2005, p. 9), whereby it is context-dependent which of the value orientations manifests itself. For example, sheep farmers may follow a mutualist value orientation in terms of deer moving through their fields, but may have a utilitarian orientation towards for example the wolf, calling for the protection of their livestock and accepting lethal control. Lastly, distanced WVO is characterized by a non-existent or lesser interest in wildlife and wildlife-related issues. Resultingly, individuals with this WVO hold neither a strong utilitarian nor mutualistic orientation towards wildlife (Gamborg et al., 2019; Teel et al., 2005).

A study in Norway found that sheep farmers generally follow dominant value orientations towards large carnivores, in line with results found on farmers in, among others, Australia (Hill, 1993) and Italy (Cerri, More, Vivarelli & Zaccaroni, 2017): *“They expressed relatively antagonistic attitudes toward the large carnivores, [...], and they supported hunting of the large carnivores”* (Kaltenborn, Bjerke & Vitterso, 1999). Generally, domination-oriented farmers are known to be less likely to accept large carnivores as the wolf in their living area and are therefore more in favor of management interventions that limit the freedom of these animals, e.g. lethal control (Cerri et al., 2017; Kaltenborn et al., 1999). According to Gamborg et al. (2019), who have studied landowners’ WVO in Denmark, the domination WVO is followed by a pluralist WVO among farmers. However, they also point out that there is considerable difference between farmers; full-time and conventional farmers follow a more utilitarian WVO than part-time, hobby or organic farmers (Gamborg et al., 2019). On the other hand, conservationists, wildlife managers and, increasingly, the general public follow a mutualistic value orientation, focusing on the need to protect the rights of wildlife (Gamborg et al., 2019; Kalternborn et al., 1999; Redpath et al., 2017).

Conflict over wildlife-related problems is then often the result of different WVO, resulting in different positions towards the problem (Manfredo et al., 2009; Manfredo et al., 2017; Redpath et al., 2017). This can be illustrated by the study of Drenthen (2015), who shows how different attitudes towards the wolf can be derived from three different perspectives towards the wolf: (1) the wolf as intruder, (2) the wolf as victim and friend, and (3) the wolf as ‘controllable’ object. He hereby sheds light on the different value orientations that exist in Dutch society towards the wolf. The usefulness of WVO therefore lies in its predictive potential, since they can predict thoughts and attitudes towards wildlife, wildlife management and wildlife-related activities (Jacobs et al., 2014a; Jacobs et al., 2014b). As such, gaining insight in the different WVO of stakeholders contributes to a better

understanding of the opinions and attitudes of diverse stakeholder groups, thereby informing decision-makers on what (aspects of) actions or policies are deemed acceptable (Chase, 2013; Zinn et al., 1998). This thus means that WVO can also lead to a better understanding on the acceptability of wildlife-related interventions (Allen, 2020; Jacobs et al., 2014b); in this case-study, on wolf damage compensation schemes among farmers, as the individual preferences for wildlife management interventions are known to be (partly) based on WVO (Hartel, 2018). This means that farmers' experiences with wolf damage compensation schemes can be better understood by considering their WVO, as they give insight in the underlying reasons for these perspectives.

#### 4.3. Combining radical EJ & WVO

Combining the theory on radical EJ and WVO, it can be expected that differences between farmers in terms of WVO will influence their understanding of environmental justice, as livestock owners with different WVO perceive their relationship with wildlife in distinct ways. Someone with a utilitarian value orientation views wildlife in a different way than someone with a mutualist value orientation, leading to different perceptions of environmental justice. Such differences will then result in distinct positions towards compensation programs and current wolf management, because individuals will probably experience other and/or more injustices than others due to their diverging views of wildlife. Since livestock owners differ in their underlying value orientations, it is probable that not everyone's perceptions of injustice can be resolved (Jacobsen & Linnell, 2016). Therefore, Jacobsen & Linnell (2016) argue that HWC can be understood as a wicked problem.

Additionally, values play an important role in the recognition dimension of justice. This means that when livestock owners feel like their values in relation to the wolf are not recognized, this will also have an effect on how they perceive (in)justice in the other dimensions of justice, distribution and participation, as the three dimensions are connected. Resultingly, WVO may influence perceptions of justice in two ways; influencing one's understanding of environmental justice all together, and from the dimension of recognition specifically.

## 5. Methodology

In this chapter, the methodological choices for this research will be described. Firstly, the research design will be explained. Then, it is explained how the data has been collected and analyzed. Lastly, some ethical considerations and the positionality of the researcher will be discussed.

### 5.1. Research design

For this research, a case study design has been adopted. The overarching case study in this study is the evaluation of the compensation program for wolf damage to livestock in the Netherlands, focusing specifically on the provinces in the South-East of the Netherlands: Gelderland, Limburg and North-Brabant. This focus is the result of two factors: (1) the frequency of wolf predation on livestock in the last two years is highest in these three provinces in the last two years (2020-2021) (BIJ12, 2021), and (2) the availability of research participants in these provinces. Taking the Netherlands as the site for this case study, this study provides insights in the experiences of livestock owners with compensation programs for HWC more broadly. Focusing on one particular program has allowed for a more thick description of the experiences of livestock owners, thereby creating a more thorough understanding of the broader case, i.e. ex-post compensation programs.

### 5.2. Data-collection and analysis

This research is qualitative in nature and takes a mixed-method approach of data-collection. Data has first been collected by conducting a literature research, and thereafter, by the use of interviews. In the following section, each data-collection method will be further elaborated on.

#### 5.2.1. Literature research

The research has started with a literature review, whereby a summary has been provided on previous research that has been conducted on compensation programs for large carnivores (see chapter 3 for this overview). For this literature review, the literature platform of Google Scholar has been used. The literature review consists of two parts: the first part focusses on literature that covers the general working of compensation programs for large carnivores, and the second part includes literature on the attitudes of livestock owners in general towards these compensation programs. For the first part, search terms as 'compensation', 'compensation scheme', 'compensation payment', and 'compensation program' have been combined with search terms as 'large carnivores', 'wolves', 'wildlife' and 'predators'. For the second part, search terms as 'farmers' dissatisfaction' and 'farmers' experience' have been combined with the search terms used for the previous part: 'compensation program large carnivores', 'compensation program wolves' etc.

### 5.2.2. Interviews

The next data-collection method that has been used in this research is that of interviews. Interviews have been semi-structured, following general interview guides. The combination of freedom and structure that is characteristic for this type of interviews has made it possible to gain insight in interviewee's opinions, interpretations and perspectives on the topic of compensation programs and wolf policy more broadly, while it has simultaneously kept space open for interviewees to come up with additional topics and points that they considered to be relevant but have not been foreseen in the interview guide.

In total, 15 interviews have been held, being conducted either face-to-face or through videocall, using Microsoft Teams (For a full list of research participants, see Appendix 1). The sample size has been based on the availability of research participants. Contact with research participants has been established in different ways. For organizations, an e-mail has been sent to the concerned organization, after which each organization has appointed a representative for the interview. Livestock owners have been contacted in two ways: (1) a call has been placed in several Facebook groups (named 'Discussieplatform Nowolves', 'Wolven in Nederland', 'Groep Wolf', and 'Schapen'), to which farmers could reply if they were willing to participate or others if they knew someone who might want to participate, and (2) the method of snowball sampling, whereby livestock owners forwarded the contact information of other farmers who have experienced wolf damage to livestock. The only requirement for livestock owners to participate in this study has been that the livestock owners had reported damage at BIJ12 at least once since the arrival of the wolf to the Netherlands. This means that no distinctions have been made in terms of whether livestock owners fall in the category of conventional, organic, corporate or hobby livestock farming. The various interview guides that have been used during the interviews can be found in appendices two, three and four.

Face-to-face interviews have been recorded by use of a mobile phone and videocalls have been recorded in Microsoft Teams. Afterwards, the recordings have been transcribed using Microsoft Word and then deductively coded in Microsoft Excel. In order to be able to deductively code the obtained data, a pre-determined coding framework has been developed. This framework is shown in table 1. The themes are based on the environmental justice framework of Schlosberg (2003, 2004, 2007), which has been operationalized into concrete codes. These codes have been based on a combination of the literature review on compensation programs and the theoretical framework. All interviews have been carried out in Dutch, and resultingly, the quotes selected in this research to support the findings of this study in chapter 6 have been translated to English. An overview of the original Dutch quotes can be found in Appendix 5. (Coded) transcripts and consent forms have been doubly stored on a laptop and an external hard drive to prevent data loss.

Table 1. Coding framework

Themes	Codes
<b>Distribution</b>	<ul style="list-style-type: none"> <li>- Material benefits</li> <li>- Materials costs</li> <li>- Non-material benefits</li> <li>- Non-material costs</li> </ul>
<b>Participation</b>	<ul style="list-style-type: none"> <li>- Transparency</li> <li>- Accountability</li> <li>- Involvement</li> </ul>
<b>Recognition</b>	<ul style="list-style-type: none"> <li>- Identities</li> <li>- Values</li> <li>- Knowledge</li> <li>- Interests</li> </ul>

### 5.3. Ethical considerations and Positionality

Firstly, there is the importance of informed consent. For the participation in interviews, all participants have given both verbal consent and signed an informed consent form (see appendix 6). There are two exceptions in this regard, as two representatives from organizations have given verbal consent, but have forgotten to send back the signed form. Nevertheless, based on the verbal consent, it has been chosen to still include these interviewees in the study.

Additionally, there is the issue of confidentiality. Regarding this, it has been decided to present participants anonymously throughout the report. Resultingly, their names cannot be found in the report. Instead, each participant is referred to as livestock owner #\*number\* (e.g. livestock owner #1). The point of keeping participants anonymous is that participants cannot be traced back by readers of the report (outsiders), so that research participants could speak freely without feeling like they needed to justify their opinions, perspectives or attitudes to those who hold different views.

In terms of positionality, it is important to consider the background of the researcher. As someone who comes from an urban area and has no experience living with large animals as the wolf, this background can potentially have influenced the interpretation of data. While on the hand, this lack of experience leads to a free mindset towards farmers' experiences and perspectives, on the other hand, it can have influenced the way in which these experiences are (mis)interpreted. Additionally, the researcher normally identifies with a more mutualist value orientation. While this view is more nuanced in the case of the wolf, due to the recognition that its presence in the Netherlands is highly controversial and creates many worries and frustrations among people who need to coexist with these species, this can potentially have influenced the data interpretation of especially participants with a utilitarian value orientation.

## 6. Results: Compensation payments in EJ

The following chapter is based on the 15 interviews that have been performed in light of this research. In this chapter, the findings of these interviews are organized by using the Environmental Justice Framework (as explained in chapter 4). Firstly, in section 6.1., compensation payments are discussed in relation to distributive justice. Then, participation in compensation payments' development and execution are elaborated on in section 6.2. Lastly, section 6.3. analyzes in what ways compensation payments contribute to issues of recognition justice.

### 6.1. Distributive Justice

This section considers the aspect of Distribution Justice, which has been explained in chapter 4 as a focus '*on the (uneven) distribution of benefits, harms and burdens of intervention*' (Massarella et al., 2020, p. 1). In this light, this chapter looks at how farmers reflect on the distribution of compensation (6.1.1. & 6.1.2.), the distribution of subsidies (6.1.3.), and the general distribution of burdens that comes with the arrival of the wolf (6.1.4.).

#### 6.1.1. The distribution of compensation: the value of what is included

Opinions about the taxation value of sheep are quite mixed among farmers. While some are satisfied with the value that they have received for their animals, others believe that their animals are (highly) undervalued. Farmers in the first group state that the taxation value *"was comfortable"* (Livestock Owner #6), *"it will not make you rich, but it certainly will not make you worse off"* (Livestock Owner #5), and *"I was satisfied with the amount that they had appraised"* (Livestock Owner #7). Main points of improvement for the latter group are (1) the market value that is used for the taxation calculation, (2) the low value for studbook animals, and (3) the low value for lambs/calves and younger animals.

Firstly, some farmers complain about the fact that BIJ12 uses the market values of last year to tax the value of an animal. However, as farmers point out, values can fluctuate throughout the years, meaning that you can receive either more or less than the current market value. As livestock Owner #4 explains, last year's market value (year 2020) for sheep was around 120 euros, while this year's value (year 2021) is around 160. Since BIJ12 uses the market value of last year, this means that livestock owners receive 40 euros less than their animal is worth at the moment of damage. Therefore, they want BIJ12 to use the market value of the present year; i.e. the year in which they would need to replace their killed animals.

Secondly, multiple farmers have pointed out that BIJ12 compensates only 25 euros extra when an animal has a studbook, while *'such an animal can have a value of thousands of euros and that is not considered'* (Livestock Owner #7). They argue that studbook sheep used for breeding muster almost the same compensation value as regular heather sheep or sheep meant for slaughter, which they believe to be unfair.



Thirdly, a number of farmers argue that all animals are valued in the same way, regardless of age. However, they argue that younger sheep have more value than older ones, as those can still breed and produce offspring. One farmer received 125 euros for each ewe that was killed, arguing: *“for a very old sheep that is 11 years old, then you say oh well, it has lambed for the last time then. You can sell that in the fall. But I think 125 euros is too little for such a sheep that has lambed for the first time”* (Livestock owner #2). The same argumentation is made for lambs and calves, which are considered to be of lower value due to their young age. However, those animals are often sold after a few months, meaning that farmers are supposed to gain more from them in the future. As Livestock Owner #8 explains, he normally sells a calf after six months for ±550-650 euros, so everything less than that means an income loss. Therefore, some farmers believe that younger animals should be taxed higher, to compensate for lost income.

As such, farmers argue that BIJ12 should pay more attention to the differences between animals. Sheep farmers find the calculation table that is currently being used for the taxation of sheep too generic. As one farmer explains: *“sheep is just sheep. Whether it is large or small, square or round, it is not considered. It's just sheep”* (Livestock Owner #4). This perspective is supported by other, less frequently mentioned points, whereby some farmers state that BIJ12 focuses too much on their standard taxation table (for sheep) without considering special circumstances, that bucks are worth 25 euros more in the table than ewes while such a distinction is not applicable when both go to the slaughter and no consideration of health issues besides scrapie and maedi/visna is made.

#### 6.1.2. The distribution of compensation: what should be included?

While farmers express different opinions about the taxation value of their animals, they all voice similar ideas about what aspects of wolf damage should be eligible for compensation, but are currently not considered. One livestock owner, positive about the taxation, states: *“The value of the sheep may match the valuation, but that's the only positive thing I can say about it”* (Livestock Owner #1). Many farmers argue that BIJ12 focusses only on direct damage in terms of the value of an animal, veterinarian costs and deconstruction costs, while other costs, both material and non-material, are ignored.

Important material costs include the damage to fences due to livestock bursting out during an attack and so-called ‘consequential damage’, including sheep not getting dilated, miscarriages, poorer health due to stress and sheep that die later due to their injuries. Livestock Owner #3, who has suffered from wolf damage multiple times in the last two years, argues that he needed the veterinarian more often during last winter’s lambing time than in earlier years, in which he was not yet having problems with a wolf. The veterinarian had to visit livestock Owner #3 around six times for a case of no dilation, something that has never happened before in this frequency. As Livestock Owner #4 explains: *“That is not reimbursed. And it's actually the largest damage. The sheep that they eat, yes, that is also damage, but .. If five sheep of mine, worth 200 euros, are eaten, that is 1000 euros. But if 10 sheep each knock off two lambs, I miss 20 lambs. Times 100 euros each, is completely*

*different money*". Also, two farmers had sheep surviving a bite to the throat, later either being euthanized by the veterinarian or dying of suffocation.

*"I heard for some time that it started to breathe more heavily at the time, and the trachea has been open, and it got scar tissue in, and that has healed up, so it just suffocated. At one point, you heard him breathing 50 meters away. Yes, at one point, it lay dead"*

(Livestock Owner #3).

While farmers are convinced that such issues are caused by the presence of the wolf, they can almost never be traced back to the wolf. It is acknowledged that BIJ12 indeed states on their website and in their documents that they will compensate these types of damage, but they argue that in practice this never happens as it is impossible to prove it as a consequence of a wolf attack.

In terms of non-material costs, all farmers considered the most important aspects to be (1) labor, (2) time, and (3) insecurity.

First of all, farmers state that taking prevention measures against the wolf in the form of placing wolf-resistant nets is considerably more work than the use of regular nets. The wolf-resistant nets are heavier than the regular ones; whereas regular nets are 90 cm high and weigh  $\pm 3.5$  kilograms, wolf-resistant nets need to be 1.20 high, thereby weighing around 6-7 kilograms (Counselor sheep farmers). But also, since the nets are higher, the weight is carried further away from the body, making especially the activity of taking down the nets extra heavy. Resultingly, farmers complain about the physical implications that come with the transition towards wolf-resistant nets.

*"You are also physically completely exhausted, and that is not the case with those normal nets, then you work an hour, or two hours, or five or eight, and then you continue. And here you are just knackered"* (Livestock Owner #1).

Secondly, the wolf-resistant nets are believed to take up to twice as much time as the regular ones, meaning that less work can be done in one day. Part of the extra time can be explained by the heavy labor, but farmers also complain about the difficulty of managing the wolf-resistant nets. Besides the weight and height of the nets, issues include the difficulty of getting the nets' pins in and out of the ground, and the difficulty of rolling up the nets due to twigs and leaves getting stuck in it, thereby creating knots. A few farmers explain that they will not take any preventative measures due to this, as they find that such a measure is taking up so much time that it is almost impossible to perform next to their other daily activities, or their full-time job. Additionally, besides the extra time that the placing of wolf-resistant fencing takes for farmers, they argue that the burden of (reporting) damage is placed fully on them. They explain that the general process from beginning to end requires many different activities that all take some portion of their time: calling BIJ12, calling and meeting the veterinarian and the valuator, catching and deconstructing sheep. And, as farmers point out, this is not something that can be postponed to another day, meaning that other, daily activities are delayed. As such, farmers argue that extra costs do not only include damages caused by the wolf, but also the extra activities that can be directly linked to the wolf and the extra time it takes.

Lastly, the arrival of the wolf brings various, new types of insecurities for livestock owners. It raises new worries about the future of their business and its operations, raising questions about the best way to adapt to the predator and what measures to take.

*“We are now expected to work differently, to use different fencing, which cost us more time that we do not see reimbursed. So there is a very big uncertainty over those companies of how are we going to survive”* (Representative VGSN).

Such adaptations come with increasing costs for farmers, meaning that keeping livestock will become an even less lucrative business than it is often already considered to be; i.e. the wolf presents challenges to their current revenue model. Such worries are worsened when prevention measures show to be ineffective, as farmers become unsure about how to proceed. Additionally, some farmers worry about the emotional impact that such wolf damages has on them, wondering how long they can bear it mentally.

*“Certainly because the measures I need to take are not sufficient. That has to do with what the hell do I need to do to keep that wolf out, because, what I am saying, how many wolf attacks can you handle mentally. So in that sense I'm really worried about how should I deal with this and how should I solve this. So that creates a lot of uncertainty”*

(Livestock Owner #1).

But it also brings insecurity in terms of possible, future problems directly related to the wolf. Some farmers are afraid that the arrival of the wolf in their area will cause new problems that are out of their control, but for which they will be held responsible. As Livestock Owner #8 explains, he wonders what will happen when the wolf attack leads to a change in his cows' behavior, making them for example more aggressive towards hikers with dogs. His contract with nature conservation organization [Natuurmonumenten](#), from which he rents the land, states that 'angry cows' need to be removed from the area. Resultingly, Livestock Owner #8 is afraid that the wolf will eventually force him to take home some (or all) of his cattle. The same worries appear when farmers consider the prevention measure of guard dogs, which is increasingly presented to them as a potential way to keep the wolf at bay. Some farmers worry about how such dogs would respond to other dogs and individuals that come to close to the herd, and whether they could be held responsible if something does go wrong.

*“Then you get a legal joust, when a guarding dog grabs a loose running dog and kills it. The shepherd didn't give the order to do that, the owner should have kept that dog on a leash, and that guarding dog is doing its job. Can that owner then sue the shepherd for the costs and the trauma?”* (Counselor sheep farmers).

Many farmers consider those non-material costs to be of even more importance than the material ones and want to see the extra time and heavy labor compensated. However, most farmers acknowledge that it will be difficult to compensate these problems, as such unrest cannot be expressed in money.

*“That hundred euros for that sheep, it is actually, I don't lose sleep over it, I don't go bankrupt and I don't get rich from it. The unrest it produces is much worse, or the extra labor it takes. Those are aspects that weigh much more heavily”* (Livestock owner #1).

### 6.1.3. The distribution of subsidies

At the same time, many farmers express dissatisfaction with the way in which subsidies for taking preventative measures are currently distributed. Currently, subsidies are only available for livestock owners who live in a designated 'wolf territory' (i.e. when a wolf lives in the area for at least six months). In describing this rule, many farmers use Dutch sayings that directly translate as '*mustard after the meal*' (i.e. too little, too late) and '*when the calf has drowned, the well is muted*' (i.e. when the steed is stolen, the stable door is locked). Many farmers argue that, because of such a requisite, prevention comes often too late: *"For example, I have a herd of sheep in the Loonse en Drunense dunes, and if a wolf shows up there, and it thinks I will stay here, then first, we have to wait six months, until it is settled, before you can use those preventive measures"* (representative VGSN). Such a requisite means that prevention measures will only be taken when the wolf is in the area for more than six months, meaning that this wolf has over six months of (almost) free access to livestock in the area.

Additionally, many farmers explain that they do not live in one of these designated territories and are therefore not eligible for such a subsidy. However, these farmers still experience damage by wolves due to them living either close to a wolf territory or on popular migration routes. They state that '*the wolf can show up anywhere in the Netherlands*' (Representative VGSN), and therefore, many farmers find it unreasonable that subsidy is only available for those in designated wolf territories. The wryness of this requirement is illustrated by the counselor of sheep farmers, taking the example of the Brabant wolf<sup>2</sup>: *"The interesting thing with the Brabant wolf, is that it is not a Brabant wolf at all, because it also came to Limburg. [Name] lives in Limburg and that is where the damage was. And that wolf had settled in Brabant, and occasionally came to get his meal in Limburg. Limburg did not proceed to label the entire province as a wolf area"*. In relation to this restriction on subsidies, many farmers argue in favor of access to subsidies for prevention measures for all, regardless of whether one lives in a designated wolf territory.

Simultaneously, farmers show disagreement about the extent of the subsidy they should receive; i.e. the ratio between subsidy and personal contribution. Some farmers argue that the state should be fully responsible, and therefore the subsidy should be a 100%, and others believe that livestock owners themselves have a certain business risk and that also a smaller portion can be subsidized, for example 75-80%. A few farmers mentioned that subsidies do not necessarily have to be provided for in the form of money, and propose the giving of certain materials/technologies that can make their work easier.

### 6.1.4. The general burden for livestock owners

All livestock owners believe that they carry the burden of the return of the wolf in the Netherlands, as they are currently the only group who suffers from damage by the wolf. As

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<sup>2</sup> The Brabant wolf is a male wolf which has settled in the province of Brabant.

they point out, they are the ones who suffer from the direct impact that the wolf has in terms of killing sheep, extra workload and insecurity, while the rest of the Netherlands can continue with their business as usual.

In relation to this burden, farmers view the possibility of prevention measures becoming mandatory in the future, in order to receive compensation, differently. Some believe that such a demand will only add to their burden, since they find current preventative measures in the form of wolf-resistant fencing or guard dogs either too complicated or impossible. Therefore, the implementation of such a requirement will leave them with three options: (1) taking the preventative measures and thereby increasing their workload, (2) not taking the preventative measures and therefore missing out on compensation, or (3) dropping out of livestock farming entirely. Other farmers see the implementation of this requirement as a necessary step, in order to prevent wolves from learning to eat sheep and other livestock. But those farmers then argue that such a measure can only be implemented when good, workable solutions exist that actually keep the wolf away and those solutions are then (partially) subsidized by the government. As the representative of LTO Nederland points out, they have been fighting the implementation of this requirement for 2022, as there is still uncertainty about what entails an 'effective' prevention measure. As long as this remains unknown, they do not want to see prevention mandatory.

## 6.2. Participatory Justice

The following section elaborates on the aspect of participatory justice. As explained in chapter 4, participatory justice is about the opportunities of stakeholders to participate in decision-making processes. Generally, a divide can be seen in terms of political interest in the wolf, as some farmers try to keep informed about new developments around the wolf, while other farmers, mostly those suffering from wolf damage only once, are not interested in this (anymore). Firstly, section 6.2.1. elaborates on the interaction and communication between the organization of BIJ12 and livestock owners. Then, section 6.2.2. considers how farmers evaluate their representation in policy- and decision-making, after which section 6.2.3. expands on farmers' perspectives about who carries the accountability for wolf presence and its management.

### 6.2.1. The interaction between BIJ12 and Livestock Owners

Commonly stated among farmers is the dissatisfaction with BIJ12 its communication and payment process. They complain about the poor accessibility of BIJ12. Farmers explain that BIJ12 can only be reached during business hours, meaning that farmers who find attacked livestock early in the morning, late in the evening or on weekends cannot report their livestock damage immediately. Especially in the last two situations, this can have negative implications for the time limit of DNA collection, as BIJ12 states that a valuator needs to come in within 24 hours to collect DNA. Therefore, farmers believe that BIJ12 should be reachable by phone 24 hours a day, every day of the week. As livestock owner #1

explains, this is something that is also required for livestock owners, who should always be available in case something happens with their livestock, and therefore, he argues that it will only be fair that the same is required of BIJ12.

Another issue in relation to the communication process that multiple farmers have encountered, is the long waiting times and/or inaccessibility of BIJ12. Some farmers complain that, even during business hours, BIJ12 is often unavailable. They argue that, even when you call BIJ12 during their official opening hours, this is no guarantee that someone actually picks up the phone. For example, livestock owner #1 explains: *"I have once been on hold for hours, really hours on hold, and my girlfriend has also called a few times, and then been on hold for hours, and still not available."* Another example of unreachability is explained by Livestock owner #4, who got an automatic strap that explained that due to COVID-19, no one was currently present at the office, but there were also no alternative numbers available for how he could reach the organization. In order to circumvent these issues, multiple farmers now have the direct mobile phone numbers from employees working at BIJ12. In case of damage or questions, they no longer try to reach the organization of BIJ12 in the formal way, but directly turn to this informal channel. However, as they point out, this is not the way it is supposed to be, as farmers who experience livestock damage by the wolf for the first time, do not have this benefit (yet) and therefore always need to struggle to gain access to BIJ12.

In relation to the payment of compensation, all farmers state that the general process surrounding BIJ12 its compensation is incredibly slow, with a few farmers calling it *'too bureaucratic'* or *'too official'*. They explain that first, it often takes several weeks before they hear whether or not the damage has been caused by a wolf and how much compensation they will actually receive, and secondly, it then takes several months before this compensation is paid. According to them, especially the gap between DNA results and payment can be shortened. While they understand that BIJ12 only proceeds to payment when everything around the livestock damage is clear, they argue that, as soon as the DNA result shows that a farmer is eligible for compensation, the payment should be made quickly. They do not understand why it must take so long, as making a transaction is a small activity.

*"I thought it was way too long in between. If at some point, it is known that an animal has done it that they reimburse, then I find that the money should come faster"* (Livestock Owner #7).

*"I thought it took too long between us hearing the result that it was golden jackal, and then the payment. You simply think with fourteen days, or three weeks, then they pay out. But it was about three months. That's just too long"* (Livestock owner #4)

Such frustrations are worsened due to the fact that farmers do not get any updates about the progress of their case.

*"We had to call after it ourselves every time. And then they actually only had a stupid excuse every time. And well, then you could wait again"* (Livestock owner #7).

### 6.2.2. The representation of farmers in policy- and decision-making

Generally, current policy around the wolf is described by many farmers as ‘pro-wolf’, developed by people who are for the most part on the side of the wolf. Policy focusses on the facilitation of the wolf in the Netherlands, while interests of livestock owners are trivialized.

*“The policy is simply that they want wolves, and more and more”* (Livestock Owner #7).

*“But the thoughts of the people who decides such matters, I think that they are very much sitting on the wolf its seat, while they should be sitting much more on the seat of peasants”*  
(Livestock Owner #1).

Both farmers and representatives from farmer organizations argue that the distribution within wolf committees, both provincial and national, is crooked; those that can be considered ‘pro-wolf’ are overrepresented, while those defending the interests of farmers are underrepresented. For example, Livestock Owner #1, who is himself a member of ‘wolverplatform Limburg’, explains that there are 20 people sitting on the platform, of who roughly 15 can be considered pro-wolf and only 5 can be considered against the wolf. The same complaint is made by the representative from LTO Nederland, a livestock owner herself, who is a member of ‘Landelijk Overleg Wolf’ (LOW), the national consultation body around wolf-related issues: *“They have invited everyone they could think of who had something to do with wolves, but the result is that there are now four sheep people sitting across from twenty officials. Well, we have nothing to say there”*. In addition, she and others argue that there are people on such committees that speak derogatory about livestock owners, with farmers their problems with the wolf being downplayed or considered to be unimportant.

*“There are even people that speak very disrespectful about sheep farmers. Yes, you have damage, because you do not put up your little fences correctly. Those sort of things fly across the table. I have walked away sometimes”* (Representative LTO Nederland).

Livestock Owner #4 states he once had a discussion with an employee of nature conservation organization [ARK Natuurontwikkeling](#), who, according to Livestock Owner #4, could be considered as true ‘pro-wolf’ and firmly rooted in his own beliefs. He states: *“I also said to that man well you know, it is no use. If you just stand there really hard and keep insisting that yes, that sheep are killed, too bad. Well... No, you cannot communicate with such a person.”* Livestock Owner #1 expresses a similar sentiment, arguing that particular individuals from organizations are quick to judge, but are not willing to work with him in practice to see how it works. But, according to the owner of a consultancy firm for sheep farmers, this problems occurs both ways, as there is a general distrust amongst parties towards one another and no respect for each other’s’ point of view. He illustrates this as follows: *“the ecologists on one side, sheep farmers on the other, they were engaging online in conversation, but they actually speak two different languages”*. Nevertheless, he argues that livestock owners are not heard, and that so far, they did not have an opportunity to get their particular issues on the table, using the example of the problems with wolf-resistant nets not even having been discussed in their area. This relates to recognition justice,

whereby the lifestyle of livestock owners and the threats to it due to the presence of the wolf are not sufficiently acknowledged by those involved in policy-making.

Moreover, many livestock owners state that there is a lack of opportunities in terms of farmer involvement. They explain that currently the only way in which their voices are represented in policy-making is through the representatives of farmer organizations, such as LTO. Besides multiple farmers not being a member of such an organization, they do not always agree with the choices these organizations make. A few livestock owners explain for example that for them, LTO is too focused on reaching compromises instead of sticking with their original standpoint. All farmers state that there is no opportunity for farmers themselves to sit in on conversations around the wolf or to express their opinion on certain issues or decisions. Many farmers believe that it will be a positive matter for policy-makers to hear the opinions and struggles of livestock owners at least once, as they are the ones who are on the receiving end of those policies. For example, Livestock Owner #1 argues that, in order to create public support for the wolf, it is important to consider how people on the ground look at and experience the presence of the wolf. According to those farmers, livestock owners are also proposing possible solutions, improvements and focus points. However, multiple farmers feel like this is not the case at the moment, as current regulation does not reflect input from the field. They believe that current policy is determined by only a few people, at the cost of farmers' interests. In relation to the development of the new wolf plan for 2022, Livestock Owner #1 states: *"I think it is going to be a top-down plan instead of a bottom-up plan, with a few people who come up with and write it and that's it"*, thereby arguing that by ignoring livestock owners, the supportive base for the wolf decreases further. Livestock Owner #3 shows a similar belief: *"I think only 2-3% really determine nature policy, well, actually only"*.

But not all farmers express an interest in such an opportunity. Two livestock owners state that if such an opportunity would be created, they probably would not make use of it. For Livestock Owner #2, the reason entails a general distrust in the government due to earlier, negative experiences with participation, unrelated to the wolf. Based on these earlier experiences, which are related to the placement of windmills and the expansion of a near highway, Livestock Owner #2 believes that such participation requires a lot of his energy, while in the end, it will make no difference. For Livestock Owner #6, who suffered from wolf damage once, the issue of the wolf has become something that is far removed from his personal life, and therefore, he no longer has an interest to participate. This line of reasoning is also mentioned by other farmers, who argue that the farming industry suffers from what they call an 'internal problem'. These farmers explain that as long as livestock owners do not suffer from the wolf themselves, they have no reason to put in effort.

*"I think there are too few livestock owners who worry about it, because they have no damage"* (Livestock Owner #8).

*"For livestock, that is actually also an internal problem. Most, where the wolf has been and close by, that is okay, but as soon as you are three kilometers away, well I am not bothered"*



*by it, we will not do anything. That is... It is all extra work, and they are all busy. That is also an argument” (Livestock owner #3).*

### 6.2.3. Accountability for the wolf and its management

According to Dutch livestock owners, the responsibility for the wolf and the problem it creates, lies with the Dutch government. They believe that the Dutch government needs to be more pro-active in her management, as there is now too much of a focus on *‘putting paper over the cracks’* (Livestock Owner #1). Livestock Owner #8 states: *“If the government says that wolves should be able to live in the Netherlands, then I believe that the government must also keep wolf management in order”*. Most farmers argue that the Dutch government needs to show through its policy that it also supports livestock farmers.

Many livestock owners view current management as quite passive, with more focus on compensating damages than actually preventing these damages from occurring in the first place. Therefore, they believe that there should be more emphasis on the development of workable prevention measures, with some farmers arguing that this will ensure an increase in carrying capacity for the wolf. This lack of action is justified through the protected status of the wolf within the European Union. Nature organizations and governmental institutions are believed to be hiding behind the legal regulation that has been established by the European Union. As Livestock Owner #3 states: *“Everything is being hung on Brussels”*. According to him, such institutions always refer to the protected status of the wolf within Europe, simply stating that *‘the wolf does what the wolf wants, we have to grant him that freedom according to Brussels’*. While most understand that this regulation exists, it is also stated by some that this makes an easy excuse to use.

*“And of course, it is a clincher in the discussion, although not unjustly, is the no it is European regulation, you are not allowed to shoot a wolf, you are not even allowed to catch it, you are, according to the rules, not even allowed to disturb it” (Council Firm Owner).*

They argue that, as long as the protected status of the wolf remains in place, alternative solutions need to be found to regulate the wolf population in the Netherlands. This especially relates to wolves that farmers consider to be *‘atypical’*, by which they mean wolves as the Brabant wolf who kills in excessive amounts. Livestock owners that have experience with such a wolf state that policy development is based on the natural behavior of wolves, but not every wolf behaves in this manner and that policy should consider potential pathways for action against such atypical wolves. Since other countries within the European Union have proceeded to taking action against wolves (as also shown in chapter 3), the inaction of the Dutch government regarding the wolf leads to mixed feelings among farmers.

*“In France, they have shot it, but they could have done that here as well. But here, they dare not do nothing, they are allowed nothing” (Livestock Owner #3).*

In the Netherlands, however, such sensitive issues remain un-/underdiscussed.

*“Before such a decision could be made in the Netherlands, like oops this wolf is so atypical, we really do not want that, that is not possible, that is incompatible with our landscape full*

*of cattle, then we have to remove it from the system, nicely put, well that is undebatable.*

*And that, there is the sting” (Council firm Owner).*

In this light, some farmers and representatives argue that the shooting of the wolf in Stroe last year did not come as a surprise. Due to a combination of new insecurities and passive, slow policy, they can empathize that some livestock owners take such a drastic action, even when they do not agree with this themselves. The representative of the VGSN argues in relation to this shooting: *“Of course, we do not approve of that at all, but it might be caused by failing or slow policy”.*

Additionally, some farmers also complain about the ambiguity of policy, arguing that sometimes, policy related to the wolf is in conflict with other types of regulation; for example, with those of the municipality or environmental laws. For example, Livestock Owner #8 explains that within his municipality, wolf-related advice related to prevention clashes with environmental regulations. Here, the fencing of a regular pasture is not allowed to be higher than 1 meter, while the minimum for wolf-resistant fencing in the Netherlands is 1.20 meters. This means that he needs to get a license if he wants to heighten his fencing: *“They simply say that fencing cannot be higher than 1 meter. Because it also has disadvantages, they say, a deer cannot pass through it, nothing can pass through it”.* This ambiguity is also mentioned by the owner of the council firm, who states that Dutch legislation related to the wolf is lagging behind the present situation: *“We are surprised by such an introduction of the wolf and then suddenly, something needs to happen. [...]. And they [livestock owners] are confronted with this, they need to do something and then they inform about regulation that currently exists. And then there is still a lot non-existent or unclear”.*

This relates to the point made by some farmers that they do not always know who is accountable for issues related to the wolf. Many farmers admit that the first time they had to report damage, they were not aware of BIJ12 being the institution accountable for the handling of wolf damage. Others state that they are uninformed about who is currently involved in policy-making related to the wolf. For example, Livestock Owner #1 explains in relation to the development of the new wolf plan: *“I think, well as it is now, I know that the wolf plan of 2022 is being written, but who is working on it, which way it is moving towards or how I can contribute to it, I have no idea, I do not know”*, with other livestock owners not even knowing that such a plan exists or that it is being renewed. As it remains vague to farmers who is accountable for what aspect of policy and management, some farmers admit that they also are uncertain to what organization they should turn about particular questions. For example, Livestock Owner #3 questions the norm for wolf-resistant fencing to be at least 1.20 meter high, while this standard is only 90 centimeters in Germany. He asks: *“Another thing for me, why does it have to be 1.20 meters, while in Germany it is 90 centimeters. Why does it have to be one better here?”* This illustrates how it is not always evident to livestock owners how particular propositions are made within policy, what institutions contribute to its decision-making and who can be held accountable when questions or uncertainties arise.

Part of the slow and ambiguous development of wolf-policy is blamed on the decentralization of nature in the Netherlands, whereby each province is officially in charge of their own policy related to all matters of fauna, including the wolf. For example, the representative of LTO Nederland explains that the committee of Gelderland had written a first prevention report about the wolf, its problems and future action, when the wolf first arrived in the Netherlands. While the committee assumed that this report would function as an example for other provinces, other provinces' committees decided that it would be wiser to create their own policy due to differences between the provinces. The LOW has been established to tackle broader problems that cannot be solved on the provincial level. However, now, provincial committees are dependent on what is decided here, on the national level. This means that ideas cannot always be directly implemented, as the provincial committee needs to await what will be decided in LOW. Sometimes, provincial committees are thus believed to function more as an advisory institute towards the national LOW.

*“Not every country should make its own policy, but European. The wolf does not look at municipalities, provinces or country borders. It comes everywhere. So I think that we should get rid of those small boxes, the Netherlands is already small enough, why do we have to divide it into 12 provinces when it comes to nature policy surrounding the wolf?”*

(Representative VGSN)

### 6.3. Recognition Justice

The last section focuses on the aspect of Recognition Justice. Recognition Justice has been explained in chapter 4 as a lack of recognition, whereby differences in received recognition are analyzed. Therefore, this chapter considers the aspects of identities (section 6.3.1.), interests (section 6.3.2.) and knowledge (section 6.3.3.) of livestock owners, shedding light on whether farmers feel like these aspects are sufficiently treated with respect and considered as legitimate. This section also elaborates on the wildlife value orientations that farmers hold towards the wolf (section 6.3.4).

#### 6.3.1. Identities

Livestock owners experience a considerable difference between their own attitudes towards wolf-related issues and those of 'outsiders', meaning people who are not involved in the livestock industry themselves. Especially the distinction between rural and urban is referred to often. Relating to the belief that livestock owners carry the burden for wolf presence in the Netherlands, farmers state that 'city people' only hear and see the positive sides of this presence, without being aware of the consequences it has for livestock.

*“Because everybody who lives in the city, will never be bothered by the wolf. They only hear the nice things, oh cubs are born, there it walks, very beautiful, nice image that it walks there on the Veluwe” (Livestock Owner #4).*

These people come on day-trips to rural areas in the hope of spotting the wolf, fascinated by the idea of spotting 'wild'. Multiple farmers have the impression that people from the city

find everything about the wolf 'beautiful', either being unaware of or unimpressed by negative aspects related to wolf presence in the Netherlands.

*"They all think it is wonderful, but we do not like it. I think that with the wolf, that is the difference between village people or city people"* (Livestock Owner #7).

*"That is the same, if you live in the city, then you think oh that is nice, the wolf. It must be given free space in the Netherland. But if it is walking through your front garden, then you are not that happy with it"* (Livestock Owner #2).

As a large part of the urban population supports the idea of having the wolf back in the Netherlands, some farmers believe that this further encourages the facilitation of the wolf in the Netherlands. This leads to frustration among some farmers: *"And do you know what I find the worst? People may be in favor of the wolf, but if you ask a person have you seen a wolf in the wild. No, never. [...]. But why do people want wolves then? They want wolves, but they never see them"* (Livestock Owner #7).

Some farmers complicate this distinction further by explaining that not only people from the city do not always understand their struggles, but also people from their own environment. Many livestock owners interviewed have experience with 'pro-wolvers', who blame farmers when a wolf has managed to kill one or more of their sheep. Such people imply that livestock owners themselves are at fault, because they have not installed their wolf-resistant nets properly. Livestock Owner #1 mentions multiple situations in which he came across prejudice and misunderstanding from people in his direct environment. For example, he is frequently confronted after a wolf incident by a man from his area who is strongly in favor of the wolf. This man then wants to inspect his fencing, to check whether the wolf-resistant nets are actually placed correctly. He argues that there is also mistrust among such people: *"Or that people say those nets lay flat, the wolf got in and you have put them upright afterwards. Those kind of stories circulate"* (Livestock Owner #1). Farmers find it difficult to fight such judgements; those people are often not willing to work with livestock owners to see how careful they are in setting up their fencing, while they continue to undermine the efforts livestock owners make to protect their animals.

Some farmers explain that this unawareness among non-farmer society members can partly be explained through insufficient media representation. Newspaper articles and news programs do not depict a nuanced picture of the wolf in the Netherlands: *"In the end, I believe the nuanced story gets little attention in the media. It is often or the wolf is an amazing animal that belongs in nature, yes, or the opposite that we need to shoot it"* (Livestock Owner #1). Such media institutions mostly present the wolf in such a way that it is coherent with the beliefs and values of their target audience, meaning that they only present a particular side of the story. Nevertheless, most livestock owners argue that the perspectives of farmers themselves are underrepresented. When they agree to collaborate with media institutions, either for articles or television, they find their story either sugar-coated or downplayed by 'experts'. Livestock Owner #2 explains that, after the attack on his herd, he collaborated in a television program. While he finds that his perspective on wolf presence in the Netherlands was adequately presented, the actual incident could have been

given more attention. Instead of showing the damage that the wolf has inflicted upon his livestock, they merely show his interaction with his animals. Images directly taken by farmers after the attack are not shown in media, as attacked animals, if presented at all, are often shown from a distance or are blurred. Livestock Owner #6 illustrates this by considering one photo he has of one of his sheep after a wolf attack, whereby its intestines are hanging on the outside of its body, but the animal is still alive: *“Well, I find that very sad. And that is not something you see in the media”* (Livestock Owner #6). Livestock owners explain that the media is often not interested in such photos, because the public does not want to see such images. However, some farmers believe that seeing such a picture will give the public a better impression of the damage a wolf can inflict on livestock, taking away the rosy glasses through which they are believed to see the wolf and thereby possibly increasing recognition. Moreover, multiple farmers argue that news programs often first present the perspective of a livestock owner, followed by a ‘pro-wolf’ expert to refute their viewpoints. Some criticize media broadcasts who present ‘experts’ making non-substantiated claims. Livestock Owner #3 illustrates this by stating: *“Someone who then says well they just need to put packs of straw in the meadow, then the sheep can climb on top of it. That will stick with the public, such a man saying that. Then I think where is your brain? Do you see those Texel sheep climbing on those packs of straw? But it is believed.”* Such misrepresentations of wolf issues within the media are considered insulting among livestock owners, as it trivializes their current struggles to something small, that can be easily resolved with some effort.

### 6.3.2. Interests

All livestock owners are convinced that with the continued presence of the wolf in the Netherlands, part of the livestock owners will quite keeping animals. The most important reasons for this are the emotional impact that wolf attacks have on some farmers and the issues related to the preventative measures. While multiple farmers argue that the mental impact of wolf attacks on livestock owners does not receive much attention, some of them express doubt whether they will keep their sheep if they suffer damage again. These farmers are uncertain whether they would be able to manage such a sight of their animals again.

*“I say one person can process five wolf attacks mentally, and another maybe 50, but one time, it snaps. You cannot keep it up, you just cannot keep it up. That is my conclusion”*  
(Livestock Owner #1).

Other farmers question whether it would remain possible for them to keep livestock, when preventative measures become a necessity (either as requirement to be eligible for compensation or due to frequent wolf damage). Some of the farmers state that they are unable to take these measures due to the extra time and work it takes, either because they have a full-time job or because of physical limitations. Also, when preventative measures do not become subsidized for areas which are not in official wolf territory, most farmers are unable to cover these costs on their own. This means that small-scale & hobby livestock owners are the first to quit: *“They are all promoting small, and those that are now small, are the first to quit”* (Livestock Owner #3). A few livestock owners acknowledge that this is also

part of the system, as in the end, you are forced to pay for your own costs; if you are unable to do so, you need to start using your land in alternative ways or quit.

However, livestock owners state that in this case, it is in everyone their interest to ensure that there remains a place for livestock within the Dutch landscape. Wider society is often not aware of the importance of the livestock industry for the environment, with some citizens even arguing that the arrival of the wolf will help in reducing the Dutch stock of cattle. Such claims are unsubstantiated, not recognizing that wolves are inflicting damage on animals that are not part of the intensive livestock farming industry. Multiple farmers explain that *'It would be a shame for the biodiversity in the Netherland if the animals would disappear from the landscape'* (Representative VGSN). This relates mostly to the function of grazing as a form of nature management, whereby grazing is perceived as a more sustainable option than mowing, both in heather landscapes and meadows. Here, farmers argue that when livestock disappears from the Dutch landscapes, either due to farmers quitting or keeping their animals inside as a preventive measure, this will impact the biodiversity of the area. The Council Firm Owner explains: *"Without those animals in the landscape, the whole ecology disappears. You lose all biodiversity, [...]. Everything closes up, or the meadows are no longer being grazed, but mowed. Well, the species richness will decrease."* While this function is recognized also among ecologists, some farmers argue that this recognition does not result in a focus on the prevention of wolf attacks, i.e. the protection of animals.

Some livestock owners argue that their clients, which are often nature organizations, should contribute to this protection by the facilitation of building sheepfolds and the placement of wolf proof fencing within their area, with policy requiring that additional costs are paid for by clients themselves. Multiple farmers involved in grazing, often with nature organizations as their client, explain that if these organizations prefer the practice of grazing over mowing due to its ecological benefits, they need to be willing to pay for the extra work that comes with the presence of the wolf. Livestock Owner #5 explains it as a free play of market forces, whereby nature organizations pay for the management of their landscapes. As such, now that the costs for this management have increased due to the arrival of the wolf, the price of their services have increased as well; i.e. clients are not paying extra for protection against the wolf, but for the maintenance of their landscapes. At the same time, this relates back to the insecurity that livestock owners experience with the arrival of the wolf. The representative of the VGSN explains that on the one hand, farmers need to charge the extra costs, while on the other hand, they need to remain competitive with the costs of mowing. If livestock owners become too expensive, then mowing will become the more attractive option and sheep will continue to disappear from Dutch landscapes. However, multiple farmers note that it is important to distinguish between those involved in grazing practices and those involved in meat production. As such farmers are involved in different practices with their sheep, it is important to adapt solutions to these practices. Such a solution would not work for beef cattle farmers, since they are dependent on the current

market price for meat. They cannot charge their extra costs to a slaughterhouse or sheep trader, as these actors would simply go to another farmer who charges a lower price.

### 6.3.3. Knowledge

Some farmers and representatives argue that the problems livestock owners experience due to the wolf, are not recognized sufficiently. They state that wolf-related problems are sometimes trivialized, being presented as inferior to other problems caused by animals. As an example, livestock owners refer to the comparison made between damage caused by wolves and caused by dogs. Actors from other stakeholder groups often downplay the severity of wolf issues in the Netherlands by mentioning that the amount of damage caused by dogs is worse; some organizations state that dogs yearly attack  $\pm 40.000$  livestock animals. For livestock owners, this reasoning leads to frustration and 'bad blood', as they perceive these two types of attacks as two separate problems. While some livestock owners acknowledge that when looking purely at numbers, it is indeed true that dog damage happens more frequently than wolf damage, they also argue that such a comparison is a simplification and has particular limitations.

Firstly, it is believed that the amount of dog attacks circulating are exaggerated. The representative from the VGSN explains that the estimated number of  $\pm 40.000$  dog attacks each year would come down to over 100 attacks per day. According to him, these numbers are not believable; the last time he himself suffered from dog damage was around 12 years ago, and he also does not hear about such an attack regularly from other colleagues. He states that dog attacks are presented as though they happen frequently, while in reality, this is not the case. Moreover, he argues that it is important to put these numbers into perspective: *"There are approximately 2 million dogs in the Netherlands. If 0.5% of those dogs attack livestock each year, then that comes down to 1000 attack each year, which is 2.7 attacks a day. Even that, I do not believe, that there are 2.7 attacks in the Netherlands, 365 days a year. But if 0.5% does so. Of the wolves, we can say that 50-100% of the wolves in the Netherlands have attacked sheep. That is a different risk to us"*. This means that when more wolves start settling in the Netherlands, this problem will only increase further. This explanation of risk perception relates to the argument made by Livestock Owner #1, who explains that issues with dog damage are incidental; he himself only suffers from it once every two years. The wolf, on the other hand, can be perceived as a structural problem, influencing the way in which farmers work and the concerns they have about their future farming practices. This refers back to livestock owners' new insecurities caused by the wolf, which are overlooked when comparing wolf damage to that of dogs. As such, comparing wolf damage to other types of damages downplays the impact that the wolf has on the livestock keeping industry.

Additionally, many livestock owners argue that their field experience with wolf-resistant nets is ignored or not giving enough consideration. They argue that external actors think easily about making the switch towards wolf-resistant fencing, but many state: *"It is all not as easy as they say, just put up a fence"* (Livestock Owner #7). Multiple farmers complain

about the complexity of the wolf-resistant nets, mentioning different problems they encounter during its placement and use. Such issues entail struggles with batteries (e.g. inconsistent durability, no earthing, being stolen) and the (re)placement of nets (e.g. difficulty getting pins in and out of the ground, catching much wind and thereby blowing over the nets). While one farmer states that it is probably *'the best solution out of many bad solutions'* (Livestock Owner #4), most farmers believe that it is not a workable, long-term solution. The representative of VGSN explains that such a transition is especially difficult for livestock owners currently using ditches or only two wires to fence their meadows, as they are not used to working with nets.

Moreover, in some cases, livestock owners are convinced that a wolf enters their meadows by jumping over the wolf-resistant nets. In these cases, no traces can be found that a wolf has crawled underneath the nets, and sometimes, even traces of blood (from sheep) can be found on the top wire.

*"Then there would have been a wolf, two sheep were dead, with one really half eaten, and then you walk around the grid, and then you don't even find traces of how it got in. There's not a net, or a pin out of place, or a net laid down or anything. And then they [livestock owners] say yes he jumped, and then the ecologist says no wolves do not jump"* (Owner Council Firm).

Some farmers use the example of their own dog learning to jump over the fences, to support their reasoning: *"My border collie cannot jump very well at all, I have practices twice just by standing on the other side of the net and then calling. [...]. And in no time, he figured out how to do it. And it is no different for a wolf"* (Livestock Owner #1). They argue that, similar to a dog, once a wolf understands that he will receive no shock when he is completely in the air, there is no reason why he would not do so. Nevertheless, ecologists continue to argue that this is not the case, as it is not coherent with a wolf's natural behavior. While livestock owners acknowledge that jumping over fences is not typical wolf behavior, they argue that it should be recognized that not all wolves will perform natural behavior and that this requires alternative solutions. It can therefore be particularly frustrating that nature organizations and policy-making continue to focus on the wolf-resistant fencing of 1.20 meters, when livestock owners question both the efficiency and workability of this measure. Instead, they want more attention towards innovation, in order to find other potential solutions to protect their livestock from wolves. In this light, the representative of the VGSN strives for a height of 90 centimeters as a standard for wolf-resistant fencing, instead of 1.20 meters. As ecologists argue that regular wolves will opt for crawling instead of jumping, he argues that it is then more important to focus on the underside of the nets instead of the upside. Only in the cases where wolves chose for the option of jumping is then need for an alternative solution.

But, aside from the personal challenges farmers experience with the wolf-resistant nets, multiple livestock owners also state that its effect on other wildlife is not sufficiently recognized. Livestock Owner #3 argues that the wolf-resistant nets are 'animal unfriendly', since he has had multiple animals getting stuck in the wolf-resistant nets; one deer drowned



in the ditch after getting stuck in the net, another hanged itself in a net and choked, and once, a rodent, suspectedly a badger, fell into the ditch and gnawed itself free. Additionally, these nets are also considered to be a danger for sheep itself. When the power is off the nets (due to an empty battery or no earthing), lambs sometimes gnaw on one, get stuck and choke as a result. He explains that this was not the case with the regular nets, as those were easier to remove; i.e. sheep were able to free themselves by pulling the net out of the ground. This is no longer the case with the new wolf-resistant nets. Such worries about animal welfare are also expressed in relation to preventative measures for oxen. Livestock Owner #8 explains that some livestock owners have started to experiment with special concrete mats to protect their animals against the wolf. He questions: *“There are some who are starting to use concrete mats. But those are not allowed to be higher than 1 meter, and then with pins on top. [...]. But what happens if animal jumps over it and it falls on those pegs, or a deer or something. I do not think that is good for animal welfare either.”* In this light, these farmers believe that the whole landscape becomes adjusted to facilitate the presence of the wolf, while not considering the impact this will have on other wildlife. Wolf-resistant nets are believed to challenge animal welfare (both of wildlife and livestock) and prevent the free movement of wildlife, functioning as a barrier for migration. Livestock owners find this particularly ironic when seeing it in light of the increased attention for animal rights in the Netherlands, arguing that the rights of livestock are suddenly forgotten when speaking about the wolf.

*“In the morning last week, there just lay a sheep bleeding to death with a bite to the throat. Well, that thing is still alive. So if you are speaking of suffering, then that is simply animal suffering. If we as humans were responsible for that, then the RDVL would have arrested them. And the wolf can do it”* (Livestock Owner #4).

*“There is a certain organization in the Netherlands that believes that everything in the Netherlands must happen animal-friendly, [...], but the wolf is not considered. Because it is not in an animal-friendly way, that it grabs them”* (Livestock Owner #7).

#### 6.3.4. Wildlife Value Orientations

As explained in chapter 4, wildlife value orientations (WVO) inform on how individuals' basic values are applied in the context of wildlife, thereby shaping humans' relationship with wildlife. Most livestock owners follow dominant or pluralist value orientations, whereby dominant WVO prevail towards the wolf. For farmers with a pluralist WVO, it is context-dependent when they view the wolf in a dominant way, as these farmers believe that the wolf has a legitimate position in Dutch nature; *“We also work in nature and with nature, so I am definitely not against the wolf”* (Livestock Owner #1).

Considering the presence of the wolf in the Netherlands and the possibility of peaceful coexistence, the responses were mixed. Three farmers focused solely on human well-being, arguing that there is no place for the wolf in the Netherlands due to its small size and fragmented landscapes. These farmers argue that there needs to be a balance between nature and human society, whereby humans should not experience nuisance from wild

animals. The other five farmers believe that coexistence is possible, but that it requires adjustments from the livestock farming industry. Four of them nuance this further by stating that specific areas need to be appointed as suitable wolf habitat, where the wolf can perform its role as predator, thereby functioning as a form of natural wildlife population control. For them, it is not so much about never experiencing inconvenience due to the wolf, but about ensuring that this disturbance remains manageable.

While their perspectives on peaceful coexistence are varied, all livestock owners are against the high protective standard appointed to the wolf by the European Union. They believe that the wolf currently has too many rights within the EU, calling its protective standard *'absurd'* and *'weird'*. The wolf *'has everything, he can do everything'* (Livestock Owner #4), while livestock owners are officially not allowed to scare off the wolf when it attacks their animals. Two farmers illustrate the high status of the wolf by referring to the price money nature organizations have promised for *'the golden tip'* leading to the arrest of the individual who shot the wolf in Stroe. Livestock Owner #8 states: *"If there is already 16.000 euros for a wolf, then you can see how privileged the wolf is in comparison to humans, in being allowed to continue to exist"*, arguing that the wolf is considered to be more important than farmers with livestock, or even humans in general. In this light, the high protective standard of the wolf is especially questioned when compared to the rights of other animals; livestock always comes out on the losing end due to this protection.

In relation to this position against the high protective status of the wolf, farmers are in favor of active management of the wolf. However, active management does not entail the same to all livestock owners. Those with a dominant WVO see it as a form of lethal control that can be used on wolves as a way to expel the wolf from the Netherlands. The remaining farmers following pluralist WVO perceive active management as a way to control overpopulation and *'atypical'* wolves that cause disproportionate damage to livestock. Livestock Owner #1 and others argue that the focus needs to be on wolves *'which get their food from nature. That is of course completely okay'*. By removing the atypical wolves from the system, it is believed that wolf population growth can be steered in the desired direction, with only those that respect wolf-resistant fencing then remaining. This distinction can be illustrated by considering the situation happening in National Park *'de Hoge Veluwe'*, where wolves have targeted the mouflon as prey. Whereas Livestock Owner #2 follows a dominant WVO and is afraid that after years of human effort, a carefully bred species is starting to disappear, Livestock Owner #4 believes that this is the way in which nature works: *"that it ate all the mouflons there, well sorry, but that, in my opinion, is nature. They do not like it, but that is what it is supposed to be doing I think. Managing the wildlife population"*. Nevertheless, livestock owners point out that it does not matter at this point how they look at active management, since the protective status of the wolf is still in place.

## 6.4. A synthesis of the results

In summary, this chapter has categorized the data of the interviews by using the three dimensions of Environmental Justice: distributive justice, participatory justice and recognition justice. It can be concluded that livestock owners face a broad variety of challenges now that the wolf has reemerged in the Netherlands, creating a context of insecurity to which farmers need to adapt. The challenges and corresponding insecurities that have been identified in this chapter can be understood as the main reason for hesitation and/or opposition among farmers towards wolf presence and coexistence in the Netherlands. However, the results indicate that the wolf cannot solely be regarded as the cause of these insecurities. The broader system that has come into being due to the reemergence of the wolf in the Netherlands also plays an important role, either creating worries and problems in itself that add to the burden of livestock farmers (e.g. ambiguous policy, inaccessibility and slowness of BIJ12, questioning subsidy distribution) or exacerbating ones caused by the arrival of the wolf (e.g. the neglect of struggles with prevention measures, trivialization and judgement after wolf attacks). This suggests that a compensation scheme aiming to address the direct impact of wolf attacks is unable to mitigate all the challenges and worries that farmers now face due to the arrival of wolves.

## 7. Discussion: the wolf and insecurity

This chapter will further analyze and synthesize the results presented in chapter 6 in relation to the environmental justice framework and discuss the findings within the wider literature available. Section 7.1. explains how to understand the wolf in relation to insecurity. Then, section 7.2. answers the sub research questions of this study, with section 7.3. analyzing the new insights this research has produced and how this contributes to existing theory on compensation schemes. Moreover, section 7.4. dives into the methodological limitations of this study, and lastly, section 7.5 provides suggestions for further research.

### 7.1. The wolf as both a symbol and a cause of insecurity

This research illustrates how the wolf can be understood as a symbol and a cause of insecurity; it is not necessarily the presence of wolves in the Netherlands that farmers oppose, but the new insecurities that come with both its arrival and the system that has been developed to manage its presence and impact. Drenthen (2021) explains that values of independence and autonomy have become increasingly important to rural populations, which are threatened by the wolf due to its uncontrollability. This loss of autonomy can be seen in the fact that farmers are forced to change their farming practices due to the arrival of wolves, and that some farmers even feel forced to quit livestock farming earlier than planned. Especially when adopting new ways for keeping livestock prove to be insufficient, with wolves still being able to kill livestock, livestock owners increasingly feel like they are losing control over their way of life. In the end, wolves thus bring new worries and insecurities with them, that influence how farmers perceive the future of their livelihood. Such insecurities often relate to increasing costs (due to alternative materials and time required for activities), new problems that wolves might cause (such as future problems with livestock behavior and worries about business operations) and the general regulation system (such as subsidy regulation and inaccessibility of BIJ12). This means that in order to create public support for wolf presence among livestock owners, it is important to recognize these new insecurities and find solutions on how to reduce them. In this light, solving experienced flaws in the system will already lead to more acceptance of the wolf.

### 7.2. Dutch compensation scheme fails to reduce farmers' insecurity

Compensation schemes are often used by policy-makers as a mitigation tool for human-wildlife conflict, as it is believed to reduce economic losses, increase tolerance towards wildlife and reduce illegal killings (Karlsson & Sjöström, 2011). The idea behind such schemes is that they share the economic burden of livestock damage by predators among wider society, thereby not only burdening farmers with the presence of a large predator (Milheiras & Hodge, 2011); in this study, the wolf. This research sheds light on the limitations of such a reasoning, by analyzing how compensation schemes fit in farmers' perceptions of Environmental Justice.

### 7.2.1. Compensation schemes in distributive justice

Firstly, in relation to distributive justice, compensation payments are not believed to fulfill their central idea of sharing the economic burden of predator presence among society; farmers continue to be the ones who carry the burden of wolf presence in the Netherlands. As compensation schemes are intended to distribute economic burdens more evenly throughout society, it can be considered ironic that such payments only target a specific type of damage, while leaving the economic burden of other damages for livestock owners alone. The Dutch compensation scheme focuses on three types of costs (i.e. direct damage, veterinarian costs and deconstruction costs), and thereby ignores other costs that farmers believe to be of more significance. Resultingly, many farmers believe current reimbursement to be negligible, as the largest costs remain unresolved. This brings to the fore the question often asked within the literature about what a fair value for someone's loss is, and adding to that, what costs should be included in this value to make it just. Similarly as many other compensation schemes worldwide, the Dutch compensation schemes focusses mainly on the direct effects of livestock depredation, while ignoring indirect effects that the attack of a large carnivore can have on livestock. However, this research demonstrates that compensating both direct and indirect costs of a livestock attack does not necessarily equal fairness. The non-material costs of labor, time and insecurity are considered to be the most important among many farmers, since these issues create the largest expenses and troubles. These costs are unrelated to a direct wolf attack, but are caused by the presence of this carnivore. In this light, it is not so much about reducing the impact of damage inflicted by a wolf, but more about reducing the impact of wolf presence. Even when compensation payments reimburse most of the livestock damage, this does not result in an equal or fair distribution of economic burdens. This does not mean that (in)direct costs of damage do not need to be considered in compensation payments; they should. But it is important to recognize that a more complete compensation of damage will not automatically resolve human-wolf conflict, as there are other distributive issues at play that cannot be solved by merely looking at reducing the impact of damage *after* attacks.

Also, through the implementation of compensation payments, emphasis is placed upon the distribution of costs, with compensation schemes aiming to offset economic costs and thereby creating more even distribution of economic burdens. When considering the possibility of reducing the impact of damage before an attack occurs, it can be argued that a fair distribution of economic benefits can be just as important. The way that subsidies around prevention measures are currently regulated facilitates an uneven distribution of benefits, as some farmers have access to subsidies for preventative measures and others do not. In this light, not all livestock owners have the same opportunities to reduce the impact of wolf presence. To encourage livestock owners to take preventive measures against wolves, a first step would be to equalize the availability of subsidies to farmers. However, compensation payments do not take into account distributive injustices related to such benefits. This extends the reasoning of Trouwborst (2011) that while compensation schemes

might (partly) reduce the impact of damage, it does not contribute in finding ways to prevent this damage from occurring in the first place.

### 7.2.2. Compensation payments in participatory justice

Following participatory justice, the Dutch compensation scheme for wolf damage is characterized by a lack of participation. Taxation values within the Dutch compensation scheme have been developed by a research institution, meaning that livestock owners have not been consulted in the development process of compensation. This supports Reindhardt et al. (2013) their statement that decision-making around compensation schemes is often done with limited stakeholder participation and influence. Considering the lack of input from farmers themselves about what types of damage they consider to be the most important, it is not surprising that livestock owners express dissatisfaction with particular aspects of the current compensation scheme. Nevertheless, within the Dutch compensation scheme, limited stakeholder participation goes one step further, as current dissatisfaction among farmers is not only about a lack of participation in the development and current set-up of the compensation payments. In this case, participatory injustice is also experienced with the (non)involvement in the broader executive process of damage claims handling. Involvement of livestock owners within the process of handling damage claims is limited, with farmers being kept out of the loop in relation to the progress of their case. This means that while participatory justice is originally focused on participation in decision-making processes (Bredin et al., 2018), the concept of participatory justice can be extended when applying it to compensation payments; it is not merely about participation in decision-making itself, but also about involvement in the execution of these decisions.

The neglect of farmer participation/involvement in compensation payments is illustrative for the broader trend visible in wolf policy, whereby livestock owners are underrepresented in decision-making processes. Here, the application of participatory justice to compensation schemes and wolf policy in general gives insight in the power struggles that occur between livestock owners and external actors. Both in compensation and broader policy-making, farmers can be considered the ones that lose out, as their points of improvement for compensation payments and their worries related to wolf presence continue to be sidelined and/or downplayed.

### 7.2.3. Compensation schemes in recognition justice

Considering compensation payments within the notion of recognition justice shows that increasing tolerance towards large carnivores is more complex than simply reducing economic burdens. Bulte and Rondeau (2005) speak of the concept of 'moral hazard', whereby compensation payments are believed to discourage the use of prevention measures. However, based on the previous section on compensation payments in distributive justice, such a moral hazard is not necessarily an apparent danger in reality. When the reimbursement provided by a compensation scheme is not perceived as sufficient for covering damage, it is unlikely that the prospect of a compensation payment would be

the main motivation for farmers to not take any preventative measures. In fact, it would then be more beneficial for these livestock owners to prevent damage from occurring in the first place; with damage, they are always worse off. It is demonstrated that whether farmers take preventive measures is not (always) a matter of morality, but more a matter of practicality. Farmers' experiences from the field indicate that current preventative measures are not considered a workable solution, having large implications for the way in which livestock owners practice farming and therefore, the future of livestock farming. The non-material costs of labor and time that are not recognized within the existing Dutch compensation scheme illustrate Treves et al. (2009) their viewpoint that clashes can arise between those receiving and paying for compensation; in this case, what farmers consider to be the most important issues remains unacknowledged. By ignoring particular issues that play an important role in the insecurity that farmers experience due to the arrival of the wolf, compensation schemes continue to be contested among livestock owners.

Additionally, the unrecognition that exists among external actors for these issues, which sometimes results in a lack of respect towards farmers, remain unresolved by focusing on compensation payments. External actors as 'city people', ecologists or even locals are considered to be uninformed about the impact of wolf presence on livestock farming, and thereby ignore the beneficial impact that livestock presence can have on the Dutch environment. This relates to a broader trend that is often described in the literature around human-wildlife conflict, whereby a rural-urban divide can be discovered (Drenthen, 2021; Fritts et al., 2003); here, farmers are concerned that urban society is largely in favor of the wolf, and that they then do not take their perspective and troubles seriously. Hovardas & Kofiatis (2017) speak of the wolf as an urban symbol, whereby acceptance of the wolf is seen as a rejection of the rural way of life. Nevertheless, as can be seen from farmers' their wildlife value orientations, not all livestock owners are automatically against the wolf because it creates challenges for their way of life. In fact, those who can be categorized as having a pluralist value orientation towards wildlife show considerable willingness to adapt their farming practices towards wolf presence, as long as the measures remain practical. This means that the wolf is not necessarily an urban symbol, as it is not merely the urban that accept wolves in their environment. However, when urban people and other external actors continue to sideline farmers' worries about wolf presence, it cannot be precluded that it will not become so in the future, when frustrations become worse due to unrecognition. Following Ottolini et al. (2021), Bredin et al. (2018) and others that human-wildlife conflict can easily turn into societal conflicts due to different stances of individuals and groups, recognizing and respecting all different positions is an important step in preventing such conflicts from escalating.

### 7.3. Lessons from the environmental justice framework

Applying the framework of environmental justice to compensation payments demonstrates that human-wildlife conflict cannot be narrowed down to a matter of damage compensation. When studying compensation payments in relation to farmers' perceptions

of environmental justice, the incomplete reasoning of compensation payments as a mitigation tool for human-wildlife conflict becomes visible. Compensation payments focus on a small portion of what justice entails in its entirety, merely targeting distributive justice by considering the societal distribution of direct, economic burdens resulting from damage. Besides that this leaves several distributive issues undiscussed, it also neglects the recognition and participatory injustices that livestock owners experience in relation to wildlife management. Following the reasoning of Treves and Karanth (2003) and Bath (1998) that wildlife management is both a scientific and a political challenge, environmental justice indicates the importance of considering the broader political context in which compensation payments are implemented. With human-wildlife conflict, many different issues come to the fore, and compensation payments as a mitigation tool cannot target all these issues on its own. This means that even when the economic costs of large carnivore presence are evenly distributed throughout society, this does not automatically result in the resolution of human-wildlife conflict.

By focusing on compensation payments as the way towards increasing the support for wildlife presence, policy does not recognize the importance of alternative factors that can mitigate or aggravate human-wildlife conflict. In this case, reaching distributive justice through compensation payments is by farmers seen as only the last step in the process of solving human-wildlife conflict. While this does not mean that compensation payments are unnecessary or unappreciated, it indicates that there is also room for mitigation of conflict earlier in the process, before damage has occurred. By studying compensation payments through the framework of EJ, it is demonstrated how existing compensation schemes come with particular, theoretical ideas about what 'fairness' entails (Whiteman, 2009), but that in practice, this fairness looks different for everybody. Compensation schemes play a different role in stakeholders' understanding of environmental justice, meaning that the importance of compensation payments is also perceived differently. Whereas compensation payments in policy are considered as the main way to reach human-wildlife coexistence, livestock owners call for more recognition of the challenges that come with the presence of carnivores and thereby the importance of preventive measures as a way to mitigate conflict. This confirms the argument of Bautista et al. (2019) that, if the goal is to reduce animosity towards a large carnivore, the main focus should be on prevention measures rather than compensation payments, with constant evaluation of its effectiveness. This research would like to extend this argument further by arguing that not only the effectiveness of preventative measures should be evaluated, but also the practicality of these measures. It is essential to recognize the large burden that livestock owners, compared to other members of society, experience with the presence of a carnivore in their environment and to facilitate in reducing this burden. If it is expected of livestock owners to adjust their farming practices to predator presence, it should be ensured that they can do so in an efficient manner. Therefore, instead of calling for a focus on preventive measures, this research calls for a focus on *workable* preventative measures. This then raises the question about what a workable prevention measure would look like and how this would contribute to experiences



of EJ. As EJ is a complex and interrelated concept, it will be difficult to find the perfect combination of mitigation tools that address (in)justice in all three dimensions of distribution, participation and recognition.

In short, studying compensation payments through a lens of EJ demonstrates a more complete understanding of what justice in relation to carnivore presence entails. It indicates that discontent with compensation payments does not only result from unequal distribution of costs, but also from the idea that compensation payments neglect other challenges that farmers consider to be important. This framework thereby provides insights in the problems that compensation payments cannot address, and thereby function as a barrier to reach human-carnivore coexistence.

#### 7.4. New questions

While applying the framework of environmental justice to compensation payments has resulted in new insights on the limitations of this method to mitigate human-wildlife conflict, it also leaves particular questions unanswered and raises new ones. The most obvious one in this regard is the remaining question about what a fair compensation payment would look like in practice. This research has outlined the various costs that livestock owners consider to be important and therefore would like to see compensated in the future. However, because livestock owners find the inclusion of these costs fair, this does not mean that it fits other stakeholders' definition of 'fairness'. It raises the question on how to determine what 'fair' compensation entails. Should the focus be on the fairness of those who are on the receiving end of this compensation? Should there be a middle ground, whereby everyone compromises in their perception of justice? Or is determining fair compensation a matter of following the definition and corresponding monetary values that the majority agrees on? The environmental justice framework leaves such ethical questions largely unanswered.

Also, as this study has pointed out that compensation on itself is insufficient to facilitate support for wildlife presence, the question arises what measures would be able to reach this goal. While farmers argue in favor of more workable prevention measures, it is unlikely that policy focusing solely on prevention will be able to address all injustices that are currently experienced by farmers. This brings to the fore the question how other tools are perceived within the light of environmental justice, and how mitigation tools can be combined. And is an optimal combination of mitigation tools, through which environmental justice is reached for all stakeholders involved, even possible?

#### 7.4. Methodological implications

There are also several limitations to the execution of this research that need to be considered.

Firstly, there is a difference in the interview environment, with interviews being either done online or on location( i.e. in the farmer's own home). It can be questioned whether one of the two ways is more sufficient in gaining an open conversation with the participant. On the one hand, it seems likely that building a bond of trust will be more

difficult when being in separate locations, while on the other hand, some of the most elaborate interviews have taken place online.

Secondly, the data representation of this research can be questioned, as particular biases are present in the data collection. When placing a call on social media for potential research participants, it appeared that there are farmers in the Netherlands who are extremely fed-up with the wolf and the problems its presence causes. Due to this frustration, these farmers are no longer willing to engage in conversations about wolves with people they consider to be 'pro-wolf'. The fact that this research has been carried out by a student from Wageningen University and Research (WUR) was therefore a particular disadvantage, as WUR is considered to have a pronounced preference for wolf presence. These livestock owners are convinced that they remain unheard and that participating in conversations and research will not make a change for them anyway. This means that livestock owners who have an extremely negative attitude towards wolves in general and institutions involved (i.e. research institutions, governments, nature conservation organizations) have not been included in this research, thereby creating a particular bias in its results. Also, a bias in results has been further enforced by using the method of snowball sampling. While this method has made the finding of new livestock owners willing to participate easier (e.g. the finding of farmers who are not on social media or not part of groups focusing on the topic of wolves), it also creates a form of sampling bias. While the selection of provinces can partly be explained by the fact that most livestock damage has occurred in these three provinces, another factor has been the sampling bias; livestock owners mostly forwarded the contact information of other farmers living in the same area and/or who they regularly worked with. In the end, this could have resulted in a certain bias in shared view points towards wolves.

Lastly, the use of semi-structured interviews resulted in an extensive, complex set of data, meaning that choices have been made in what aspects to include. On top of this, this data set has been interpreted within the framework of EJ, whereby results have been categorized in the three dimensions of EJ. The interpretations and choices could potentially have resulted in a selection bias, whereby others would have categorized the data differently.

## 7.5. Future research

Firstly, this research tried to incorporate farmers' wildlife value orientations within the framework of EJ, in order to see whether this would influence their experiences with the Dutch compensation scheme. However, incorporating this in a study with the wolf as topic has proved to be difficult, as many farmers automatically dive into their perspectives on wolves in the Netherlands. Therefore, it is recommended to do a separate study of Dutch farmers' WVO, to gain a more in-depth understanding of their WVO, how this influences their attitude towards wildlife presence in the Netherlands and thereby their understanding of EJ more theoretically.

Moreover, this research has focused on livestock owners' experiences with compensation payments in the South-East of the Netherlands. As their experiences might not be representative for other regions or the country as a whole, it is recommended to do a similar study on the North-East of the Netherlands, or include livestock owners from the Netherlands as a whole, to see whether similar results can be found.

## 8. Conclusion

This chapter contains the conclusion of this research. Section 8.1. provides an answer to the main research question of this study, and section 8.2. provides recommendations for future policy development based on this research.

### 8.1. Answering the main research question

The aim of this research was *to better understand the attitudes of Dutch livestock owners towards compensation payments for wolf damage to livestock and explore what reasons underlie these perspectives*. Through an extensive analysis, this research illustrates that the wolf can be understood as a symbol of insecurity, whereby the renewed presence of wolves in the Netherlands creates particular worries and doubts among farmers. This creates a complex attitude towards the wolf; many farmers are not against wolves per se, but against the insecurities its presence creates for farming as their livelihood. In order to then better understand the attitudes towards compensation schemes, compensation schemes need to be understood within this broader context of insecurity.

To achieve the aim of this research, this research has tried to answer the main research question: *How do livestock owners in the Netherlands experience the compensation scheme for wolf damage to livestock and how can these experiences be understood in light of their perceptions of environmental justice?* By analyzing farmers' experiences with compensation payments in a framework of environmental justice, this research demonstrates that only focusing on compensation is insufficient to create a sense of environmental justice among farmers, and thereby mitigate human-wolf conflict. Compensation payments focus merely on a distribution of direct, economic costs; it does not consider the importance of other distributive injustices and ignores what farmers believe to be most significant – the non-material costs of wolf presence. In the end, these non-material costs of wolf presence are what create the most disturbances for livestock owners' farming practices, thereby contributing to their insecurity.

While compensation payments continue to be an important focus point of wolf policy, it can be understood as only a last step in building a supportive base for wolf presence in the Netherlands. Instead of mainly focusing on the ending of the process, when damage has already been inflicted upon livestock, more emphasis should be given to participative and recognition justice. Farmers have relatively little input in decision-making around wolf-related issues, and their struggles and worries are often not recognized among outsiders, whereby they often experience the trivializing of their experiences in policy-making, personal conversations and media items. With the topic of wolf presence in the Netherlands receiving more attention through the years, it is important to maintain respectful debates between different groups. Ignoring or trivializing the worries of livestock owners that come with the presence of wolves because they do not align with the wider goal of wolf facilitation, will not result in a sense of environmental justice among farmers, but will only fuel conflict around wolves in the Netherlands further.

## 8.2. Policy Recommendations

Based on this research, several recommendations for future policy development have been formulated. Firstly, there should be more recognition within policy-making for the viewpoints and experiences of livestock owners, in order to prevent the escalation of social conflicts that exist around the presence and management of wolves. In this light, building bridges should be a priority within policy-making, to mitigate the growing divide that can be found in debates around wolves. A first step in bridging this gap would be to take seriously the insecurities and worries that livestock owners experience in relation to their farming practices and livelihood, caused by the renewed presence of wolves. Farmers feel like they are not heard, which is illustrated by the ignorance of non-material costs within compensation payments. Nevertheless, due to their field experience with both preventive measures and compensation payments, livestock owners are the most suited persons to point out where improvements can be made. This relates to the second recommendation, arguing that a way needs to be found through which farmers can be included more in the decision-making around wolf management. Lastly, focusing on compensation payments directly, it is important to adapt the existing compensation scheme accordingly, following the results of this study. This means that the compensation payments should pay more attention to the needs of farmers, recognizing their need for particular damages that are currently being excluded.

# References

- Agarwala, M., Kumar, S., Treves, A., & Naughton-Treves, L. (2010). Paying for wolves in Solapur, India and Wisconsin, USA: comparing compensation rules and practice to understand goals and politics of wolf conservation. *Biological conservation*, 143(12), 2945-2955.
- Akinci, O. (2020, May 20). En weer vallen de schapen van boer Jos ten prooi aan een wolf, 'dat moordlustige beest'. *Trouw*. Retrieved from <https://www.trouw.nl/nieuws/en-weer-vallen-de-schapen-van-boer-jos-ten-prooi-aan-een-wolf-dat-moordlustige-beest~ba40fb9e/>
- Allen, K. (2020). Conservation Values and the Value of Conservation. *Human Ecology*, 28(2), 145-169.
- Ashcroft, N. K., Mathis, C. P., Smallidge, S. T., Fowler, J. M., & Baker, T. T. (2010). *Reestablishment of the Mexican Gray Wolf: The Economics of Depredation*. Las Cruces: Range Improvement Task Force. Report 80.
- Baker, P. J., Boitani, L., Harris, S., Saunders, G., & White, P. C. (2008). Terrestrial carnivores and human food production: impact and management. *Mammal Review*, 38(2-3), 123-166.
- Barkham, P. (2018, January 26). Harmless or vicious hunter? The uneasy return of Europe's wolves. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2018/jan/26/harmless-or-vicious-hunter-the-uneasy-return-of-europes-wolves>
- Barua, M., Bhagwat, S. A., & Jadhav, S. (2013). The hidden dimensions of human-wildlife conflict: health impacts, opportunity and transaction costs. *Biological Conservation*, 157, 309-316.
- Bath, A. (1998). The role of human dimensions in wildlife resource research in wildlife management. *Ursus*, 10, 349-355.
- Bautista, C., Revilla, E., Naves, J., Albrecht, J., Fernández, N., Olszańska, A., ... & Selva, N. (2019). Large carnivore damage in Europe: Analysis of compensation and prevention programs. *Biological Conservation*, 235, 308-316.
- Berglund, N. (2019, January 12). Wolf debate 'blown out of proportion'. *NewsinEnglish*. Retrieved <https://www.newsinenglish.no/2019/01/12/wolf-debate-blown-out-of-proportion/>
- BIJ12. (2019). *Richtlijn taxatie en prijzen bij wolvenschade in de schapenhouderij*. Retrieved from <https://edepot.wur.nl/522637>
- BIJ12. (2020). *Cijfers faunaschade 2020*. Retrieved from <https://www.bij12.nl/wp-content/uploads/2021/06/BIJ12-uitgekeerde-faunaschade-2020-Nederland-en-allev-provincies.pdf>

BIJ12. (2021). *Wolvendata alle meldingen*. Retrieved on July 7, 2021, from <https://www.bij12.nl/onderwerpen/faunazaken/wolf/>

BIJ12. (n.d.). *Wolf*. Retrieved March 23, 2021, from <https://www.bij12.nl/onderwerpen/faunazaken/wolf/>

Bisi, J., Kurki, S., Svensberg, M., & Liukkonen, T. (2007). Human dimensions of wolf (*Canis lupus*) conflicts in Finland. *European Journal of Wildlife Research*, 53(4), 304-314.

Boef, J., & de Bruijn, M. (2020, May 26). 'Het loopt uit de hand', CDA wil nu ook landelijke discussie over beschermde status van de wolf. *EenVandaag*. Retrieved from <https://eenvandaag.avrotros.nl/item/het-loopt-uit-de-hand-cda-wil-nu-ook-landelijk-discussie-over-beschermde-status-van-de-wolf/>

Boitani, L., Ciucci, P., & Raganella-Pelliccioni, E. (2011). Ex-post compensation payments for wolf predation on livestock in Italy: a tool for conservation? *Wildlife Research*, 37(8), 722-730.

Brandriet, F., & Voss, D. (2021, March 21). Wolven doden recordaantal schapen in Nederland: deze zeven waren de boosdoeners. *De Gelderlander*. Retrieved from <https://www.gelderlander.nl/binnenland/wolven-doden-recordaantal-schapen-in-nederland-deze-zeven-waren-de-boosdoeners~a26b24f6/>

Bredin, Y. K., Lescureux, N., & Linnell, J. D. (2018). Local perceptions of jaguar conservation and environmental justice in Goiás, Matto Grosso and Roraima states (Brazil). *Global Ecology and Conservation*, 13(e00369), 1-14.

Bulte, E. H., & Rondeau, D. (2005). Why compensating wildlife damages may be bad for conservation. *The Journal of Wildlife Management*, 69(1), 14-19.

Buring, M. (2020, 21 December). Schapenboer krijgt geen vergoeding voor schade wolf. *RTV Drenthe*. Retrieved from <https://www.rtvdrenthe.nl/nieuws/166027/Schapenboer-krijgt-geen-extra-vergoeding-voor-schade-wolf>

Campbell, J. L., Quincy, C., Osseman, J., & Pedersen, O. K. (2013). Coding in-depth semistructured interviews: Problems of unitization and intercoder reliability and agreement. *Sociological methods & research*, 42(3), 294-320.

Campion-Vincent, V. (2004). The Return of the Wolf in France. *Journal of Indian Folkloristics*, 1-2, 133-162.

Campion-Vincent, V. (2005). The restoration of wolves in France: story, conflicts and uses of rumor. In A. Herda-Rapp, & T. L. Goedeke (Eds.), *Mad about Wildlife. Looking at Social Conflict over Wildlife* (pp. 99-122). Leiden: Brill.

Cerri, J., Mori, E., Vivarelli, M., & Zaccaroni, M. (2017). Are wildlife value orientations useful tools to explain tolerance and illegal killing of wildlife by farmers in response to crop damage?. *European Journal of Wildlife Research*, 63(4), 1-8.

Chandelier, M., Steuckardt, A., Mathevet, R., Diwersy, S., & Gimenez, O. (2018). Content analysis of newspaper coverage of wolf recolonization in France using structural topic modeling. *Biological conservation*, 220, 254-261.

Chase, L. (2013). *Wildlife Value Orientations among diverse audiences in The American Southwest: Helping State Wildlife Agencies broaden their constituent base*. Doctoral dissertation, Colorado State University.

Crocker, D. A. (2008). Ethics of global development: Agency, capability, and deliberative democracy. *Cambridge: Cambridge University Press*.

DeCesare, N. J., Wilson, S. M., Bradley, E. H., Gude, J. A., Inman, R. M., Lance, N. J., ... & Smucker, T. D. (2018). Wolf-livestock conflict and the effects of wolf management. *The Journal of Wildlife Management*, 82(4), 711-722.

De Gelderlander. (2018, August 10). *Boeren willen compensatie voor doodgebeten schapen*. Retrieved from <https://www.gelderlander.nl/binnenland/boeren-willen-compensatie-voor-doodgebeten-schapen~a0b70b96/>

Deutsche Welle. (2019, December 20). *Germany relaxes law on shooting wolves*. Retrieved from <https://www.dw.com/en/germany-relaxes-law-on-shooting-wolves/a-51744310#:~:text=After%20months%20of%20debate%2C%20German,serious%20damage%E2%80%9D%20to%20their%20animals.>

Deutsche Welle. (2021, April 4). *Wolves and livestock: Can they live in harmony in Germany?* Retrieved from <https://www.dw.com/en/wolves-and-livestock-can-they-live-in-harmony-in-germany/a-57097331>

Dickman, A. J., Macdonald, E. A., & Macdonald, D. W. (2011). A review of financial instruments to pay for predator conservation and encourage human–carnivore coexistence. *Proceedings of the National Academy of Sciences*, 108(34), 13937-13944.

Dobson, A. (2007). Social justice and environmental sustainability: ne’er the twain shall meet? In J. Agyeman, R. Bullard, & B. Evans (Eds.), *Just sustainabilities: development in an unequal world* (pp. 83-95). Cambridge: MIT Press.

Drenthen, M. (2015). The return of the wild in the Anthropocene. Wolf resurgence in the Netherlands. *Ethics, Policy & Environment*, 18(3), 318-337.

Drenthen, M. (2021). Coexisting with Wolves in Cultural Landscapes: Fences as Communicative Devices. In B. Bovenkerk, & J. Keularts (Eds.), *Animals in our midst: the challenges of co-existing with animals in the Anthropocene* (pp. 425-444). Cham: Springer.



- FAO. (2021). *Human and wildlife conflict*. Retrieved on June 15, 2021, from <http://www.fao.org/forestry/wildlife/67288/en/>
- Fergusson, R. A. (2002). *Living with a wildlife predator: Managing human-wildlife conflict in Africa*. Crocodile conflict task force.
- Fischer, R. (2017). From values to behavior and from behavior to values. In S. Roccas, & L. Sagiv (Eds.), *Values and Behavior: Taking a cross-cultural perspective* (pp. 219-235). Berlin: Springer.
- France24. (2017, October 9). *French Farmers protest in Lyon against rising wolf attacks*. Retrieved from <https://www.france24.com/en/20171009-french-farmers-protest-lyon-rising-wolf-attacks-sheep-alps-aveyron-agriculture>
- Frank, B. (2016). Human–wildlife conflicts and the need to include tolerance and coexistence: An introductory comment. *Society & Natural Resources*, 29(6), 738-743.
- Fraser, N. (1995). From redistribution to recognition?: Dilemma's of justice in a 'postsocialist' age. *New left review*, 0(212), 188-196.
- Fraser, N. (2000). Rethinking recognition. *New left review*, 3, 107-120.
- Fraser, N. (2009). Scales of justice: Reimagining political space in a globalizing world (Vol. 31). *New York: Columbia University Press*.
- Fritss, S. H., Stephenson, R. O., Hayes, R. D., & Boitani, L. (2003). Wolves and humans. In L. D. Mech, & Boitani, L. (Eds.), *Wolves: behavior, ecology and conservation* (pp. 289-316). Chicago: Chicago Press.
- Gamborg, C., Lund, J. F., & Jensen, F. S. (2019). Landowners' wildlife value orientations, attitudes and behaviour in relation to game management practices. *European Journal of Wildlife Research*, 65(1), 9.
- Graeber, D. (2001). Toward an anthropological theory of value: the false coin of our own dreams. *New York: Palgrave*.
- Graeber, D. (2005). Value: anthropological theories of value. In J. G. Carriers (Ed.), *A handbook of economic anthropology* (pp. 439-454). Cheltenham: Edward Elgar Publishing Limited.
- Hakkenes, E. (2020, May 26). Boeren boos dat ze zelf de wolf moeten weren: 'omgekeerde wereld'. *Trouw*. Retrieved from <https://www.trouw.nl/nieuws/boeren-boos-dat-ze-zelf-de-wolf-moeten-weren-omgekeerde-wereld~b7ab0653/>
- Hartel, C. M. (2018). *The Role of Wildlife Value Orientations in Framing Interactions with Wildlife Near the Home: A Mixed-methods Analysis of Self-reported Problems with Wildlife*. Doctoral dissertation, The Ohio State University.

Hartman, P. (2018, August 10). CDA Gelderland: moet de wolf nog wel beschermd worden? *De Stentor*. <https://www.destentor.nl/apeldoorn/cda-gelderland-moet-de-wolf-nog-wel-worden-beschermd~ad57c225/>

Harvey, D. (1996). *Justice, nature and the geography of difference*. Oxford: Blackwell.

Herzog, S. (2018). Return of grey wolf (*Canis lupus*) to Central Europe: challenges and recommendations for future management in cultural landscapes. *Annals of Forest Research*, 61(2), 203-209.

Hill, A. M. (1993). The motivational bases of attitudes toward animals. *Society and Animals*, 1(2), 111–128.

Hoang, C., Satyal, P., & Corbera, E. (2019). ‘This is my garden’: justice claims and struggles over forests in Vietnam’s REDD+. *Climate Policy*, 19(sup1), S23-S35.

Holifield, R., Chakraborty, J., & Walker, G. (2018). Introduction: the worlds of environmental justice. In R. Holifield, J. Chakraborty, & G. Walker (Eds.), *The Routledge Handbook of Environmental Justice* (pp. 1-11). London: Routledge.

Honneth, A. (2001). Recognition or redistribution? Changing perspectives on the moral order of society. *Theory, culture & society*, 18(2-3), 43-55.

Hovardas, T., & Korfiatis, K. J. (2012). adolescents' beliefs about the wolf: investigating the potential of human–wolf coexistence in the European south. *Society & Natural Resources*, 25(12), 1277-1292.

IFAW. (n.d.). *Projecten – Samenleven met de wolf in Nederland*. Retrieved March 18, 2021, from <https://www.ifaw.org/nl/projecten/samenleven-met-de-wolf-in-nederland#:~:text=Na%20eeuwen%20van%20vervolging%20werd,laatste%20wolf%20in%20Nederland%20neergeschoten.&text=In%20februari%202019%20vestigde%20zich,2019%20definitief%20terug%20in%20Nederland.>

Intomart. (2012). *Appreciatie-onderzoek naar de komst van de wolf*. Hilversum: Intomart.

Jacobsen, K. S., & Linnell, J. D. (2016). Perceptions of environmental justice and the conflict surrounding large carnivore management in Norway—Implications for conflict management. *Biological Conservation*, 203, 197-206.

Jacobs, M. H. (2007). Wildlife Value Orientations in the Netherlands. *Human dimensions of Wildlife*, 12(5), 359-365.

Jacobs, M. H., Vaske, J. J., Dubois, S., & Fehres, P. (2014a). More than fear: role of emotions in acceptability of lethal control of wolves. *European Journal of Wildlife Research*, 60(4), 589-598.

Jacobs, M. H., Vaske, J. J., & Sijtsma, M. T. J. (2014b). Predictive potential for wildlife value orientations for acceptability of management interventions. *Journal for Nature Conservation*, 22, 377-383.

Jürgens, U. M., & Hackett, P. M. (2017). The big bad Wolf: the formation of a stereotype. *Ecopsychology*, 9(1), 33-43.

Kaltenborn, B. P., Bjerke, T., & Vitterso, J. (1999) Attitudes toward large carnivores among sheep farmers, wildlife managers, and research biologists in Norway. *Human Dimensions of Wildlife*, 4(3), 57-73.

Karlsson, J., & Sjöström, M. (2011). Subsidized fencing of livestock as a means of increasing tolerance for wolves. *Ecology and Society*, 16(1), 1-10.

Kluckhohn, C. (1949). *Mirror for Man*. New York: New Hill.

Lecuyer, L., White, R. M., Schmook, B., Lemay, V., & Calmé, S. (2018). The construction of feelings of justice in environmental management: An empirical study of multiple biodiversity conflicts in Calakmul, Mexico. *Journal of environmental management*, 213, 363-373.

Linnell, J. D. C. & Cretois, B. (2018). *Research for AGRI Committee – The revival of wolves and other large predators and its impact on farmers and their livelihood in rural regions of Europe*. Brussels: European Parliament, Policy Department for Structural and Cohesion Policies.

Lodberg-Holm, H. (n.d.). *The wolf conflict in Norway: An economic, political and social conflict*. Retrieved from [http://www.bfnorge.com/The\\_wolf\\_conflict\\_in\\_Norway\\_av\\_Hanna\\_Lodberg-Holm.pdf](http://www.bfnorge.com/The_wolf_conflict_in_Norway_av_Hanna_Lodberg-Holm.pdf)

López-Bao, J. V., Frank, J., Svensson, L., Åkesson, M., & Langefors, Å. (2017). Building public trust in compensation programs through accuracy assessments of damage verification protocols. *Biological conservation*, 213, 36-41.

LTO Nederland. (n.d.). *Wolven*. Retrieved May 25, 2021, from <https://www.lto.nl/onderwerpen/wolven/>

MacLennan, S. D., Groom, R. J., Macdonald, D. W., & Frank, L. G. (2009). Evaluation of a compensation scheme to bring about pastoralist tolerance of lions. *Biological Conservation*, 142(11), 2419-2427.

Manfredo, M. J., Teel, T. L., & Henry, K. L. (2009). Linking society and environment: A multilevel model of shifting wildlife value orientations in the western United States. *Social Science Quarterly*, 90(2), 407-427.

Manfredo, M. J., Bruskotter, J. T., Teel, T. L., Fulton, D., Schwartz, S. H., Arlinghaus, R., ... & Sullivan, L. (2017). Why social values cannot be changed for the sake of conservation. *Conservation Biology*, 31(4), 772-780.

Marino, A., Braschi, C., Ricci, S., Salvatori, V., & Ciucci, P. (2016). Ex post and insurance-based compensation fail to increase tolerance for wolves in semi-agricultural landscapes of central Italy. *European Journal of Wildlife Research*, 62(2), 227-240.

Marino, F., Kinsky, R., Shivji, I., Di Croce, A., Ciucci, P., & Knight, A. T. (2021). Understanding drivers of human tolerance to gray wolves and brown bears as a strategy to improve landholder–carnivore coexistence. *Conservation Science and Practice*, 3(3), 1-14.

Martin, A., McGuire, S., & Sullivan, S. (2013). Global environmental justice and biodiversity conservation. *The Geographical Journal*, 179(2), 122-131.

Martin, A., Gross-Camp, N., Kebede, B., McGuire, S., & Munyarukaza, J. (2014). Whose environmental justice? Exploring local and global perspectives in a payments for ecosystem services scheme in Rwanda. *Geoforum*, 54, 167-177.

Martin, A., Coolsaet, B., Corbera, E., Dawson, N. M., Fraser, J. A., Lehmann, I., & Rodriguez, I. (2016). Justice and conservation: the need to incorporate recognition. *Biological Conservation*, 197, 254-261.

Massarella, K., Sallu, S. M., & Ensor, J. E. (2020). Reproducing injustice: Why recognition matters in conservation project evaluation. *Global Environmental Change*, 65, 102181.

Milheiras, S., & Hodge, I. (2011). Attitudes towards compensation for wolf damage to livestock in Viana do Castelo, North of Portugal. *Innovation: The European Journal of Social Science Research*, 24(3), 333-351.

Miller, D. (2003). A response. In D. A. Bell, & A. de-Shalit (Eds.), *Forms of Justice: Critical perspectives on David Miller's Political Philosophy* (pp. 349-372). Lanham: Rowman & Littlefield.

Mmopelwa, G., & Mpolokeng, T. (2008). Attitudes and perceptions of livestock farmers on the adequacy of government compensation scheme: Human-carnivore conflict in Ngamiland. *Botswana Notes and Records*, 147-158.

Mohai, P., Pellow, D., & Roberts, J. T. (2009). Environmental justice. *Annual review of environment and resources*, 34, 405-430.

Morehouse, A. T., Tigner, J., & Boyce, M. S. (2018). Coexistence with large carnivores supported by a predator-compensation program. *Environmental management*, 61(5), 719-731.

Naughton-Treves, L., Grossberg, R., & Treves, A. (2003). Paying for tolerance: rural citizens' attitudes toward wolf depredation and compensation. *Conservation biology*, 17(6), 1500-1511.

NOS. (2019, January 16). *Afhandeling van schade door wolven duurt te lang*. Retrieved from <https://nos.nl/artikel/2267786-afhandeling-van-schade-door-wolven-duurt-te-lang.html>

NOS. (2021, January 7). *Friese schapenhouders willen hek om provincie om wolf tegen te houden*. Retrieved from <https://nos.nl/artikel/2363394-friese-schapenhouders-willen-hek-om-provincie-om-wolf-tegen-te-houden>

NowolvesBenelux. (n.d.). *Wie is NowolvesBenelux?* Retrieved on May 26, 2021, from <https://www.nowolvesbenelux.nl>

Nijhuis, M. (2019, April 17). The most political animal. *The Atlantic*. Retrieved from <https://www.theatlantic.com/science/archive/2019/04/norway-divided-over-countrys-wolves/587302/>

Nyhus, P. J. (2016). Human-Wildlife Conflict or Coexistence. *Annual Review of Environment and Resources*, 41, 143-171.

Nyhus, P. J., Fisher, H., Osofsky, S., & Madden, F. (2003). Taking the bite out of wildlife damage: the challenges of wildlife compensation schemes. *Conservation in Practice*, 4(2), 37-39.

Nyhus, P. J., Osofsky, S., Ferraro, P., Fischer, H., Madden, F., 2005. Bearing the costs of human-wildlife conflict: the challenges of compensation schemes. In E. R. Woodro, S. Thirgood, & A. Rabinowitz (Eds.), *People and Wildlife: Conflict or Coexistence?* (pp. 107-121). Cambridge: Cambridge University Press.

Oroschakoff, K., & Livingstone, E. (2017, October 19). Wolves return to haunt EU politics. *Politico*. Retrieved from <https://www.politico.eu/article/gray-wolves-return-to-haunt-eu-politics-europe-farmers/>

Ottolini, I., De Vries, J. R., & Pellis, A. (2021). Living with Conflicts over Wolves. The Case of Redes Natural Park. *Society & Natural Resources*, 34(1), 82-98.

Peterson, M. N., Birckhead, J. L., Leong, K., Peterson, M. J., & Peterson, T. R. (2010). Rearticulating the myth of human–wildlife conflict. *Conservation Letters*, 3(2), 74-82.

Plumer, L., Talvi, T., Männil, P., & Saarma, U. (2018). Assessing the roles of wolves and dogs in livestock predation with suggestions for mitigating human–wildlife conflict and conservation of wolves. *Conservation Genetics*, 19(3), 665-672.

Ravelle, J., & Nyhus, P. J. (2017). Global patterns and trends in human-wildlife conflict compensation. *Conservation Biology*, 31(6), 1247-1256.

Rawls, J. (1971). *A theory of justice*. Cambridge: Harvard University Press.

Redpath, S. M., Linnell, J. D., Festa-Bianchet, M., Boitani, L., Bunnefeld, N., Dickman, A., ... & Milner-Gulland, E. J. (2017). Don't forget to look down—collaborative approaches to predator conservation. *Biological Reviews*, 92(4), 2157-2163.

Reinhardt, I., Kluth, G., Nowak, S., & Mysłajek, R. W. (2013). *A review of wolf management in Poland and Germany with recommendations for future transboundary collaboration*. Federal Agency for Nature Conservation, Skripten 356.

Reuters. (2017, October 9). French sheep farmers protest against protection of wolves. *Reuters*. Retrieved from <https://www.reuters.com/article/us-france-farmers-wolves-idUSKBN1CE1OZ>

RFI. (2014, November 11). *Farmers release sheep at Eiffel Tower in anti-wolf protest*. Retrieved from <https://www.rfi.fr/en/visiting-france/20141127-farmers-release-sheep-eiffel-tower-anti-wolf-protest>

Rijksoverheid. (n.d.). *Heb ik recht op schadevergoeding als een wolf mijn dieren aanvalt*. Retrieved March 23, 2021, from <https://www.rijksoverheid.nl/onderwerpen/veehouderij/vraag-en-antwoord/heb-ik-recht-op-schadevergoeding-als-een-wolf-mijn-dieren-aanvalt>

RTV Drenthe. (2020, March 11). *We zien echt dat er heel veel onrust is*. Retrieved from <https://www.rtvdrenthe.nl/nieuws/158033/We-zien-echt-dat-er-heel-veel-onrust-is>

Salvatori, V., & Linnell, J. (2005). *Report on the conservation status and threats for wolf (Canis lupus) in Europe*. Council of Europe.

Schlosberg, D. (2003). The justice of environmental justice: reconciling equity, recognition and participation in a political movement. In A. Light, & A. de Shalit (Eds.), *Moral and political reasoning in environmental practice* (pp. 77-106). Cambridge: MIT Press.

Schlosberg, D. (2004). Reconceiving environmental justice: global movements and political theories. *Environmental politics*, 13(3), 517-540.

Schlosberg, D. (2009). *Defining environmental justice: Theories, movements, and nature*. Oxford: Oxford University Press.

Schwartz, S. H. (2006). A Theory of Cultural Value Orientations: Explication and Applications. *Comparative Sociology*, 5(2-3), 137-182.

Skogen, K. (2001). Who's afraid of the big, bad wolf? Young people's responses to the conflicts over large carnivores in eastern Norway. *Rural sociology*, 66(2), 203-226.

Skogen, K., & Krange, O. (2003). A wolf at the gate: the anti-carnivore alliance and the symbolic construction of community. *Sociologia ruralis*, 43(3), 309-325.

Skogen, K., Mauz, I., & Krange, O. (2008). Cry wolf!: narratives of wolf recovery in France and Norway. *Rural Sociology*, 73(1), 105-133.

Sovacool, B. K., Martiskainen, M., Hook, A., & Baker, L. (2019). Decarbonization and its discontents: a critical energy justice perspective on four low-carbon transitions. *Climatic Change*, 155(4), 581-619.

Steele, J. R., Rashford, B. S., Foulke, T. K., Tanaka, J. A., & Taylor, D. T. (2013). Wolf (*Canis lupus*) predation impacts on livestock production: direct effects, indirect effects, and implications for compensation ratios. *Rangeland Ecology & Management*, 66(5), 539-544

Stichting Het Nationale Park De Hoge Veluwe. (2019). *Standpunt van het Nationale Park De Hoge Veluwe ten aanzien van de wolf: aanwinst of verlies van (bio)diversiteit?* Retrieved from <https://www.hogeveluwe.nl/files/Standpunt%20NPDHV%20ten%20aanzien%20van%20de%20wolf.pdf>

Svarstad, H., & Benjaminsen, T. A. (2020). Reading radical environmental justice through a political ecology lens. *Geoforum*, 108, 1-11.

Schwerdtner, K., & Gruber, B. (2007). A conceptual framework for damage compensation schemes. *Biological conservation*, 134(3), 354-360.

Teel, T. L., Dayer, A., Manfredo, M. J., & Bright, A. D. (2005). *Regional results from the research project entitled Wildlife Values in the West*. Colorado: Human Dimensions in Natural Resources Unit.

Treves, A., & Karanth, K. U. (2003). Human-carnivore conflict and perspectives on carnivore management worldwide. *Conservation biology*, 17(6), 1491-1499.

Treves, A., Jurewicz, R. L., Naughton-Treves, L., & Wilcove, D. S. (2009). The price of tolerance: wolf damage payments after recovery. *Biodiversity and Conservation*, 18(14), 4003-4021.

Trouwborst, A. (2010). Managing the carnivore comeback: international and EU species protection law and the return of lynx, wolf and bear to Western Europe. *Journal of Environmental Law*, 22(3), 347-372.

Van Heel, B. F., Boerboom, A. M., Fliervoet, J. M., Lenders, H. J. R., & Van den Born, R. J. G. (2017). Analysing stakeholders' perceptions of wolf, lynx and fox in a Dutch riverine area. *Biodiversity and Conservation*, 26(7), 1723-1743.

Vaughn, S. E. (2017). Disappearing mangroves: the epistemic politics of climate adaptation in Guyana. *Cultural Anthropology*, 32(2), 242-268.

Vlasveld, M., Achterkamp, T., Beenen, R., Jacobs, D., Meijer, A., Venema, P., Voskamp, P., & Wesselink, J. (2018). *Interprovinciaal wolvenplan*. Den Haag: IPO.

Wageningen University & Research. (2019). *Wolf officieel gevestigd in Nederland: hoe weten we dat?* Retrieved March 18, 2021, from <https://www.wur.nl/nl/nieuws/Wolf-officieel-gevestigd-in-Nederland-hoe-weten-we-dat.htm>

Walker, G.P. (2012). *Environmental justice: Concepts, evidence and politics. Abingdon: Routledge.*

Whiteman, G. (2009). All My Relations: Understanding Perceptions of Justice and Conflict between Companies and Indigenous Peoples. *Organization Studies*, 30(1), 101–120.

Widman, M., & Elofsson, K. (2018). Costs of livestock depredation by large carnivores in Sweden 2001 to 2013. *Ecological Economics*, 143, 188-198.

Wolvenhek Fryslân. (n.d.). *Wolvenhek Fryslan*. Retrieved on May 25, 2021, from <https://www.nowolvesbenelux.nl/wolvenhek-fryslan/>

Wolven in Nederland. (n.d.). *Historie*. Retrieved March 18, 2021, from <https://www.wolveninnederland.nl/>

Wolven in Nederland. (2021). *Kaart verspreiding wolf*. Retrieved March 23, 2021, from <https://publicaties.bij12.nl/tussenrapportage-wolf-17-maart-2021/kaart-verspreiding-wolf/>

WWF. (2005). *Human Wildlife Conflict Manual*. Harare: Southern Africa Regional Programme Office. Retrieved from [https://wwfint.awsassets.panda.org/downloads/human\\_wildlife\\_conflict.pdf](https://wwfint.awsassets.panda.org/downloads/human_wildlife_conflict.pdf)

Young, I. M. (1990). *Justice and the Politics of Difference. Princeton, NJ: Princeton University Press.*

Zinn, H. C., Manfredo, M. J., Vaske, J. J., & Wittmann, K. (1998). Using normative beliefs to determine the acceptability of wildlife management actions. *Society & Natural Resources*, 11(7), 649-662.

ZLTO. (n.d.). *Werkbaar wolvenbeleid*. Retrieved on May 25, 2021, from <https://www.zlto.nl/belangenbehartiging/speerpunten/werkbaar-wolvenbeleid>

Zwerver, E., & Radersma, S. (2021, January 7). *Wolvenhek rond Friesland is een onzinnig plan. RTVNoord*. Retrieved from <https://www.rtvnoord.nl/nieuws/777673/Wolvenhek-rond-Friesland-is-een-onzinnig-plan>



# Appendices

## Appendix 1: List of research participants

This table shows a full overview of the people that have been interviewed during this research. Two representatives of organizations also have livestock themselves, as has been indicated below, either having experience with wolf damage themselves (LTO) or experience with wolf-resistant fencing (VGSN).

Research participant	Date	Type of livestock	Location of interview
Representative BIJ12	September 6, 2021		Online
Representative ZLTO	September 17, 2021		Online
Representative LTO Nederland	September 22, 2021	Sheep	Online
Representative LLTB	September 27, 2021		Online
Representative VGSN	December 10, 2021	Sheep	Online
Counselor sheep farmers	December 8, 2021		Online
Ecologist	December 21, 2021		Online
Livestock owner #1	October 28, 2021	Sheep	Online
Livestock owner #2	November 9, 2021	Sheep	At home
Livestock owner #3	November 10, 2021	Sheep	At home
Livestock owner #4	November 15, 2021	Sheep	At home
Livestock owner #5	November 22, 2021	Sheep	Telephone
Livestock owner #6	November 23, 2021	Sheep	At home
Livestock owner #7	December 9, 2021	Sheep	At home
Livestock owner #8	December 13, 2021	Cows	Online

## Appendix 2: Interview guide BIJ12

### Deel 1: Introductie – De organisatie

1. Hoe bent u bij de organisatie BIJ12 terecht gekomen?
2. Wat houdt uw functie binnen de organisatie BIJ12 precies in?
3. Wat is de rol van BIJ12 binnen het compensatiesysteem voor wolvenschade?
4. Wat is, vanuit uw beroep, uw mening over het huidige compensatieschema?

### Deel 2: De ontwikkeling van het compensatieschema

1. Hoe is het huidige compensatieschema ontwikkeld?
2. Welke actoren zijn hier bij betrokken geweest?
3. Wat is de precieze rol van veehouders geweest binnen de ontwikkeling van het compensatiesysteem?
4. Op wat voor manier is er rekening gehouden met de wensen van veehouders in de ontwikkeling van het compensatiesysteem?
5. Hoe zijn de financiële waarden voor compensatie precies vastgesteld?
6. Hoe is besloten welke schade wel gecompenseerd wordt en welke niet?
7. Waarom is besloten dat voor beroepsmatige veehouders andere verplichtingen gelden voor het ontvangen van compensatie dan voor hobbymatige veehouders?

### Deel 3: De werking van het compensatieschema

1. Hoe verloopt het schade afhandelingsproces?
2. Hoe ziet de tijdlijn eruit waarbinnen elke stap van dit proces wordt afgehandeld?
3. A. Is het wel eens voorgekomen dat de afhandeling van een schadeclaim langer duurt dan deze tijdlijn stelt?  
B. Zo ja, door wat voor factoren wordt zo'n vertraging veroorzaakt?
4. Hoe worden veehouders tijdens het hele proces op de hoogte gehouden van de vorderingen?
5. Hoe wordt tijdens de schadeafhandeling op dat moment rekening gehouden met de emoties van de veehouder?

### Deel 4: De ervaringen met het compensatieschema

1. Hoe reageren veehouders over het algemeen op het proces rondom compensatie?
2. Hoe kunnen veehouders hun verbeterpunten melden aan BIJ12?
3. Wat zijn de meest voorkomende positieve reacties die BIJ12 heeft gehad op het compensatiesysteem?
4. Wat zijn de meest voorkomende verbeterpunten die BIJ12 heeft gehad op het compensatiesysteem?
5. Op wat voor manier worden verbeterpunten meegenomen binnen de organisatie?
6. Hoe worden bezwaren rondom de compensatieaanvraag afgehandeld binnen de organisatie?
7. Wat voor plannen zijn er voor de toekomst om het compensatieschema verder aan te passen op basis van de ontvangen feedback?

### Afsluiting

Heeft u zelf nog een vraag of belangrijke punten die u nog zou willen delen?

## Appendix 3: Interview Guide Organizations

### Deel 1: introductie – wie bent u?

1. Hoe bent u bij de organisatie ... terecht gekomen?
2. Wat houdt uw functie binnen de organisatie ... precies in?
3. Op wat voor manieren houdt de organisatie ... zich bezig met de problematiek rondom de wolf?
5. Wat voor management van de wolf lijkt ... het beste?
6. Wat is uw persoonlijke mening over het huidige compensatieschema?

### Deel 2: Environmental Justice

1. Hoe denkt de ... in het algemeen over het compensatieschema?
2. Wat voor meningen hoort de ... vaak vanuit boeren over het compensatieschema?

### Deel 2a: Distributive Justice

1. Hoe denken veehouders in het algemeen over de financiële waarde die zij ontvangen voor de geleden schade?
2. Wat zou ... anders willen zien in de manier waarop wolvenschade nu gecompenseerd wordt?
3. Hoe staat ... tegenover het feit dat sommige vormen van schade niet gecompenseerd worden?
4. Wat is de mening van ... over de eis voor preventiemaatregelen om in aanmerking te komen voor compensatie?

### Deel 2b: Recognition Justice

1. Vindt ... dat er genoeg erkenning is voor de problemen die boeren ervaren vanwege de wolf?
2. Op wat voor manier wordt de huidige levenswijze van boeren beïnvloed door de komst van de wolf?
3. Op wat voor manier wordt binnen het huidige wolvenbeleid rekening gehouden met deze gevolgen?
4. Hoe staat ... tegenover de mate waarin de visies van boeren erkend worden in de opzet van het wolvenbeleid? En het compensatiesysteem?

### Deel 2c: Participation Justice

1. Hoe staan veehouders in het algemeen tegenover de manier waarop zij vertegenwoordigd worden binnen beleidsdiscussies rondom de wolf?
2. Op wat voor manier speelt ... een rol binnen discussies rondom de wolf en het bijkomende beleid?
3. Op wat voor manieren zijn genoemde punten van ... meegenomen binnen het gevormde beleid?
4. Wat vinden jullie als organisatie van jullie eigen positie binnen deze discussies?

### Afsluiting

Heeft u zelf nog een vraag of belangrijke punten die u nog zou willen delen?

## Appendix 4: Interview Guide Livestock Owners

### Deel 1: Introductie – Wie bent u?

1. Kunt u wat vertellen over uw rol als veehouder?
2. Wat is uw persoonlijke ervaring geweest met de wolf?
3. Hoe denkt u over de wolf in Nederland?

### Deel 2: Wildlife value orientations

1. Waar denkt u aan bij wilde dieren?
2. Wat vindt u van de hoeveelheid rechten die de wolf heeft?
3. Zouden we volgens u in Nederland moeten streven naar een samenleving waar mens en dier naast elkaar kunnen leven?
4. Bent u van mening dat wolven net zoveel rechten zouden moeten hebben als mensen?
5. Vind u dat de populaties wolven actief beheerd moeten worden zodat zij niet teveel invloed krijgen op de huidige manier van leven?
6. Wat vindt u van het jachtbeleid rondom de wolf?

### Deel 3: Environmental Justice

1. Hoe denkt u in het algemeen over het compensatiesysteem rondom wolvenschade?

### Deel 3a: Distributive justice

1. Hoe denkt u over de financiële waarde die u heeft ontvangen voor de geleden schade?
2. Hebt u wat aan te merken op de vormen van schades die u wel en niet vergoed heeft gekregen?
3. Wat zou u, op basis van uw eigen ervaringen, graag anders willen zien aan de manier waarop er nu gecompenseerd wordt?
4. Wat zou u ervan vinden als preventie straks een verplichte eis wordt om in aanmerking te komen voor compensatie?
5. Hoe staat u tegenover het idee dat boeren de last van de samenleving zouden dragen om de wolf te houden?

### Deel 3b: recognition justice

1. Hoe is uw manier van vee houden beïnvloed door de komst van de wolf?
2. Vind u dat er genoeg erkenning is vanuit de maatschappij voor de problemen die u als veehouder ervaart vanwege de wolf?
3. In welke mate ziet u uw eigen visie over de wolf en zijn management terug in het huidige beleid rondom de wolf?
4. Vind u dat er genoeg aandacht is voor de emotionele aspecten die komen kijken bij wolvenschade?
5. Bent u het eens met de manier waarop het wolvenprobleem in de media gepresenteerd wordt?

### Deel 3c: participation justice

1. Kan u op een makkelijke manier op de hoogte te blijven van de ontwikkelingen op het gebied van de wolf?

2. Wat vind u van de manier waarop veehouders vertegenwoordigd zijn binnen beleidsdiscussies rondom de wolf?
3. Vind u dat er genoeg mogelijkheden zijn waarop u zelf als veehouder input kan geven over het toekomstige beleid of vragen kunt stellen?
4. Wat vindt u van de communicatie rondom het wolvenbeleid?

#### Afsluiting

Heeft u zelf nog een vraag of belangrijke punten die u nog zou willen delen?

## Appendix 5: Original quotes of interviewees in Dutch

In this appendix, an overview of the original, Dutch quotes as spoken by research participants is given. Translated versions of these quotes have been applied in chapter 6. The quotes in this appendix are presented in the order of appearance in chapter 6.

### 6.1. Distributive justice

#### 6.1.1. The distribution of compensation: the value of what is included

Je wordt er niet rijk van, maar je wordt er zeker niet slechter van (Veehouder #5)

Ik was tevreden met het bedrag wat ze in ieder geval getaxeerd waren (Veehouder #7)

Zo'n dier kan een waarde hebben van duizenden euro's en daar wordt niet naar gekeken (Veehouder #7)

Voor een heel oud schaap wat 11 jaar oud is, dan zeg je nou ja goed, die heeft dan voor de laatste keer gelamd. In de herfst kan je dat verkopen. Maar zo'n schaap dat voor de eerste keer gelamd had, vind ik 125 euro te weinig (Veehouder #2)

Schaap is gewoon schaap. Of die nou groot of klein, vierkant of rond is, daar wordt niet naar gekeken. Het is gewoon schaap (Veehouder #4)

#### 6.1.2. The distribution of compensation: what should be included?

De waarde van het schaap komt dan wel overeen met de taxatie zal ik maar zeggen, maar dat is ook het enige positieve wat ik daarover kan melden (Veehouder #1)

Dat wordt niet vergoed. En dat is eigenlijk de grootste schade. Dan die schapen die ze opvreten, ja, dat is ook wel schade, maar.. Als er bij mij 5 schapen opgegeten worden van 200 euro, is 1000 euro. Maar als 10 schapen twee lammeren eraf gooien, mis ik 20 lammeren. Keer 100 euro het stuk, is heel ander geld (Veehouder #4)

Ik hoorde al langer dat die zwaarder begon te ademen destijds, en die luchtpijp die is open geweest, en daar is gewoon littekenweefsel in gekomen, en dat is dichtgegroeid, die is gewoon gestikt. Je hoorde hem op een gegeven moment gewoon op 50 meter ademen. Ja, op een gegeven moment lag die dood (Veehouder #3)

Je bent ook fysiek gewoon helemaal bek af, en dat is met die gewone netten is niet, dan doe je een uurtje, of twee uurtjes, of vijf of acht, en dan ga je weer verder. En hier ben je gewoon bekaf (Veehouder #1)

Wij worden nu geacht om anders te gaan werken, andere omheiningen te gebruiken, die ons meer tijd kosten die we niet vergoed zien. Dus er hangt een hele grote onzekerheid boven die bedrijven van hoe moeten wij nou voortbestaan (Vertegenwoordiger VGSN)

Zeker omdat ik de maatregelen die ik moet nemen, dat die niet voldoende zijn he. Dat heeft er mee te maken van wat moet ik in godsnaam doen om die wolf te weren, want, wat ik zeg, hoeveel wolvenaanvallen kun je mentaal verwerken. Dus ik maak me in die zin echt wel zorgen van hoe moet ik me hier, hoe moet ik hier mee omgaan en hoe moet ik dit oplossen. Dus dat zorgt voor heel veel onzekerheid (Veehouder #1)

Dan krijg je een juridisch steekspel, van als een kuddebeschermingshond een loslopende recreantenhond pakt en doodbijt. De herder heeft de opdracht niet gegeven om dat te doen, het baasje had die hond aan de lijn moeten houden, en die beschermingshond doet zijn werk. Kan die eigenaar dan de herder een claim sturen voor de kosten en de trauma? (Eigenaar adviesbureau)

Die honderd euro voor dat schaap, het is eigenlijk, daar lig ik niet wakker van, daar ga ik niet door failliet of daar word ik niet rijk van. De onrust die het oplevert, is veel erger, of de extra arbeid die het kost. Dat zijn aspecten die veel zwaarder wegen (Veehouder #1)

### 6.1.3. The distribution of subsidies

Ik heb een kudde schapen in de Loonse en Drunense duinen bijvoorbeeld, als daar een wolf opduikt, en die denkt ik blijf hier, dan moeten we eerst een halfjaar wachten totdat ie gevestigd is, voordat je gebruikt kunt maken van die preventieve maatregelen (Vertegenwoordiger VGSN)

die wolf kan overal in Nederland opduiken (Vertegenwoordiger VGSN)

Het interessante is van die Brabantse wolf, dat is helemaal geen Brabantse wolf, want die kwam ook in Limburg. [...] woont in Limburg en daar was de schade. En die wolf die was gesetteld in Brabant, en kwam af en toe zijn maaltijd halen in Limburg. Limburg ging niet over tot het bestempelen van de hele provincie als wolvengebied (Eigenaar adviesbureau)

## 6.2. Participatory Justice

### 6.2.1. The interaction between BIJ12 and Livestock Owners

Ik heb wel eens uren in de wacht gestaan, echt uren in de wacht staan, en, mijn vriendin heeft ook een paar keer gebeld, en dan uren in de wacht staan, en dan nog niet bereikbaar (Veehouder #1)

Daar vond ik dat daar veels te lang tussen zat. Ik vind dat als er dan op gegeven moment bekend is dat een dier het gedaan heeft, die hun vergoeden, dan vind ik dat dat geld sneller moet komen (Veehouder #7)

Ja, ik vond het te lang duren tussen dat we zeg maar de uitslag kregen dat het goudjakhals was, daarop de betaling. Dan denk je gewoon met 14 dagen, 3 weken dan betalen ze wel uit. Maar dat was drie maanden ongeveer. Dat is gewoon te lang (Veehouder #4)

Wij moesten zelf iedere keer erachter aan bellen. En dan hadden ze toch eigenlijk maar iedere keer een kutsmoesje. En dan ja, dan kon je weer wachten (Veehouder #7)

### 6.2.2. The representation of farmers in policy- and decision-making

Het beleid is gewoon dat ze wolven willen hebben, en steeds meer” (Veehouder #7)

Maar de gedachten van de mensen die dit soort zaken allemaal beslissen, ik denk dat die heel erg op de stoel van de wolf zitten, terwijl ze veel meer ook op de stoel van de boeren moeten gaan zitten (Veehouder #1)

Ze hebben iedereen uitgenodigd die ze konden verzinnen die iets met wolven had, maar het resultaat is nu dat er vier schapenmensen zitten tegenover twintig ambtenaren. Nou, wij hebben daar dus niks te vertellen (Vertegenwoordiger LTO Nederland)

He, en er zitten zelfs mensen bij, die heel geringschattend doen over de schapenhouders. Ja jullie hebben schade, omdat je niet goed hekjes zet. Allemaal van dat soort dingen vliegen er over de tafel. Ik ben weleens weggelopen (Vertegenwoordiger LTO Nederland)

Ik zei ook tegen die man van ja weet je, het heeft geen nut. Als jij daar gewoon keihard blijft staan en je blijft maar volhouden van ja dat de schapen gegrepen wordt, ja jammer dan. Ja... Nee daar kun je niet mee communiceren met zo iemand (Veehouder #4)

Die ecologen aan de ene kant, en die schapenhouders aan de andere kant, die zaten wel online bij elkaar in gesprek, maar ze spreken eigenlijk twee verschillende talen (Eigenaar adviesbureau)

Ik denk dat het een top-down plan wordt, en niet een Bottom-up plan, een paar mensen die bedenken en die schrijven het op en dat is het zo (Veehouder #1)

Ik denk dat maar 2-3% het natuurbeleid echt bepaald, nou ja, eigenlijk maar 2-3 man (Veehouder #3)

Ik denk dat er te weinig veehouders zich eigen er druk over maken, omdat ze hebben geen schade (Veehouder #8)

Voor vee, dat is ook nog een intern probleem eigenlijk. De meeste, waar de wolf geweest is, en dichtbij, dat gaat nog wel, maar zo gauw als je drie km verder bent, ja ik heb er toch geen last van, we doen maar niks. Dat is ook.. Het is allemaal extra werk, en ze hebben het allemaal druk. Dat is ook een argument (Veehouder #3)

### 6.2.3. Accountability for the wolf and its management

Pappen en nathouden (Veehouder #1)

Als de overheid zegt er moeten wolven kunnen leven in Nederland, dan vind ik dat de overheid ook het beheer van de wolf in orde moet houden (Veehouder #8)

Alles wordt aan Brussel opgehangen (Veehouder #3)

De wolf doet wat de wolf wil, die vrijheid moeten we hem geven van Brussel (Veehouder #3)



En het is natuurlijk een dooddooener in de discussie, maar niet onterecht, is het nee het is Europese regelgeving, je mag een wolf niet afschieten, je mag hem niet eens zomaar vangen, je mag hem volgens de regels niet eens verstoren (Eigenaar adviesbureau)

In Frankrijk hebben ze hem dan afgeschoten, maar dat hadden ze hier ook kunnen doen. Maar hier durven ze niks, mogen ze niks (Veehouder #3)

Voordat er in Nederland zo'n beslissing zou worden genomen, van oeps deze wolf die is wel zo atypisch, dat willen we echt niet, dat kan niet, dit is niet te verenigen met ons landschap met vee erin, ja, dan moet je hem uit het systeem wegnemen, netjes gezegd, daar valt niet over te praten. En dat, daar zit de angel (Eigenaar adviesbureau)

Dat keuren wij natuurlijk helemaal niet goed, dat dat gebeurt, maar misschien is wel oorzaak van falend beleid of van traag beleid (Vertegenwoordiger VGSN)

Hun zeggen gewoon afrastering mag niet hoger zijn als 1 meter. Want het heeft ook nadelen zeggen ze, een ree kan er niet door, alles kan er niet door (Veehouder #8)

Wij laten ons overvallen door zo'n introductie van de wolf en dan moet er ineens wat gebeuren. En volgens mij ga je dat meemaken met de discussie met de veehouders, die worden daarmee geconfronteerd, die zullen wat moeten, en dan gaan ze informeren van wat is er nu op dit moment aan regelgeving. En dan is er nog heel vaak weinig of onduidelijk (Eigenaar adviesbureau)

Ik denk, nou zoals het nu is, ik weet dan dat er aan het wolvenplan 2022 geschreven wordt, maar wie er mee bezig is, welke kant dat op gaat of hoe ik daar inbreng in kan geven, geen idee, ik weet het niet (Veehouder #1)

Een ander ding vind ik, waarom moet het 1.20 zijn, in Duitsland is het 90, waarom moet het hier weer baas boven baas? (Veehouder #3)

Eigenlijk zou niet eens elk land een eigen beleid moeten maken, maar Europees. Die wolf kijkt niet naar gemeentes, provincies of landgrenzen. Die komt overal. Dus ik vind dat we af moeten van die kleine hokjes, Nederland is al klein genoeg, waarom moeten we dat dan ook nog in 12 provincies verdelen als het gaat over het natuurbeleid rondom die wolf? (Vertegenwoordiger VGSN)

## 6.3. Recognition Justice

### 6.3.1. Identities

Want iedereen die in de stad woont, zal nooit geen last hebben van die wolf. Die hoort eigenlijk alleen maar de mooie dingen, oh er zijn welmpjes geboren, daar liep die, hartstikke mooi, leuk beeldje dat die over de Veluwe heen liep (Veehouder #4)

Die vinden het allemaal prachtig, maar wij hebben er niks mee. En ik denk dat met die wolf ook het verschil is van dorpsmensen of stadsmensen. Jawel, dat heb ik best eigenlijk, ja (Veehouder #7)

Dat is hetzelfde, als je in de stad woont, dan denk je oh dat is mooi, die wolf. Die moet de vrije ruimte krijgen in Nederland. Maar als die in jouw voortuin loopt, dan ben je er niet zo blij mee (Veehouder #2).

En weet je wat ik het hele ergste vind? De mensen zijn dan wel voor de wolf, maar als je vraagt aan een mens van heb je wel eens een wolf in het wild gezien. Nee, nooit. [...]. Maar waarom willen de mensen dan wolven hebben? Dat snap ik niet. Ze willen wel wolven, maar ze zien ze nooit (Veehouder #7).

Of dat mensen zeggen van die netten lagen plat en de wolf is daar door binnen gekomen en jij hebt ze daarna recht op gezet. Dat soort verhalen gaan er gewoon rond he (Veehouder #1).

Ik denk dat uiteindelijk het genuanceerde verhaal dat dat weinig in de media komt. Het is toch heel vaak of de wolf is een geweldig dier dat in de natuur thuishoort, ja, of de tegenhanger van we moeten hem afschieten (Veehouder #1)

Ja, dat vind ik toch wel heel erg triest. En dat zie je dus niet in de media (Veehouder #6).

Zo een die dan zegt nou ja dan moeten ze maar pakken stro in de hei zetten, dan kan de schapen er bovenop. Dat blijft wel hangen bij het publiek he. Dat zo'n man dat zegt. Dan denk ik waar hebt u verstand zitten? Zie jij die Texelaars al pakken stro op komen? Maar dat wordt wel geloofd (Veehouder #3)

### 6.3.2. Interests

Ik zeg de ene persoon die kan misschien 5 wolvenaanvallen mentaal verwerken, en de ander misschien 50, maar een keer knapt het. Je houdt het niet vol, je houdt het gewoon niet vol. Dat is mijn conclusie (Veehouder #1).

Ze promoten allemaal klein, en die nou klein zijn, die houden het eerst op (Veehouder #3)

Het zou juist zonde zijn voor de biodiversiteit in Nederland als die dieren uit het land verdwijnen (Vertegenwoordiger VGSN)

Zonder dieren in het landschap, slaat de hele ecologie doodt. Dan raak je alle diversiteit kwijt, [...] Alles groeit dicht, of de weilanden worden niet meer begraast, maar gemaaid. Nou, de soortrijkdom die knalt achteruit (Eigenaar adviesbureau)

### 6.3.3. Knowledge

Er 2 miljoen honden in Nederland ongeveer. Als daar 0.5% daarvan honden aanvalt per jaar, dan zijn dat 1000 aanvallen per jaar, dat is 2.7 aanvallen per dag. Zelfs dat geloof ik niet, dat er elke dag 2.7 aanvallen zijn in Nederland, 365 dagen per jaar he. Maar dat zou een 0,5%

zijn die dat doet. Van de wolven kunnen we wel zeggen dat 50-100% van de wolven in Nederland schapen aangevallen hebben. Dat is een ander risico aan die wolf voor ons (Vertegenwoordiger VGSN)

Het is allemaal niet zo makkelijk als ze zeggen zet maar een draad (Veehouder #7)

De beste oplossing uit heel veel slechte oplossingen (Veehouder #4)

Dan was er een wolf in geweest, waren er 2 schapen dood, waarvan eentje echt half opgevreten, en dan ga je rondlopen langs het raster, en dan vind je niet eens sporen van hoe die erin is gekomen. Er is niet een net, of een paaltje eruit, of een net platgelegd of iets. En dan zeggen ze van ja die heeft gesprongen, en dan zegt de ecooloog nee wolven springen niet (Eigenaar adviesbureau).

Mijn border collie kan eigenlijk helemaal niet zo goed springen, ik heb twee keer geoefend gewoon door aan de andere kant van het net te gaan staan en dan te roepen. [...] En binnen no time heeft ie door hoe dat moet. En het is voor een wolf niet anders (Veehouder #1)

Er zijn er ook bij die beginnen met betonmatten. Maar die mogen ze niet hoger als 1 meter, en dan met pinnen er bovenop. Ze worden doorgeslepen betonnetten. Maar wat gebeurt er als daar dan een beest wel overheen springt en die valt op die pinnen of een ree of iets. Ik denk dat dat het dierenwelzijn ook niet ten goede komt (Veehouder #8)

Lag daar gewoon van de week 's ochtends een schaap dood te bloeden met een keelbeet. Ja, dat ding leeft nog gewoon. Dus als je het over leed hebt, is dat gewoon dierenleed. He, waar wij, als wij daar als mens voor verantwoordelijk waren, dan had de RDVL ze opgepakt. En de wolf mag het (Veehouder #4).

Nou is er in Nederland zo'n bepaalde vereniging die dan vindt dat diervriendelijk alles moet gebeuren, ik kan zo gauw niet op de naam komen, dat het allemaal diervriendelijk moet, maar bij de wolf wordt niet gekeken. Want dat is echt niet op een diervriendelijke manier dat ie ze pakt (Veehouder #7).

#### 6.3.4. Wildlife Value Orientations

Wij werken ook in de natuur en met de natuur samen, dus ik ben zeker niet tegen de wolf (Veehouder #1)

Heeft alles, hij kan alles (Veehouder #4)

Als er nu al voor een wolf 16.000 is, dan zie je wel hoe de wolf ten opzichte van de mens bevoorrecht is om te mogen blijven bestaan (Veehouder #8)

Die hun eten dan uit de natuur halen. Dat is natuurlijk hartstikke oké (Veehouder #1)

Dat ie daar die moeflons allemaal opgevreten heeft, ja, sorry, maar dat is natuur naar mijn mening, die lopen in de natuur. Ze vinden het niet leuk, maar dat hoort ie volgens mij te doen daar. De wildpopulatie in beheer te houden (Veehouder #4)

## Appendix 6: Informed consent form

Geachte Heer/Mevrouw,

Mijn naam is Jasmijn Keuning en momenteel ben ik bezig met een masterstudie International Development aan de Wageningen Universiteit. Hiervoor ben ik bezig met een onderzoek naar de ervaringen van veehouders met het huidige compensatieschema voor wolvenschade. Hoewel er veel berichten in de media te vinden zijn over boeren waarvan hun vee is aangevallen door een wolf, is er nog weinig onderzoek gedaan naar hun ervaringen met het compensatieschema en het wolvenbeleid in het algemeen. Zodoende wil ik door middel van interviews met veehouders en verschillende organisaties uitzoeken hoe veehouders het compensatieschema ervaren.

Naar aanleiding hiervan wil ik u dan ook graag een aantal vragen stellen. Dit gesprek wordt opgenomen met een audio-recorder of laptop, afhankelijk van of het gesprek digitaal plaatsvindt. Wat u tijdens dit interview vertelt en de informatie die u mij verstrekt, zal alleen voor dit onderzoek gebruikt worden en vertrouwelijk worden behandeld. Het transcript van het interview zal alleen door mij en mijn begeleider Dirk Roep gelezen worden. De uitkomsten van uw interview zullen anoniem in het uiteindelijke verslag opgenomen. Na het interview krijgt u een uitgewerkt transcript van uw interview doorgestuurd, zodat u deze kan controleren op juistheid. Wanneer het interview is getranscribeerd, de gegevens in het eindverslag zijn verwerkt en het onderzoek is afgerond, worden de opnames verwijderd.

Als laatste wil ik u er op wijzen dat u tijdens het interview mag aangeven dat u een vraag niet wil beantwoorden of dat u met het gehele interview wil stoppen. Het interview zal dan vroegtijdig beëindigd worden.

Indien u bovenstaande hebt gelezen en besluit om deel te nemen aan dit onderzoek, wil ik u vragen om onderstaand toestemmingsformulier te ondertekenen en te dateren. Mocht u nog vragen hebben over uw deelname, kan u contact met mij opnemen via mail ([jasmijn.keuning@wur.nl](mailto:jasmijn.keuning@wur.nl)) of telefoon (06-23178770).

Met vriendelijke groet,  
Jasmijn Keuning

Naam Participant:

Datum:

Handtekening: