

# 'I owe it to the animals': The bidirectionality of Swiss alpine farmers' relational values

Mollie Chapman<sup>1</sup>  | Anna Deplazes-Zemp<sup>2</sup> 

<sup>1</sup>Department of Geography, URPP Global Change & Biodiversity, University of Zurich, Zurich, Switzerland

<sup>2</sup>Ethics Research Institute, URPP Global Change & Biodiversity, University of Zurich, Zurich, Switzerland

## Correspondence

Mollie Chapman

Email: [mollie.chapman@geo.uzh.ch](mailto:mollie.chapman@geo.uzh.ch)

## Funding information

NOMIS Stiftung; Universität Zürich, Grant/Award Number: FK-18-101

Handling Editor: Maraja Riechers

## Abstract

1. Relational values have recently been proposed as a concept to expand our understanding of environmental values from the categories previously dominating the discourse: instrumental (nature for people's sake) and intrinsic values (nature for its own sake). Empirical and conceptual research on relational values has so far focused on the content of relational values or their relationship to other kinds of values.
2. In this paper, we fill a key gap in understanding exactly what relational values are and how they work; we call this the 'syntax' of relational values. We do so by applying the Syntax of Environmental Values Framework, which describes relational values as bidirectional, expressed by genuine respect and care on the one hand and an eudaimonic contribution to wellbeing on the other.
3. We developed a novel interview protocol which we applied in semistructured interviews with Swiss alpine farmers. We examine how both of these directions are manifested in farmers' relational values.
4. Our results showed how the bidirectionality manifests in relational values of alpine farmers. Specifically, we identified three components of each directionality. The intrinsic element of relational values was constituted by: an attitude of respect, attention to the relationship and practices of care. The instrumental element of relational values was constituted by: emotional and experiential contributions for the valuer, satisfaction and joy in the relationship, and practical contributions to the activities associated with the relationship (e.g. farm management). We further elaborate on the conditions required to sustain relational values, including physical, emotional and sociopolitical conditions.
5. These results informed an elaborated conceptual framework of relational values, and environmental valuing more generally. While specifically derived from our dataset, we believe our conclusions could directly or in a modified form, apply to diverse cases of relational valuing. In sum, this paper offers a concrete step towards better characterizing, distinguishing and applying the relational values concept.

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2022 The Authors. *People and Nature* published by John Wiley & Sons Ltd on behalf of British Ecological Society.

## KEYWORDS

Alpine livestock farmers, environmental ethics, farmer motivation, human wellbeing, multiple values of nature, relational values, semistructured interviews, Switzerland

## 1 | INTRODUCTION

Why do and should people care about their natural environment? In the environmental literature, these questions are usually addressed by invoking different types of environmental values. Traditionally, this includes two types of value: *intrinsic value*, which is assigned when people care about a natural entity for its own sake, and *instrumental value*, which implies that a natural entity is being valued because it is useful for the valuer. Recent literature suggests that this value dichotomy cannot capture those situations in which natural entities are valued in a personal, context-sensitive manner. The category of 'relational values' has been coined to account for these situations (Chan et al., 2016; Muraca, 2016; Pascual et al., 2017). Intrinsic and instrumental values are usually assigned based on clear, predetermined criteria, such as the sentience of animals for intrinsic value or a measurable utility for instrumental value. In contrast, relational values emerge in specific human-nature relationships and are therefore assigned to *specific* places, individuals and species. For instance, a valuer could assign relational value to a garden that she is tending carefully, place that is of particular importance to her family, plant that has grown idiosyncratically or bird species that reminds her of a vacation.

Empirical studies have applied the concept of relational value to analyse people's reactions to environmental projects and policies (Arias-Arévalo et al., 2017; Baker et al., 2021; Chapman et al., 2019; Chapman, Satterfield, & Chan, 2020; Chapman, Satterfield, Wittman, et al., 2020; Riechers et al., 2020), understand environmental behaviour, decision making and social innovation (Sarkki et al., 2019; Shum et al., 2021; Topp et al., 2022) and study environmental values in non-Western cultures (Bataille et al., 2021; Gould et al., 2019; Sheremata, 2018; Unks et al., 2021). The main interest in these studies was to explore the *content* of relational values. Therefore, most of these studies resulted in a list of involved relational values, which often include categories such as aesthetic values, personal or cultural identity, place attachment, or spiritual values (Arias-Arévalo et al., 2017; Baker et al., 2021; Chapman et al., 2019; Inglis & Pascual, 2021; Klain et al., 2017; Kreitzman et al., 2021; Riechers, Balázs, et al., 2021; Russell & Ens, 2020; Topp et al., 2022). These semantic studies of relational value provide insight as to the entities people value in their natural environment (in the relational sense), and in certain cases also the reasons for those values.

Besides the semantic question of *what* entities are being valued, relational values can also be studied with respect to *how* they are being valued. What does it mean to value something in the relational sense? In what respect is relational valuing different from intrinsic and instrumental valuing? Under what conditions (if any) does an entity lose relational value? How do people respond to relational values? Such information could contribute to a better understanding of how people connect to nature as well as provide insight into

why people need these values, how their relational values can be sustained and how such values can be evoked and strengthened, including as part of pathways to sustainability (Chan et al., 2020).

To address these questions, we need a better characterization of (1) the typical features of relational values and relational valuing and of (2) how relational valuing resembles and differs from instrumental and intrinsic valuing. We developed this characterization by combining a theoretical framework of relational values with empirical data. The theoretical framework specifies what exactly we examine empirically; it helps to specify research questions and sharpen analysis and conclusions. However, since real-life human-nature interactions are more diverse and messier than anticipated by theoretical frameworks, we tested and adapted the framework with the application and discussion of empirical data. We follow this approach in an interdisciplinary collaboration between the two authors. In a previous study (Deplazes-Zemp & Chapman, 2021), we presented our theoretical framework of relational values and relational valuing—the Syntax of Environmental Values Framework—that we developed with reference to existing empirical data (Chapman et al., 2019; Chapman, Satterfield, Wittman, et al., 2020). In this study, we test and adapt the framework by applying it in the acquisition and interpretation of new data via interviews with Swiss mountain farmers.

### 1.1 | The syntax of environmental values

As the name suggests our theoretical framework of relational value focuses on the syntax—that is, the features and structure—of relational values, rather than semantics and content (Deplazes-Zemp & Chapman, 2021). We started from features usually associated with relational values, namely their connection to eudaimonia (Chan et al., 2016; Knippenberg et al., 2018; Muraca, 2011; Neuteleers, 2020; van den Born et al., 2018), separation from intrinsic and instrumental values (Chan et al., 2016; Neuteleers, 2020; Pascual et al., 2017), connection to actual human-nature relationships (Himes & Muraca, 2018), and non-substitutability (Neuteleers, 2020; O'Neill, 2020). In our framework, we compared intrinsic, instrumental and relational value from the point of view of a valuer (A) by distinguishing the three valuing relations with a valued object (B). We described the *intrinsic* valuing relation as being directed towards the valued object (B), because the valuer attributes respect and recognition to this object by valuing it for its own sake; the valuer is oriented towards the valued object. In contrast, we described the *instrumental* valuing relation as being directed towards the valuing subject (A). The object (B) is being valued to the extent that B serves a purpose for A. The directionality in this framework must be understood as a metaphorical tool that allows us to describe how relational values compare to the other two categories.

We suggested that relational valuing shares and combines elements of both instrumental and intrinsic valuing and we depict this as a bidirectional relation  $A \rightleftharpoons B$ . Relational valuing shares the  $B \rightarrow A$  direction with instrumental valuing, because the valuer also benefits from relational values. The relationship with the natural entity, which underlies relational value, is meaningful and significant for the valuer (Neuteleers, 2020; O'Neill, 2020), such relationships are needed for a flourishing good life and contribute to the valuers' wellbeing in the eudaimonic sense (Jax et al., 2018; Muraca, 2011). This distinguishes relational valuing from intrinsic valuing, which does not share this necessary contribution to the valuer's well-being. However, like intrinsic valuing, relational valuing is also directed towards the valued object ( $A \rightarrow B$ ) due to the personal and meaningful relationship, in which the valuer (A) values the natural item (B).

The description of valuing relations as involving one object and one subject obviously is a strong simplification. Each valuer values many objects, every object is valued by many valuers and often a valuer values an object simultaneously in an intrinsic, relational and instrumental way. Therefore, our framework describes certain valuing relations as indirect or mediated. A valuer might for instance value an object only indirectly because it is important to another person about which the valuer cares. Or an object, for instance a particular place, might be valued in a mediated way because it mediates a relationship with a directly valued object. A particular relational value situation can often be interpreted in different ways (e.g. as an instrumental value or a mediated relational value). The purpose of our framework is not primarily to categorize concrete valuing relations; rather, it should be a starting point to discuss values, to identify which valuing relation(s) could be involved, to compare the characteristics of different value categories and, eventually, to understand how nature matters to people. In this article we will study relational values of mountain farmers by analysing the characteristic combination of the two directionalities ( $A \rightarrow B$ ) and ( $B \rightarrow A$ ) in these values, or in other words, by exploring how the contribution to human flourishing is related to respect and orientation towards the valued object in relational values.

## 2 | METHODS

We strategically chose Swiss Alpine livestock farmers as our study population because some basic bidirectionality ( $A \rightleftharpoons B$  as described above) is already embedded in their livelihood. Farmers in our sample are professional, i.e., they earn a living from farming ( $B \rightarrow A$ ). However, farming in a remote alpine region is difficult work, meaning that for purely instrumental reasons it is often not 'worth it'. This means that a particular commitment to the Alpine environment must be an important motivator for our study population (Calabrese et al., 2013). Switzerland is a wealthy, industrialized nation, which provides significant support to farmers, particularly those working in ecologically important (but low productivity) areas (Bardsley & Thomas, 2004; Home et al., 2018). This allows farmers to earn a living with relatively small herds of animals.

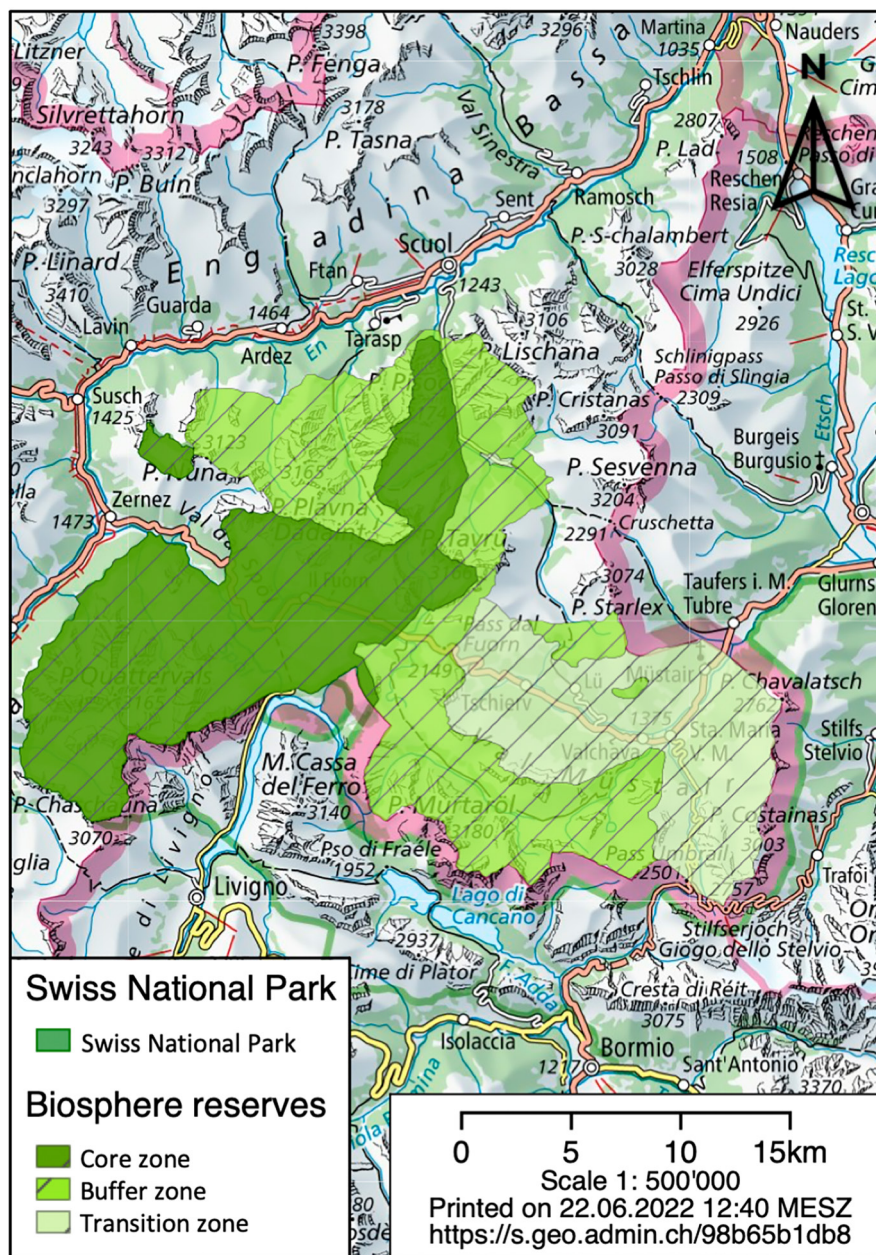
We selected two valleys in the Eastern Swiss Alps for our empirical study: Engiadina Bassa and Val Müstair, remote valleys on the border of Switzerland with Austria and Italy, respectively (Figure 1). Both valleys are part of the UNESCO Biosphere Reserve Engiadina Val Müstair and are connected by the Swiss National Park. Val Müstair is also designated as the Regional Nature Park Biosfera Val Müstair. Small-scale nature-based and agricultural tourism supplement agricultural activities. Each valley hosts a small ski resort, where some farmers find supplemental employment in the winter months. Rhaeto-Romansh is the primary language in both valleys, though all farmers were also fluent in High German and Swiss German.

Farmers in the region practice traditional alpine farming. During the summer months, livestock graze alpine pastures (generally managed communally) while farmers cut the grass from lower fields to make hay or silage for the winter months. In principle, this is a closed system, whereby the farm's land produces food for the animals which in turn produce manure for the land. In practice, most farmers purchase small amounts of additional feed. This in turn leads to an overproduction of manure. The type, frequency and amount of manure distributed to fields and pastures is a central topic for biodiversity protection efforts. Low-nutrient meadows support significant biodiversity. Farmers are supported by significant subsidies (a majority of their income), which take the form of payments for ecosystem services. For example, payments are based on maintaining high-alpine meadows without manure or tending hedgerows. Today, agricultural subsidies are paid based on area, and not as in the past, on the basis of the number of animals.

### 2.1 | Interview protocol development

The conceptual framework that describes relational valuing as a bidirectional process and that we call the 'Syntax of Environmental Values Framework' shaped the development of an interview protocol. Each interview began with a set of broad questions about the farmer and farm, designed to facilitate an open conversation in which one or more key (relational) values could be identified (around 20 min). Then, the interviewer selected what appeared to be the most salient value based on the responses from the first part of the interview (e.g. in some cases a certain topic inspired passion in the respondent as seen by their tone of voice or use of language; in others the respondent specifically said that something was very important to them) and then asked the respondent for confirmation (e.g. it seems like 'X' is something important to you). The respondent then either confirmed the value or in some cases provided some modifications or clarifications. The interviewer used the respondents' own language and phrasing to describe the value.

The next section of the interview involved more detailed questions about the identified value, drawing from the Syntax of Environmental Values Framework. In this part, we specifically prompted for details of the valued relationship, including examining both 'directionalities,' for example, both how the valued entity



**FIGURE 1** Study region. The valleys of Engiadina Bassa and Val Müstair border the Swiss National Park, which, together with the Regional Nature Park and part of the municipality of Scuol, form the UNESCO Biosphere Reserve Engiadina Val Müstair. Map created from Federal Office of Topography swisstopo data and interface.

contributes to the valuer's well-being (B→A), but also their obligations, attitude and actions towards this valued entity (A→B). We also asked about the conditions to sustain values, if the value was direct or indirect as well as the different types of reasons for valuing that entity. During the analysis, the answers to these specific questions were summarized in an excel sheet, in addition to the qualitative coding in NVivo (see full translated interview protocol in SI).

## 2.2 | Data collection and analysis

A total of 32 interviews were conducted in March 2019: 9 in Val Müstair and 23 in Engiadina Bassa. Interview respondents were identified in collaboration with local research partners, who have

a working relationship with each farmer in the valley. Respondents were selected to reach a diversity of views and farmer types (e.g. production systems, farm size, gender and age). Respondents ranged from 23 to 63 years old and most had been living in the area and working as farmers for most of their adult lives. We specifically selected farms that relied on farming for at least 50% of their income, though for most farming made up at least 80% of their income. Farmers in our sample operated a median of 34.5 ha and for those with cows (28 farms) had a median of 36.5 cows. Farmers in this region primarily produce meat or milk (most often from cows, but also sheep or goats). Some additionally grow crops such as barley or have fruit trees. In this region, it is usually economically advantageous to operate with organic certification, which 28 of our 32 farms held. See Supporting Information for additional details.

Interviews were about 1 h in duration and conducted by Chapman in High German. Both valleys are in a mixed language region, where residents regularly switch between local dialects of Rhaeto-Romansh, Swiss German and High German. Interviews were conducted at respondents' homes or farms. When offered by the respondent, Chapman also toured the farm. Detailed fieldnotes were taken. Interviews were audio recorded and transcribed by a local research assistant. Interviews were coded using NVivo qualitative management software using a combination of inductive and deductive coding. Deductive codes were based on the Syntax of Environmental Values Framework. Inductive codes emerged from the interview data and included key elements of the items described in Table 1 (such as 'practices of care', 'animal death', or 'closed production cycles') as well as contextual codes (such as 'making a living', 'working together' or 'family').

At our institution, researchers use a self-assessment tool to determine if a study is high or low risk for the research participant, according to which our study was assessed as low-risk. Only high-risk studies (usually clinical studies) are sent to a committee for ethics review. We followed standard practices of research ethics in our study. Research participants were selected in close collaboration with our local research partners, who have a relationship with each farmer in our study population. Participants were first approached by either the local partner or the first author to inquire if they were interested in participating. Prior to the interview, the researcher provided participants with details as to the study and potential risks and benefits. While we initially used written consent, after a few interviews we realized that this was culturally inappropriate and then switched to using oral consent. In our study population a verbal agreement is considered binding. Participants were then provided with a written summary of the study's funding, purpose, potential risks and benefits as well as contact information (see SI). After the data collection was completed, participants were regularly informed about the status of the research and emerging results. We then held two presentations (one in each valley) of the research results, to which we invited all the participants (separately to preserve anonymity) as well as additional individuals and groups in the area.

### 3 | RESULTS

#### 3.1 | Key relational values and their syntax

With one exception, all farmers in our study expressed relational values. We organized these relational values into three broad categories, chosen both for their empirical salience as well as theoretical importance. The first two concern relationships with animals, firstly farm animals and secondly, hunted animals (many farmers in our sample were also hunters). The third broad category of relational values elicited is described as '*Farming in Place*'. This category encompasses the different ways that farmers in our study described their values and responsibility as farmers in an alpine

mountain region. In the following, each value category is described in two parts, representing the different 'directionalities' of our framework. These three key relational values are described in detail in Table 1 and particular aspects are highlighted in the sections below.

#### 3.2 | Care for farm animals

##### 3.2.1 | The A (farmer) → B (farm animals) aspect of $A \rightleftharpoons B$

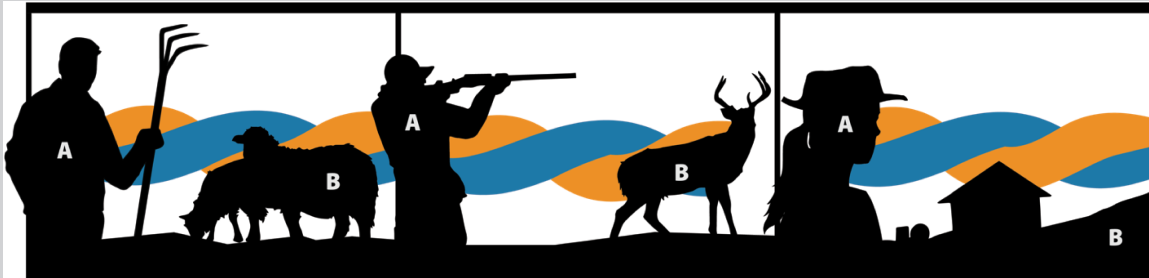
For the farmers in our study, caring well for farm animals encompassed a suite of practices but also included relational aspects. Many described this simply as spending time with the animals. While the regular work in the barn could be carried out quickly (especially for meat producers), most farmers felt it was important to take the time to pay attention and observe the animals, or simply to be with them. One explained how he decided to continue milking to assure he would spend enough time with the animals. Another had recently expanded his farm, allowing him to work full-time on the farm and retire from his part-time job. He was excited to have more time to spend with the animals, to better care for them and the farm, and to really enjoy the work at a slower pace [Interview #22]. For a number of farmers, being with the animals extended to the end of the animal's life. One was particularly passionate about this point, explaining:

For me, the worst part of the work was loading an animal in the trailer and driving to the slaughterhouse. ... I could do this well with the animals, they came with me and trusted me and at the end I abused their trust ... I always found that I owe it to the animals at the end, that I accompany them until their death [Interview #10]

The quote above shows the farmers mixed feelings towards the death of his animals. While he dislikes this part of the job, he also feels that it is his duty to accompany his cows until the very end. Even though in the end he 'abuses their trust' by taking them to their death, the farmer's presence assures that the animals are calm even at the last moment of their life. Interview #32 also used the same language of 'owing' it to his cows to accompany them to slaughter. A sheep farmer explained that while he did not like bringing his animals to slaughter, he preferred to do it himself, rather than sell them at the market [Interview #12].

For the farmers in our study, this deeper relationship was part of what made them comfortable eating their animals. For non-farmers, it might be hard to imagine raising an animal and later serving it for dinner. But our respondents explained that they felt more comfortable eating animals they themselves had raised because then they knew the animal had a good life. In some cases, they even discussed the animal's name at the dinner table, for example:

**TABLE 1** Examples of the different components of the three key relational values. The bidirectionality of each relational value is represented by the woven strands (in blue and orange) between the two entities in each column header. Summary of concepts elicited from all interviews organized according to key relational value. See Supporting Information for additional details of analysis. Number of farmers out of 32 who expressed this relational value in interviews.



Relational value	Care for farm animals	Respect for hunted animals	Farming in place
No. farmers	14	4	23
A	Farmer	Hunter	Farmer
B	Farm animals (cows, sheep, horses, chickens, etc.)	Wild animals (deer, rabbits, ibex, etc.)	Place (pastures and meadows, landscape, traditions, culture, history, ecology, community, etc.)
<b>A→B (genuine respect and care for the valued entity)</b>			
<b>Attitude of respect</b>	Accept what mother cow will allow (e.g. when to put ear tag in calf); accompany cows to slaughter	Provide a good death (no fear for the animal); offer a last bite (e.g. a small bough) and place animal in a respectful position; be a thoughtful hunter	Long-term thinking; operating with nature/close to nature; seeking sufficiency; not maximizing production; focus on regionalism; balance production and nature protection (not lose agricultural character of place)
<b>Attention to the relationship</b>	Give animals attention to see if they are sick or hurt; spend time with the animals; talk with animals; take time to do farm tasks without hurrying	Want there to be animals in 100 years; think of them as 'his animals'	Fitting the farm operation into the place/region; do the best with what you have; produce good food and 'enough' food while minimizing impacts; seeking a closed circle of production ( <i>geschlossener Kreislauf</i> )
<b>Practices of care</b>	Provide animals with good food, especially from one's own farm; care in long term way (means cows stay for 10–15 years instead of 2–3); hygiene and hoof care; attend to nutrition; provide brushes for cows (observed that cows enjoy this); assure animals can go outside; barn should be ventilated but not drafty	Do not hurt or cause unnecessary suffering; protecting roe deer fawns from farm machines; secondary hunting season ( <i>Nachjagd</i> ) to prevent starvation of wild animals	Protect terraces; tend hedges; careful hand care of pastures; grow traditional crop varieties; protect biodiversity; take only what nature gives (e.g. sell animals you cannot feed from own farm); maintain local dairy; create local product label ( <i>bun tschlin</i> ); place-based innovation in value chains or products
<b>B→A (eudaimonic contribution to wellbeing for the valuer)</b>			
<b>Emotional and experiential contributions</b>	Animals are calm and trust farmer; cows let him pet them, lick his hand, want to cuddle; emotional connection to animals; enjoyment of work with animals	Experience and emotions of hunting; experience of hunting in untouched nature	Meaningful relationship to land, pastures and place connected to memories and experiences
<b>Satisfaction and joy in relationship</b>	Feels good to see animals enjoy the good hay you grew; glad to know animals are happy; joy of relationship to animals	Satisfaction of the challenge of hunting and competition with wild animals	Sharing place and farm life with customers/tourists; farming with others via shared alpine pastures
<b>Practical contributions</b>	Care for animals is good for the soul and pocketbook; fences unnecessary; cows know the farm and make it easy; animals follow without problems	Wild meat tastes better when animals do not have fear before they die	If you focus on the long-term and not on maximizing production perhaps the farm operation will be better off in the end

The animals also appear on our plates. And my daughter knows exactly when she cuts her meat and she asks, "What was this one's name? Pipo?" ... And that is quality of life for me. [Interview #18]

For this farmer, knowing the history of the animal and knowing that he himself had raised it and then seeing the result on the dinner table was deeply satisfying (showing also how the two directionalities are deeply interwoven). He is also happy to share this knowledge and experience with his daughter.

### 3.2.2 | The B (farm animals) → A (farmer) aspect of $A \leftrightarrow B$

The other directionality encompasses the relational benefits for the farmer associated with the responsibilities and duties towards the animal. In other words, the benefit was coupled to and dependent on a genuine appreciation of the animal. A common theme was that if a farmer spends time with and treats their animals well, then the animals will trust the farmer. This certainly makes the job of farming easier as the animals are calm and willingly follow the farmer when needed. Beyond this, farmers enjoyed being able to pet their animals and obtained joy and satisfaction from their relationship with their farm animals. Many were drawn to the job of farming because it involved working with animals. When asked, nearly all farmers admitted to having a favourite cow. For example, one explains below what is special about his favourite cow:

It's the appearance and the relationship. One just likes that animal, well one likes all of them but it's maybe more special because she always wants to cuddle and then I always have to scratch her neck. When I come to the barn, she always comes to me. [Interview #15]

## 3.3 | Respect for wild animals

### 3.3.1 | The A (hunter) → B (wild animals) aspect of $A \leftrightarrow B$

Hunters explained that it is important that animals die a quick and painless death. They should not see the hunter or have any fear. If the animal is afraid before death, this can even impact the taste of the meat afterwards. The following farmer explains some of the other practices he uses to show respect for the hunted animals:

An animal also has the right to live and the right to a proper death and when it is dead, still the right to be handled properly.

Interviewer: And what does it mean to handle it properly after death?

When I have shot it, for me personally, to take it home and to give it a final bite, a pine branch in the mouth. Then also that it is properly used after. Because before there were some specialists that shot and waited until the animal could no longer be eaten. ... So that is all for me part of proper handling and also respectful. When one puts down the animal, then properly place it and not just throw it like a sack of potatoes. ... Because one has taken something from life, one has taken someone's life ... When I've shot something ... It's difficult to describe. On one side one is happy that one shot something but I have also killed something. That is always contradictory. [Interview #11]

Here, we see that as with farmed animals, death itself may be emotionally difficult, but this challenge is addressed by respecting the life one has taken. This respect is demonstrated both by assuring a clean shot, as well as giving the animal a 'final bite' after death, placing it nicely, and finally by eating the animal and not letting it go to waste. This is not to say that all hunters in the area treat wild animals with the same respect—here the comparison with a sack of potatoes and the reference to 'specialists' that waste the meat indicates that others may not follow these same rules.

### 3.3.2 | The B (wild animals) → A (hunter) aspect of $A \leftrightarrow B$

The experience of hunting is a chance to be in nature and observe wild animals. For many, hunting is their vacation and their passion. It is also a chance to be surprised and impressed by nature and wild animals. One hunter explains being in nature while hunting as an eudaimonic experience with a very strong aesthetic connotation:

There is the feeling in the early morning when it's dark and one sits somewhere and sees how it slowly gets lighter. And then at once one hears the birds. It's super because first thing in the morning there is just black/white, one doesn't see any color and then it is getting brighter and at once one sees colors and life begins. Everything wakes up slowly and one is just in the middle and one really melts with nature. One is just a part in there and that is really something magnificent. In these situations, I don't think at all, I just enjoy the moment. [Interview #18]

Hunting is also associated with relational values that include both direct relationships between hunters and the animals they hunt as well as mediating relational values via valued relationships between hunting companions. Often hunters spend weeks with a few companions (friends and/or family) in small huts in the mountains. The farmer below explains how hunting is connected to both family and friends, as well as to place:

My grandfather went hunting, my father, my uncle, my brother ... my father-in-law and my brother-in-law went hunting ... When I have the hunting license I can hunt in the whole canton of Graubünden. But normally that's not how it's done, rather one hunts where one grows up or where one works or there where one has friends or colleagues. So even though one could go anywhere, one is still tied to a place. [Interview #03]

For many farmers, hunting was something passed down through generations, for example 'laid down in the cradle' [Interview #14]. When discussing hunting with this farmer, the wife interrupted to say, 'now you can write main job: hunter. Hobby: farming' [Interview #14]. That farmer then shared the story of his gold-medal-winning red deer, which was mounted on the wall. Hunting is an experience between the hunter and the animal and simultaneously a story and triumph to be shared and relived with friends and family.

Not all farmers enjoyed hunting. For example, one was explaining how he no longer had time to hunt after starting to plant crops, when his wife added, 'yes but you are not the type that enjoys killing animals' and the farmer agreed [Interview #06]. Relational values are personal and sometimes difficult to comprehend for others: this is particularly true for a relationship that combines respect for an animal with killing it.

### 3.4 | Farming in place

#### 3.4.1 | The A (farmer) $\rightarrow$ B (place) aspect of $A \leftrightarrow B$

The relational value of farming in place encompasses a great deal of diversity, particularly in terms of how farmers explained enacting this value. In particular for this relational value, the two directionalities were deeply interwoven, such that satisfaction derived from caring well for the land, or engagement in local initiatives is motivated by a connection to place. In this context, 'place' refers to a holistic concept, encompassing land, landscape, traditions, culture, history, ecology and community. Spatially, place in our context generally refers to one of the two valleys in our study site: Val Müstair or Engiadina Bassa, though can also include smaller scales (e.g. a particular town or even a specific farm or meadow) or sometimes larger scales as in the alpine area of the canton.

Most expressed consideration for the place by highlighting the importance of fitting the farming system into both the region and the specific land and capacity of the farm. For example, farmers selected animal and crop breeds that might be less productive, but that are perceived as a better fit for the place. This included both traditional breeds as well as Scottish Highland cattle, which though not traditional, fit well to the alpine environment.

Caring for the place also included care for pastures and meadows. The below farmer explains the satisfaction of caring well for the alpine meadows:

And also with the pastures, when one takes good care of them and always every year the same, looks after them that they are still there in the next generations, that's just much more interesting as a job. One has more, how do you say, satisfaction. [Interview #14]

The above quote shows the ways that the two directionalities are inseparable. It is through the careful tending of pastures that the farmer derives satisfaction. Some farmers were engaged in protecting traditional aspects of the landscape such as terraces or hedge-rows, considered important for biodiversity, cultural heritage and landscape beauty.

#### 3.4.2 | The B (place) $\rightarrow$ A (farmers) aspect of $A \leftrightarrow B$

Farmers discussed various eudaimonic aspects of place-based farming. In many cases, these involved mediating relational values, incorporating relationships between friends, family or customers. For example, one farmer, whose operation included agrotourism, had a key relational value focused on relationships with the tourists/customers that he served. However, the particular place in nature was essential for this relationship:

I am simply rooted here in the valley. ... I like it here in the valley. I believe we have a wonderful nature; I want to share that with other people. I especially want to show it, how beautiful it is here. [Interview #5]

In some cases, farmers explained the ways that plants/pastures connected them to their own personal histories.

Then you see the hay and you maybe see a dried flower ... [and think] 'oh, that certainly comes from this or the other pasture' and then you feed [the animals] differently because you know how difficult [that hay] was to bring in (laughing), how hot it was or (pause) yes you have a history to that hay. That is not just hay. [Interview #21]

The above quote also highlights the role of effort and time in relational values. It is not only the personal history connected to the hay, but the very physical work embodied in 'bringing in' the hay. We can imagine the farmer in the hot sun, cutting the hay, sweating, and noticing a particular flower which appears again months later in the barn while feeding the animals.

In another interview, the respondent told a story about a neighbour girl, who she had recently learned was going through a difficult time. In recounting this story, the respondent was brought to tears.

And we had once two children from the neighbors that came. And that time we saw an aspis viper [a kind



of snake] behind a stone. When I am on the pasture from the snake, when I am by that stone, I always think about those two children. And it really touches me when I think about this little girl ... On each pasture there are moments when I am lost in memory. Not always happy, but also sometimes sad ones. [Interview #23]

The above quote highlights that the eudaimonic contribution is not always a happy one. Here the respondent discusses both happy and sad memories. This shows that the 'good life' in a eudaimonic sense is not about happiness or pleasure only but also about meaningful experiences and relationships.

### 3.5 | Are there situations in which a farmer can 'lose' their key relational value?

When asked if they could imagine a situation in which their key relational value was no longer important to them, many farmers said no. These farmers explained that if someone did not care for the land and animals then that person should not be a farmer. However, in other cases respondents could imagine or had even experienced a situation in which the importance of their relational value seemed to be lost. For example, one farmer had both cows and horses:

That situation really happened. It was during a time when we had mother cows and the calves were always sick. I was just exhausted and I said, 'no I don't like it anymore and I don't want to do my horses anymore and I don't want to do the cows anymore and I just don't want to do it anymore.' And then we thought, 'but why get rid of the horses when they were what always gave us strength and joy?' [Interview #2]

This farmer then changed her farming system to raising older calves with stronger immune systems. This made the job of farming fun again by freeing up time for the farmer to enjoy both the cows and the joy of working with the horses. Here, we see the importance of the eudaimonic contribution to wellbeing. When the farm work became too exhausting (due to the sick calves that often died), then the eudaimonic benefit was gone and the bidirectional relationship broke down. The farmer recognized that the relationship with her horses was something that had previously brought her strength and joy and was able to make changes to the farming system, such that she could once again find joy in her relationship with the horses.

A sheep farmer expressed a similar sentiment. He could not imagine a situation in which he would not *care about* his sheep, but he could imagine *not being able to care* for them. He said the work with the sheep was physically difficult and were he to have health problems, he would not be physically able to do the required work [Interview #12].

Another farmer explains that if there was a societal change away from his key relational value, then he would find another job.

Interviewer: Can you imagine a situation in which producing good food and enough food was no longer important?

When I have this job, no ... Well, when that is no longer important to me or generally in farming, then I would do a different job.

Interviewer: Then it's not worth it anymore?

Maybe it's worth it economically. But like I said before, [as farmers] we work many hours and are very tied down and we have to enjoy it ... Were I not happy at the end of the day I would sell it and do something else. [Interview #13]

In various ways, farmers explained that there were indeed requirements to sustain their relational values. These could be the physical and psychological requirements of the farm work itself, as well as the larger social and economic landscape they found themselves in. This was the case for the farmer in interview #13 above, as well as for another farmer whose key relational value was sustaining cheese production in his remote valley. This farmer [Interview #4] had worked hard to facilitate the renovation of the local dairy. In such a remote region, maintaining a tradition of cheese production required both a dairy that met current health and safety codes as well as enough farmers producing milk. In these examples, we see that sustaining relational values requires certain conditions, conditions of the body and mind and conditions of the larger system within which farmers find themselves.

### 3.6 | Comparing relational valuing to instrumental and intrinsic valuing

In the above, we discussed the instrumental (B→A) and intrinsic (A→B) aspects of relational values. We close our results with a brief comparison of these aspects to instrumental and intrinsic values (illustrated in Figure 2).

One farmer interviewed had very strong instrumental values. He explained his primary value as one of (economic) quality of life: being able to eat two schnitzels instead of just a sausage. He used this metaphor to describe his decision-making process: 'And at the end it is always these two schnitzels that are the deciding factor' [Interview #20]. In other words, while considering other factors besides economic ones, achieving his desired standard of living is always top priority.

Avoiding the suffering of animals, independently of the relationship to the valuer is an example of considering an intrinsic value associated with the internal property of sentience. For their own animals, farmers

**Intrinsic value:**

Example: Interviewer: "Does it matter if it's your animal or a wild animal?..."

Respondent: "No... it suffers and then something must be done, even if it's ending its suffering [by killing it]"

[Interview #2]

**Intrinsic aspect of a relational value:**

Example: "For me it's very important to have a relationship to the sheep..."

... And then one knows the sheep... the 50 sheep that we had before all had names. And many say, "Oh, why do you want to give every single sheep a name?"

But for me, that's it."

[Interview #12]

**Instrumental aspect of a relational value:**

Example: "With my wife [I can say], "Gabi [the sheep] is not so [well] today" then she knows exactly that is her, instead of just working with numbers. Of course, perhaps one can exaggerate, me too a bit, but I live really for that and it gives me joy..."

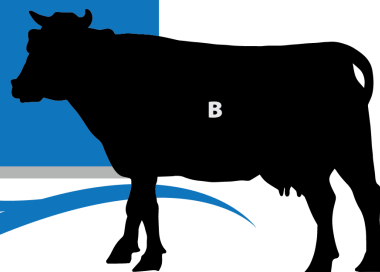
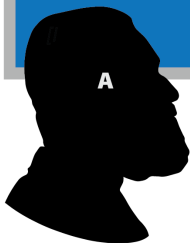
... Because otherwise you can do something else. Just for money one must do something else."

[Interview #12]

**Instrumental value:**

Example: "Yes, [the health of the animals is] very important, but also economically. So not only good for the soul, but also for the wallet."

[Interview #1]



**FIGURE 2** Differences between intrinsic, relational and instrumental values. The above examples illustrate the ways that unidirectional intrinsic and instrumental values differ from bidirectional relational values, all using the context of the value of a farm animal. **A** refers to the valuer (in this case a farmer or farmers) and **B** refers to the valued entity (in this case, a rabbit, sheep or cow). See also [Table 1](#) and the introduction for an explanation of the bidirectionality between **A** and **B** in the Syntax of Environmental Values Framework.

have relational value, in addition to a desire to avoid their suffering. In this way we can see how for a single entity (e.g. a cow), a farmer may simultaneously consider relational value (as described above), instrumental value (due to the cow's economic value or utility for their livelihood) and intrinsic value as a living being whose suffering should be avoided.

## 4 | DISCUSSION

This study focuses on the syntax (the 'how') rather than the semantics (the 'what') of relational values. In our Syntax of Environmental

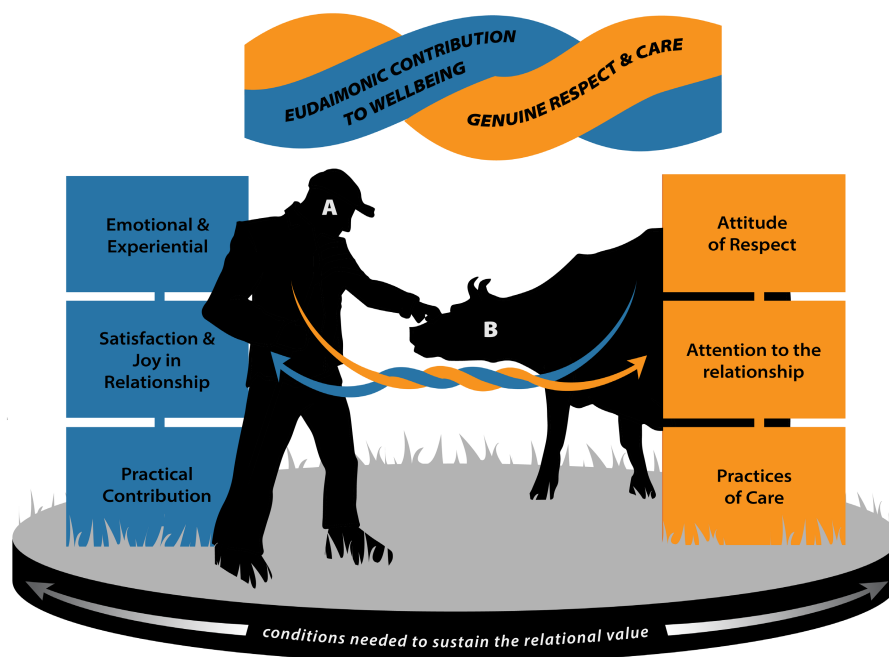
Values Framework, we proposed that relational valuing can be characterized by bidirectionality, meaning that it entails a contribution to human wellbeing (as in instrumental valuing) as well as an orientation and genuine appreciation for the valued object (as in intrinsic valuing) (Deplazes-Zemp & Chapman, 2021). In this article we present our empirical research on whether and how this bidirectionality manifests itself in practice. We presented the two directionalities (A→B) and (B→A) separately for three core relational values of mountain farmers. This artificial separation allowed us to distinguish the two aspects of relational value from unidirectional intrinsic and instrumental valuing. For value elicitation, it allows for a more

comprehensive set of probes to grasp the full extent of the relational value. For analysis, it pushes us to go deeper in understanding the relational value. Beyond this, it showed that the two directionalities are often so deeply interwoven that practical separation is impossible; one direction cannot be described without the other. In that sense, the eudaimonic benefits of caring for animals or for a place depend on their particular meaning, the personal relationship accounting for their idiosyncrasies, and the practical interaction of the farmers with their valued object. Instead of two separate arrows, we thus revised our framework to depict the bidirectionality of relational values with two intertwined arrows (see Figure 3).

### 4.1 | Respect, attention and care as components of the intrinsic aspect

Under the intrinsic aspect (A→B) we describe genuine respect and care as comprised of an attitude of respect, attention to the relationship, and practices of care for the valued entity. It may be that in other contexts that the A→B directionality consists entirely of genuine respect. One way that this genuine respect and care was shown in our study was via assuring an appropriate death for both farm and wild animals. Other studies have found similar ideas about appropriate death. Convery et al. discuss how the UK foot and mouth disease epidemic represented ‘death in the wrong place’ for livestock farmers (2005). Nadasdy explains how First Nations hunters in Northern Canada see animal death as a gift, part of a broader reciprocal relationship (2007).

Another expression of genuine respect and care could be seen in the ways that farmers expressed their relational value of ‘farming in place.’ This is interesting for two reasons. On the one hand, it may seem more straightforward to have a relationship with animals (especially mammals) then with a more abstract entity such as a place (where different groups might connect with different aspects of the place). Yet we found that active care of the place expressed as tending hedgerows, careful mowing and other activities was a key relational value. On the other hand, the literature on place attachment has generally focused on the ways that people benefit from a place (e.g. place attachment as composed of place identity and place dependency), and less on what they give back to it. In our study, we consider the bidirectional relationship between farmers and the place they live and farm. Some aspects of this relationship may be specific to farmers, such as the physical work put into caring for a place. This is in contrast to tourists that may express relational values towards a place in more passive ways, such as buying local products or not littering. Tadaki et al. suggest that sense of place could be conceived as ‘an outcome that emerges from a constellation’ of relational values (2017, p. 5). We also see parallels in our description of a reciprocal place attachment in Gould et al.’s description of native Hawaiian values, such as *kuleana* which combines ideas of rights and responsibilities (2019). Reciprocal place attachment could be considered a component of a place-based theory of environmental values, where responsibility and care for a place serve as central organizing concepts (Norton & Hannon, 1997). The ‘farming in place’ relational value in our study also has parallels to the conception of stewardship described by West et al., which includes care, agency,



**FIGURE 3** The interrelatedness of relational value directionalities and the six components of relational values. A schematic representation of the elaborated Syntax of Environmental Values Framework for direct relational values, based on data from our study. The interwoven arrows highlight the interrelatedness of each direction, such that they often cannot be fully separated. The A→B components of the relational value are shown in orange while the B→A aspects are shown in blue. The grey base represents the conditions needed to sustain relational values, e.g., physical, socioeconomic or political.

and knowledge (2018). In our findings, attention to the relationship forms the key base of knowledge upon which effective care can be carried out.

## 4.2 | Eudaimonia in and beyond care: B→A as eudaimonic aspect

Under the instrumental aspect (B→A) we found eudaimonic contributions to wellbeing. These included satisfaction and joy in the relationship, emotional and experiential contributions for the valuer, as well as practical contributions to the activities associated with the relationship (e.g. farm management). The tight connection between the B→A and the A→B directionality in relational values can be recognized in the observation that, in contrast to unidirectional contributions to wellbeing in instrumental value, eudaimonia in relational values emerges from caring, or even can be achieved or reached through caring (Figure 3). It is not just the benefits for the relationship derived from caring well, and certainly not just the instrumental benefits in terms of reduced vet bills or easier farm management, but also the joy of being able to care well—to do right by the relationship, to have time for enjoying the relationship, to be satisfied of doing a good job caring.

Our findings align with other authors' suggestion of the deep connection between relational values, care and wellbeing. Both conceptual and empirical work has emphasized the connection between relational values with nature and human wellbeing (Kaltenborn et al., 2017; Knippenberg et al., 2018). Neuteleers suggests we consider relational values as motivated by 'reasons of love or care, or as meaningfulness' (2020, p. 477). Relational wellbeing, as one dimension of human wellbeing, can be considered to encompass not only human-human relationships, but also human-nonhuman ones as expressed by relational values (Baker et al., 2021).

## 4.3 | What is required to sustain relational values?

Most farmers in our study said they could not imagine a situation in which their key relational value was no longer important. However, some did elaborate conditions or requirements to sustain their relational values: physical (being able to do the work of care), emotional (sustaining the joy of the relationship) or structural (the socio-economic conditions required to maintain the relationship). We could understand from the idea of conditions that if one aspect of the relation (A→B) cannot be fulfilled, that the other aspect gets lost too. This tells us how relational values can be protected: by maintaining the character of the relationship. Conservation approaches that separate people from nature, e.g., by displacing people in the name of nature conservation (Schleicher et al., 2019) could threaten relational values. Even more moderate approaches which reduce people's agency over the resources they care for could lead to a loss of relational values. According to our model this agency is required to establish the bidirectional relationship from which relational values emerge. Several studies have found that agency is important for

certain environmental values—and that agency can feel threatened by conservation policies (Baker et al., 2021; Chapman et al., 2019; Kaltenborn et al., 2017).

The participants in our study operated their farms in a context in which relatively small numbers of animals could be kept and care taken for animals and land. The significant subsidies provided by the Swiss government (in the form of payments for ecosystem services), allowed farmers to develop relationships to individual animals and parcels. In other contexts, farmers have little choice but to conform to a system based on large scales, making relational values to animals or land much more diffuse. You cannot develop the same kind of relationship to 300 cows that you can to 30. As our respondents explained, these relationships require time. Our results on the conditions needed to sustain relational values could help explain results such as that found by Riechers et al.—that landscape simplification can lead to an erosion of relational values (2021). They found that in a region in Lower Saxony, Germany, agricultural intensification accompanied a shift from relational towards instrumental values. Our results point to the idea that the erosion of relational values might be a result not only of the changes in landscape itself, but the accompanying changes in farming practices as a result of agricultural intensification.

## 4.4 | Insight for the theoretical analysis of relational values

The deep interweaving of the two directionalities can be a starting point for future theoretical work. For environmental ethicists the intrinsic aspect of relational valuing is interesting because it entails certain norms for the valuer. This means that genuine appreciation for the valued object comes with duties and appropriate virtues such as care, respect, or restraint. In other words, only if the valuer follows these duties the associated eudaimonic benefits will occur. What then is the normative source of these virtues and duties? This question is particularly salient in situations where there is disagreement on whether a practice, such as killing animals, is compatible with genuine respect or not. In our study, the normative response of farmers' relational values emphasizes the care and love for the animal and is compatible with bringing about its death—indeed part of that care is assuring an appropriate death. The source of this normative requirement can be a personal ideology of the farmer, a farmer ethos of the professional community, or another cultural or spiritual ideal (Deplazes-Zemp, submitted; James, 2019). A better understanding of underlying normative sources could not only enrich environmental ethics, but also feed back into further empirical research and inform the practical handling of value conflicts.

## 4.5 | Insight for the empirical analysis of relational values

Further research could apply our elaborated framework to new contexts and new groups besides farmers to examine if the same

components of each directionality are present or if additional components are relevant for other contexts. Are there different ways than those described here of enacting the A→B directionality? Or of 'enjoying' the B→A directionality? The emotional and experiential component could be fruitful ground, especially in terms of how it contributes to eudaimonic wellbeing or to human-nature connectedness (Riechers, Martín-López, et al., 2021). One could also consider to what extent the different components of each directionality are necessary and sufficient to constitute a relational value. It would be interesting to examine how the conditions for sustaining relational values derived in our study might differ across groups of people and contexts. Are there kinds of relational values that do not require the same sort of physical, emotional and attentive investments? Can people have relational values to entities that they do not interact with on a regular basis (e.g., iconic species)?

#### 4.6 | Implications for policy: Sustaining relational values

A number of scholars have suggested that shifting human-nature relationships and values in a pro-environmental direction may be a 'deep leverage point,' drawing on the research of Donella Meadows on systems thinking (Abson et al., 2017; Fischer & Riechers, 2019; Horcea-Milcu, 2022). Deep leverage points are spaces where changes may be difficult, but can ultimately result in transformation of the system (Meadows, 2010). Our results point to the importance of bidirectionality for relational values. In other words, sustaining relational values may require certain kinds of practices or contexts. We might then consider the kinds of policies and social-ecological structures that allow relational values to nature to develop and flourish. For example, assuring that those working with nature have the capacity and time to develop and maintain relational values to natural entities. Particular relational values might require an 'infrastructure' to maintain, as we saw with the example of saving the local dairy to preserve the possibility of traditional cheese production. Policy makers might then consider how to design programs, regulations, and infrastructure that allows for the cultivation and sustenance of relational values.

## 5 | CONCLUSION

In this paper, we have explored in depth *how* our respondents value, and not only *what* they value when assigning relational values. We did not focus on the different categories of relational values such as spiritual, identity, or aesthetic. Instead, we show how relational values work, why they are important to people, and how they can be sustained. We showed how the appropriate response to relational values is not a demand for 'more' as could be the case with instrumental values. Instead, relational values must be part of a lived experience. In this way they are important to people because valuing in this sense is part of living (in a flourishing way)—even including struggles.

Perhaps the most distinctive feature of our framework is that we differentiate between the two directionalities. In this newer iteration of our framework, we have illustrated this bidirectionality with interwoven arrows, to emphasize that each directionality is inseparable from the other. We also described the diversity of each directionality, even within a relatively homogenous group. In contrast, instrumental and intrinsic valuing is more uniform due to the general criteria (e.g. assigning intrinsic value to all animals based on sentience or attributing instrumental value based on utility). We could also confirm two key characteristics of relational values: context-sensitivity and non-substitutability. These in conjunction with identification of the two directionalities can be used to distinguish between relational, intrinsic and instrumental values.

We hope that our framework will be used as we describe here: to open up discussions and inspire new questions. We see it as a structured way to discuss environmental values and to provide clarity on relational valuing. Relational values are not just concepts, but are lived and enacted via ways of thinking, tending to the relationship, and practices of care.

#### AUTHOR CONTRIBUTIONS

Conceptual development, editing and writing (Mollie Chapman and Anna Deplazes-Zemp); Data collection and analysis (Mollie Chapman).

#### ACKNOWLEDGEMENTS

A warm thank you goes to all our interview respondents who generously lent us their time, shared their thoughts and reflections, and sometimes their farm products with us! We also thank Angelika Abderhalden, Flurina Walter and Norman Backhaus for their input and assistance with this research. We are grateful to our local collaborators the UNSECO Biosphere Reseserve Engiadina Val Müstair, Pro Terra Engiadina and the local offices of Plantahof. Colleagues at the University Research Priority Program on Global Change and Biodiversity provided valuable discussions on this topic. Comments from two anonymous reviewers were helpful in revising our paper. Finally, Alana McPherson (<https://www.iamsci.com/>) helped us turn our figures into works of art.

#### FUNDING INFORMATION

This research was supported by grants from the NOMIS Foundation, the University of Zurich Postdoc Grant (FK-18-101), as well as the University Research Priority Program on Global Change and Biodiversity of the University of Zurich.

#### CONFLICT OF INTEREST

Mollie Chapman is an Associate Editor for People and Nature, but was not involved in the peer review and decision making process.

#### DATA AVAILABILITY STATEMENT

See additional aggregated data with Ref. 20166 at <https://www.swissubase.ch/en/>.

## ORCID

Mollie Chapman  <https://orcid.org/0000-0003-1399-2144>

Anna Deplazes-Zemp  <https://orcid.org/0000-0002-1992-1622>

## REFERENCES

- Abson, D. J., Fischer, J., Leventon, J., Newig, J., Schomerus, T., Vilsmaier, U., von Wehrden, H., Abernethy, P., Ives, C. D., Jäger, N. W., & Lang, D. J. (2017). Leverage points for sustainability transformation. *Ambio*, 46(1), 30–39. <https://doi.org/10.1007/s13280-016-0800-y>
- Arias-Arévalo, P., Martín-López, B., & Gómez-Baggethun, E. (2017). Exploring intrinsic, instrumental, and relational values for sustainable management of social-ecological systems. *Ecology and Society*, 22(4). <https://doi.org/10.5751/ES-09812-220443>
- Baker, D., Murray, G., Kaijage, J., Levine, A., Gill, D., & Makupa, E. (2021). Relationships matter: Assessing the impacts of a marine protected area on human wellbeing and relational values in southern Tanzania. *Frontiers in Marine Science*, 8. <https://doi.org/10.3389/fmars.2021.673045>
- Bardsley, D., & Thomas, I. (2004). In situ agrobiodiversity conservation in the swiss inner alpine zone. *GeoJournal*, 60(2), 99–109. <https://doi.org/10.1023/B:GEJO.0000033594.67186.c2>
- Bataille, C. Y., Malinen, S. K., Yletyinen, J., Scott, N., & Lyver, P. O. B. (2021). Relational values provide common ground and expose multi-level constraints to cross-cultural wetland management. *People and Nature*, 3(4), 941–960. <https://doi.org/10.1002/pan3.10244>
- Calabrese, C., Mann, S., & Dumondel, M. (2013). Alpine farming in Switzerland: Discerning a lifestyle-driven labor supply. *Review of Social Economy*, 72(2), 137–156. <https://doi.org/10.1080/00346764.2013.845334>
- Chan, K. M. A., Balvanera, P., Benessaiah, K., Chapman, M., Díaz, S., Gómez-Baggethun, E., Gould, R. K., Hannahs, N., Jax, K., Klain, S. C., Luck, G. W., Martín-López, B., Muraca, B., Norton, B. G., Ott, K., Pascual, U., Satterfield, T., Tadaki, M., Taggart, J., & Turner, N. J. (2016). Opinion: Why protect nature? Rethinking values and the environment. *Proceedings of the National Academy of Sciences of the United States of America*, 113(6), 1462–1465. <https://doi.org/10.1073/pnas.1525002113>
- Chan, K. M. A., Boyd, D. R., Gould, R. K., Jetzkowitz, J., Liu, J., Muraca, B., Naidoo, R., Olmsted, P., Satterfield, T., Selomane, O., Singh, G. G., Sumaila, R., Ngo, H. T., Boedhihartono, A. K., Agard, J., de Aguiar, A. P. D., Armenteras, D., Balint, L., Leigh, C. B., ... Brondizio, E. S. (2020). Levers and leverage points for pathways to sustainability. *People and Nature*, 2(3), 693–717. <https://doi.org/10.1002/pan3.10124>
- Chapman, M., Satterfield, T., & Chan, K. M. A. (2019). When value conflicts are barriers: Can relational values help explain farmer participation in conservation incentive programs? *Land Use Policy*, 82, 464–475. <https://doi.org/10.1016/j.landusepol.2018.11.017>
- Chapman, M., Satterfield, T., & Chan, K. M. A. (2020). How value conflicts infected the science of riparian restoration for endangered salmon habitat in America's Pacific northwest: Lessons for the application of conservation science to policy. *Biological Conservation*, 244, 108508. <https://doi.org/10.1016/j.biocon.2020.108508>
- Chapman, M., Satterfield, T., Wittman, H., & Chan, K. M. A. (2020). A payment by any other name: Is Costa Rica's PES a payment for services or a support for stewards? *World Development*, 129, 104900. <https://doi.org/10.1016/j.worlddev.2020.104900>
- Convery, I., Bailey, C., Mort, M., & Baxter, J. (2005). Death in the wrong place? Emotional geographies of the UK 2001 foot and mouth disease epidemic. *Journal of Rural Studies*, 21(1), 99–109. <https://doi.org/10.1016/j.jrurstud.2004.10.003>
- Deplazes-Zemp, A. (Submitted). Beyond intrinsic and instrumental: Third-category value in environmental ethics and environmental policy.
- Deplazes-Zemp, A., & Chapman, M. (2021). The ABCs of relational values: Environmental values that include aspects of both intrinsic and instrumental valuing. *Environmental Values*, 30(6), 669–693. <https://doi.org/10.3197/096327120X15973379803726>
- Fischer, J., & Riechers, M. (2019). A leverage points perspective on sustainability. *People and Nature*, 1(1), 115–120. <https://doi.org/10.1002/pan3.13>
- Gould, R. K., Pai, M., Muraca, B., & Chan, K. M. A. (2019). He 'ike 'ana ia i ka pono (it is a recognizing of the right thing): How one indigenous worldview informs relational values and social values. *Sustainability Science*, 14(5), 1213–1232. <https://doi.org/10.1007/s11625-019-00721-9>
- Himes, A., & Muraca, B. (2018). Relational values: The key to pluralistic valuation of ecosystem services. *Current Opinion in Environmental Sustainability*, 35, 1–7. <https://doi.org/10.1016/j.cosust.2018.09.005>
- Home, R., Indermuehle, A., Tschanz, A., Ries, E., & Stolze, M. (2018). Factors in the decision by swiss farmers to convert to organic farming. *Renewable Agriculture and Food Systems*, 34(6), 571–581. <https://doi.org/10.1017/S1742170518000121>
- Horcea-Milcu, A.-I. (2022). Values as leverage points for sustainability transformation: Two pathways for transformation research. *Current Opinion in Environmental Sustainability*, 57, 101205. <https://doi.org/10.1016/j.cosust.2022.101205>
- Inglis, D., & Pascual, U. (2021). On the links between nature's values and language. *People and Nature*. <https://doi.org/10.1002/pan3.10205>
- James, S. P. (2019). Natural meanings and cultural values. *Environmental Ethics*, 41(1), 3–16. [https://doi.org/10.5840/enviroethics20194112&domain=pdf&date\\_stamp=2019-11-18](https://doi.org/10.5840/enviroethics20194112&domain=pdf&date_stamp=2019-11-18)
- Jax, K., Calestani, M., Chan, K. M. A., Eser, U., Keune, H., Muraca, B., O'Brien, L., Potthast, T., Voget-Kleschin, L., & Wittmer, H. (2018). Caring for nature matters: A relational approach for understanding nature's contributions to human well-being. *Current Opinion in Environmental Sustainability*, 35, 22–29. <https://doi.org/10.1016/j.cosust.2018.10.009>
- Kaltenborn, B. P., Linnell, J. D. C., Gómez-Baggethun, E., Lindhjem, H., Thomassen, J., & Chan, K. M. A. (2017). Ecosystem services and cultural values as building blocks for 'the good life'. A case study in the Community of Røst, Lofoten Islands, Norway. *Ecological Economics*, 140, 166–176. <https://doi.org/10.1016/j.ecolecon.2017.05.003>
- Klain, S. C., Olmsted, P., Chan, K. M. A., & Satterfield, T. (2017). Relational values resonate broadly and differently than intrinsic or instrumental values, or the new ecological paradigm. *PLoS ONE*, 12(8), e0183962. <https://doi.org/10.1371/journal.pone.0183962>
- Knippenberg, L., de Groot, W. T., van den Born, R. J., Knights, P., & Muraca, B. (2018). Relational value, partnership, eudaimonia: A review. *Current Opinion in Environmental Sustainability*, 35, 39–45. <https://doi.org/10.1016/j.cosust.2018.10.022>
- Kreitzman, M., Chapman, M., Keeley, K. O., & Chan, K. M. A. (2021). Local knowledge and relational values of midwestern woody perennial polyculture farmers can inform tree-crop policies. *People and Nature*, 00, 1–21. <https://doi.org/10.1002/pan3.10275>
- Meadows, D. H. (2010). Leverage points. *The Solution Journal*, 1(1), 41–49.
- Muraca, B. (2011). The map of moral significance: A new axiological matrix for environmental ethics. *Environmental Values*, 20(3), 375–396. <https://doi.org/10.3197/096327111X13077055166063>
- Muraca, B. (2016). Relational values. *Balkan Journal of Philosophy*, 8(1), 19–38. <https://doi.org/10.5840/bjp2016813>
- Nadasdy, P. (2007). The gift in the animal: The ontology of hunting and human-animal sociality. *People and Nature*, 43(1), 25–43. <https://doi.org/10.1525/ae.2007.34.1.25>
- Neuteleers, S. (2020). A fresh look at 'relational' values in nature: Distinctions derived from the debate on meaningfulness in life. *Environmental Values*, 29(4), 461–479. <https://doi.org/10.3197/096327119X15579936382699>

- Norton, B. G., & Hannon, B. (1997). Environmental values: A place-based theory. *Environmental Ethics*, 19(3), 227–245.
- O'Neill, J. (2020). What is lost through no net loss? *Economics & Philosophy*, 36, 287–306. <https://doi.org/10.1017/S0266267119000191>
- Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R. T., Dessane, E. B., Islar, M., Kelemen, E., Maris, V., Quaas, M., Subramanian, S. M., Wittmer, H., Adlan, A., Ahn, S., Al-Hafedh, Y. S., Amankwah, E., Asah, S. T., ... Yagi, N. (2017). Valuing nature's contributions to people: The IPBES approach. *Current Opinion in Environmental Sustainability*, 26–27, 7–16. <https://doi.org/10.1016/j.cosust.2016.12.006>
- Riechers, M., Balázs, Á., Betz, L., Jiren, T. S., & Fischer, J. (2020). The erosion of relational values resulting from landscape simplification. *Landscape Ecology*, 35(11), 2601–2612. <https://doi.org/10.1007/s10980-020-01012-w>
- Riechers, M., Balázs, Á., Engler, J., Shumi, G., & Fischer, J. (2021). Understanding relational values in cultural landscapes in Romania and Germany. *People and Nature*, 3(5), 1036–1046. <https://doi.org/10.1002/pan3.10246>
- Riechers, M., Martín-López, B., & Fischer, J. (2021). Human–nature connectedness and other relational values are negatively affected by landscape simplification: Insights from Lower Saxony, Germany. *Sustainability Science*, 17, 865–877. <https://doi.org/10.1007/s11625-021-00928-9>
- Russell, S., & Ens, E. (2020). Connection as country: Relational values of billabongs in indigenous northern Australia. *Ecosystem Services*, 45, 101169. <https://doi.org/10.1016/j.ecoser.2020.101169>
- Sarkki, S., Ficko, A., Miller, D., Barlagne, C., Melnykovich, M., Jokinen, M., Soloviy, I., & Nijnik, M. (2019). Human values as catalysts and consequences of social innovations. *Forest Policy and Economics*, 104, 33–44. <https://doi.org/10.1016/j.forpol.2019.03.006>
- Schleicher, J., Zaehring, J. G., Fastré, C., Vira, B., Visconti, P., & Sandbrook, C. (2019). Protecting half of the planet could directly affect over one billion people. *Nature Sustainability*, 2(12), 1094–1096. <https://doi.org/10.1038/s41893-019-0423-y>
- Sheremata, M. (2018). Listening to relational values in the era of rapid environmental change in the Inuit Nunangat. *Current Opinion in Environmental Sustainability*, 35, 75–81. <https://doi.org/10.1016/j.cosust.2018.10.017>
- Shum, E., Benham, C., Jones, K., & Ariel, E. (2021). Understanding people who volunteer with marine turtles: Motives and values for engagement in conservation. *Human Dimensions of Wildlife*, 20, 1–19. <https://doi.org/10.1080/10871209.2021.2018737>
- Tadaki, M., Sinner, J., & Chan, K. M. A. (2017). Making sense of environmental values: A typology of concepts. *Ecology and Society*, 22(1), art7. <https://doi.org/10.5751/ES-08999-220107>
- Topp, E. N., Loos, J., & Martín-López, B. (2022). Decision-making for nature's contributions to people in the cape floristic region: The role of values, rules and knowledge. *Sustainability Science*, 17(3), 739–760. <https://doi.org/10.1007/s11625-020-00896-6>
- Unks, R., Goldman, M., Mialhe, F., & de Pinho, J. R. (2021). 'People should also look after the people': Relational values of wildlife and collectively titled land in Ilkisongo Maasai group ranches in southern Kenya. *Ecology and Society*, 26(3), 28. <https://doi.org/10.5751/ES-12539-260328>
- van den Born, R. J. G., Arts, B., Admiraal, J., Beringer, A., Knights, P., Molinario, E., Horvat, K. P., Porrás-Gómez, C., Smrekar, A., Soethe, N., Vivero-Pol, J. L., Ganzevoort, W., Bonaiuto, M., Knippenberg, L., & De Groot, W. T. (2018). The missing pillar: Eudemonic values in the justification of nature conservation. *Journal of Environmental Planning and Management*, 61(5–6), 841–856. <https://doi.org/10.1080/09640568.2017.1342612>
- West, S., Haider, L. J., Masterson, V., Enqvist, J. P., Svedin, U., & Tengö, M. (2018). Stewardship, care and relational values. *Current Opinion in Environmental Sustainability*, 35, 30–38. <https://doi.org/10.1016/j.cosust.2018.10.008>

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

**How to cite this article:** Chapman, M., & Deplazes-Zemp, A. (2023). 'I owe it to the animals': The bidirectionality of Swiss alpine farmers' relational values. *People and Nature*, 5, 147–161. <https://doi.org/10.1002/pan3.10415>