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Quitting livestock farming: transformation pathways and factors of change from post-livestock farmers' accounts

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Transitioning away from livestock farming would limit the carbon footprint of humanity and reduce the pressure on water, land and biodiversity. It would also improve human health, as animal farming increases the risks of pandemics and bacterial resistance. All of these risks and opportunities make a compelling case for a transition towards plant-based diets. In case of a large-scale transition, hundreds of thousands of farmers would have to quit animal farming and switch to other activities. Such transition is potentially happening in developed countries, where industrial operations are located, consumption *per capita* is the highest and alternatives to animal products are increasingly available. However, there is considerable resistance from farmers to this transition. There is thus a need to better understand potential transition pathways to support smooth transitions. To do so, 27 stories of farm transitioning out of livestock farming – so called *transformation* – were collected. Most of these cases are located in Switzerland and the US. These accounts were published on the websites of organizations that support farmers transitioning out of livestock production or by farmers themselves. In this qualitative study, I coded these accounts to identify patterns in the drivers, behaviour, and decision-making of farmers explaining their transition. Two main patterns were identified: (1) transformations from intensive poultry or pig farms towards a mushroom or market gardening farm, driven by economic interests and (2) transformations driven by compassion to animals, mostly leading to a farmed animal sanctuary or market gardening farm. Support organizations for transformation seem to be particularly beneficial for the second type of transition. I conclude this paper with research perspectives on the topic of transformation, especially on the role of gender and the potential of transformation for the green care economy.

KEYWORDS

transformation, livestock farming, compassionate, post-livestock transition, farmed animal sanctuaries, green care, care farm

1. Introduction

There is a growing body of evidence that livestock farming is detrimental to health, the environment and the climate. Meta-analysis has shown that whatever the type of livestock, the farming of animals decreases the abundance and diversity of species, especially in relation to wild herbivores and pollinators (Filazzola et al., 2020). There is now clear evidence that animal products have a major impact on several dimensions of our ecosystem's health (Leip et al., 2015;

Godfray et al., 2018; Springmann et al., 2018; Willett et al., 2019). Animal products have the largest effect on the carbon footprint of diets (Poore and Nemecek, 2018; Sandström et al., 2018), especially in countries with high Human Development Index scores (Romanello et al., 2022). Reducing ecologically harmful production could make our food system emission-neutral by the end of this century (Bodirsky et al., 2022) as well as making land available for natural vegetation and its associated biodiversity (Sun et al., 2022). Finally, quitting livestock farming would free around two and a half billion hectares of land (Mottet et al., 2017), thus potentially freeing space for biodiversity.

In addition to the environmental effects of livestock farming, a high consumption of animal products has detrimental health effects on human consumers. Increased red meat consumption is correlated with an increased risk of stroke, diabetes (Larsson and Orsini, 2014) and cancers (Chan et al., 2011; Bouvard et al., 2015; Farvid et al., 2021). In contrast, a higher consumption of fruits and vegetables is associated with a longer life expectancy (Bellavia et al., 2013) and a whole food, plant-based diet reduces the risks associated with obesity, heart disease and diabetes (Wright et al., 2017). Furthermore, livestock farming consumes 3 to 5 times more antibiotics than humans do worldwide, increasing the risks associated with antibiotic resistance (Landers et al., 2012). Finally, as livestock farming is a major driver of deforestation (Hecht, 1993) which in turn increases the diffusion of pathogens (Faust et al., 2018), livestock farming plays a role in triggering pandemics from zoonosis causing millions of human deaths every year and costing billions of dollars (Karesh et al., 2012). A rapid shift to more plant-based diets would save 11.5 million lives worldwide and limit the risk of zoonotic diseases (Romanello et al., 2022).

Based on these converging bodies of evidence, well-recognized scientific institutions focusing on health, biodiversity, and climate recommend reducing the consumption of animal product (IPBES, 2019; Shukla et al., 2019; WHO, 2019). The EAT-lancet commission proposed a balanced diet with significantly less animal products than current average diets in developed countries (Springmann et al., 2018; Willett et al., 2019). Dietary guidelines echo these trends as they advise to limit meat consumption compared to the current consumption levels of a typical western diet (Cocking et al., 2020). On the market supply side, recent years have seen a development of meat substitutes and alternatives (Malav et al., 2015; Lee et al., 2020) and plant-based meat alternatives have seen a significant growth in sales (Zhao et al., 2022). The future could also include a sustainable supply of cultivated meat (Kumar et al., 2021).

Based on similar recognition of the ethical, environmental and health impacts of livestock farming, recent years have seen the emergence of veganic agriculture. Veganic agriculture, or sometimes called stockfree farming (Schmutz and Foresi, 2017), aims at producing crops without the use of livestock and their by-products (typically manure). While veganism is usually considered as a consumption behaviour, veganic agriculture is an approach to agricultural production inspired by similar principles (Hirth, 2021). The recent emergence of this type of agriculture shows a trend towards disconnecting food production for humans from the use of livestock on farms.

While a decline in meat consumption and rise of meat alternatives would mean tremendous benefits for health and the environment, it might also mean a significant social cost to livestock farms. For example, the Dutch government announced recently a 30% reduction in livestock in order to comply with EU standards on nitrogen pollution. The

Netherlands, a leading food producing country, had the most intensive livestock density in Europe with 3.8 livestock units per hectare in 2016 (the EU average is 0.8) (EUROSTAT 2016), leading to a nitrogen crisis (Erisman, 2021). The government announcement triggered protests from livestock farmers in the country because it jeopardizes the survival of many farms. This event shows that if meat consumption were to be reduced significantly in the future, strong resistance from livestock farmers could be expected. Such resistance could potentially be reduced by supporting farmers in smooth transitions out of livestock farming, but little is known about such transitions.

Transitions out of livestock operations have mostly been considered from an economic perspective (Son et al., 2022), where smaller and less productive operations are pushed out by competition, the so-called “agricultural treadmill” (Ward, 1993; Levins and Cochrane, 1996). In this perspective, farming operations are considered as regular firms, looking for the best economic opportunities. However, in the Netherlands, a strong economic support of 25 billion Euros for transition did not seem to satisfy livestock farmers, and public authorities are therefore looking for alternative ideas to support transitions. In particular, little is known about the main motivations for some farmers to transition out of livestock farming. Which new activities would be open for them once they would take that decision? What support can be provided by organizations supporting transformation? This article aims to shed light on such processes by studying cases of voluntary transitions out of livestock farming – so called “transformation.” By “voluntary” transition, I mean a transition where farmers are not directly coerced to quit livestock farming. Current post-livestock farms or “transfarms” are limited in numbers but can provide valuable lessons that could help authorities and farmer-support organizations identify farms best suited for transitions and channel funding to key support services. To learn from the “transfarm” examples, I collected stories of transformations published online by organizations that support transformation or by farmers themselves. Using qualitative analysis, I coded these stories of farm transition pathways in order to identify (1) the main motivations to transform, (2) the type of farm these farmers transition to, and (3) the type of support transformation organizations provide. Finally, I discuss the future of transformation for different farm trajectories identified as well as future research perspectives on the role of gender, and on the complementarity of transformation with demand-side policies to reduce meat consumption. The last section of the discussion introduces some key limitations of this study.

2. Methods

I collected stories of 27 farms (see Table 1) that voluntarily decided to quit livestock farming. Through an internet search and contact with the French organization TransiTerra, I identified websites of organizations that support these transitions: Refarmd (UK), TransFARMation (CH), Rancher Advocacy Program (United States), The Transformation Project (USA), Farm Transformers (USA), Stockfree Farming (UK), Hof Narr Association (CH) and It's cowtime (DE). Although a comprehensive search was conducted in French, English, and German, some farms may have been missed, especially in other languages. I identified 27 farms on these organizations' websites. Most of the cases come from the United States of America (13) and Switzerland (10). Although a specific search was conducted, no case of transformation

TABLE 1 Dataset of transforms with the source of stories.

ID	Name of farm	Country	Source
1	Biohof Hübeli Tierarche seeland	Switzerland	https://www.biohof-hübeli.ch/über-uns/team/
2	Bradley Nook Farm	UK	https://sites.google.com/d/1nR334gorwP8KzlvBA_OA6_Sr15HLDuzR/p/1oSkaMw2lglfnEwKVXxJUuPdW2L7U13v/edit
3	Lebenshof Aurelio	Switzerland	https://www.lebenshof-aurelio.ch
4	Lebenshof KuhErde	Switzerland	https://www.kuherde.ch/lebenshof/
5	Lebenshof Frei sein	Switzerland	https://www.lebenshof-freisein.ch/lebenshof
6	Lebenshof “Einfach Sein”	Switzerland	https://piabuob.ch
7	The Barrett family	USA	https://rancheradvocacy.org/the-barrett-family/
8	Rowdy girl sanctuary	USA	https://rancheradvocacy.org/rowdy-girl-sanctuary/
9	The Traylors	USA	https://rancheradvocacy.org/the-traylors/
10	Halley farm	USA	https://thetransformationproject.org/our-farmers/halley-farms-successful-chicken-to-hemp-transformation/
11	Carolina mushroom farms	USA	https://rancheradvocacy.org/carolina-mushroom-farms/
12	Farmhouse garden animal home	USA	https://www.farmhousegardenanimalhome.com
13	Mike weaver	USA	https://rancheradvocacy.org/mike-weaver/
14	Starlove Ranch	USA	https://farmtransformers.org/starlove-ranch-usa/
15	Craig Watts	USA	https://thetransformationproject.org/our-farmers/craig-watts-is-transfarming-his-former-poultry-farm/
16	Vegangården	Sweden	https://farmtransformers.org/vegangarden-sweden/
17	Broken Shovels	USA	https://farmtransformers.org/broken-shovels-usa/
18	The sanctuary at Soledad Goats	USA	https://sanctuaryatsoledad.org
19	Hof Naar	Switzerland	https://www.hof-narr.ch
20	Northwood Farm	UK	https://stockfreefarming.org/from-beef-and-dairy-to-veganic-cereals/
21	Naturhof Waltwil4	Switzerland	https://www.naturhof-waltwil-4.ch
22	Hofgut Rosenberg	Switzerland	https://hofgut-rosenberg.ch
23	Lebenshof Bruffhof	Switzerland	https://www.bruffhof.com
24	Hof-Lebensparadies	Switzerland	https://hof-lebensparadies.ch
25	Hof Butenland	Germany	https://www.stiftung-fuer-tierschutz.de
26	Tom & Sokchea Lim	USA	https://thetransformationproject.org/our-farmers/tom-and-sokchea-lim-are-building-their-dream-vegetable-and-mushroom-farm/
27	JB farm	USA	https://thetransformationproject.org/other-farmers/paula-and-dale-boles-transitioned-their-poultry-farm-into-greenhouses-for-microgreens-hemp-flowers-and-specialty-vegetables/

was found in France. I then looked for stories written directly by farmers themselves. To do so, I searched for the website of each farm and collected their story if available. When a story directly written by the farmers was not available, I used the story written by the support organization. In two instances, two support organizations had a different story for the same farm. In these two cases, I grouped both stories together as a single story. With this method, I collected 16 stories directly written from farmers, and 11 from support organizations. For stories originally published in German, I used the DeepL translator to translate the stories into English, which is a fast, efficient and economical option for translation. The length of these stories varies from 219 words for the shortest to 2,497 words for the longest. The average length is 770 words.

I performed a qualitative analysis of the text of transformation stories in order to shed light on the different steps experienced and decisions made by farmers from a livestock farm to a post-livestock farm, as well as the factors that enabled this transition. The analysis was performed using the software MAXQDA (Version 22.3.0), a recognized

tool for qualitative analysis. First, I explored an approach of top-down coding using classical theories of change, namely the transtheoretical model (Prochaska and DiClemente, 2005) and the theory of planned behaviour (Ajzen, 1991). However, this type of coding was unable to capture the depths of stories, probably because these theoretical frameworks are specialized towards individual change in the context of unhealthy behaviour, typically addictions such as smoking or alcohol. Consequently, the data coming from this first coding attempt is not used in the analysis included in this article. Therefore, I performed a bottom-up approach with codes emerging from the texts themselves. This approach resulted in 15 main codes and sub-codes. A set of variables about each farm was also collected from the stories: the type of farm before transformation, the type of farm after transformation, the future of animals after transformation, gender of the transformer (woman, man, or both woman and man), motivation for transformation (see Table 2). After bottom-up coding, I analyzed the content of the codes that occurred most frequently in the stories, focusing on codes with more

TABLE 2 Transformations and the coding of main variables.

Id	Farm	Country	Type of farm before	Type of farm after	Future of animals	Gender of transformer	Motivation
1	Biohof Hübli Tierarche seeland (CH)	Switzerland	Dairy cows	Market gardener	Sponsorship	Male	Political
2	Bradley Nook farm (UK)	UK	Dairy cows	Market gardener	Partial transfer to sanctuary	Male	Compassion, environment
3	Lebenshof Aurelio (CH)	Switzerland	Dairy cows	Oat drink	Sponsorship	Male & Female	Compassion
4	Lebenshof KuhErde (CH)	Switzerland	Suckler cows	Sanctuary	Sponsorship & donation	Female	Compassion
5	Lebenshof Frei sein (CH)	Switzerland	Suckler cows	Carefarming	Sponsorship	Male & Female	Compassion
6	Lebenshof Einfach Sein (CH)	Switzerland	Bovine	Market gardener	Sponsorship	Female	Compassion
7	The Barrett family (USA)	USA	Chicken	Mushroom	End of contract	Female	Compassion, health
8	Rowdy girl sanctuary (USA)	USA	Cattle	Sanctuary	Sponsorship & donation	Female	Compassion
9	The Traylor's (USA)	USA	Cattle	Crops	Transfer to sanctuary	Female	Compassion
10	Halley farm (USA)	USA	Chicken	Hemp	End of contract	Male	Economical, health
11	Carolina mushroom farm (USA)	USA	Pig	Mushroom	Unknown	Male	Economical
12	Farmhouse Garden Animal Home (USA)	USA	Cattle	Market gardener	Sanctuary	Male	Compassion
13	Mike Weaver (USA)	USA	Chicken	Hemp	Unknown	Male	Economical
14	Starlove Ranch (USA)	USA	Cattle	Market garden & event organizer	Sanctuary	Male & Female	Environment
15	Craig Watts (USA)	USA	Chicken	Mushroom	Unknown	Male	Economical
16	Vegangården (SW)	Sweden	Pig	Market garden & event organizer	Unknown	Male & Female	Compassion
17	Broken Shovels (USA)	USA	Dairy goat	Sanctuary	Sponsorship & donation	Female	Compassion, environment
18	Sanctuary at Soledad Goats (USA)	USA	Dairy goat	Sanctuary	Donation	Male & Female	Compassion
19	Hof Naar (CH)	Switzerland	Unknown	Market gardener and sanctuary	Sponsorship & donation	Male & Female	Compassion, environment
20	Northwood farm (UK)	UK	Dairy cows	Crops	Unknown	Male	Compassion, environment
21	Hofnatur Waltwil4 (CH)	Switzerland	Cattle	Market garden & event organizer	Sponsorship	Male & Female	Compassion, environment
22	Hofgut Rosenberg (CH)	Switzerland	Suckler cows	Sanctuary	Sponsorship	Female	Compassion
23	Lebenshof Bruffhof (CH)	Switzerland	Cattle	Unknown	Partial transfer to sanctuary	Female	Compassion
24	Hof-Lebensparadies (CH)	Switzerland	Dairy cows	Sanctuary	Sponsorship & donation	Male	Compassion, environment
25	Hof Butenland (DE)	Germany	Dairy cows	Sanctuary	Transfer, sponsorship and donation	Male & Female	Compassion
26	Tom and Sokchea Lim (USA)	USA	Chicken	Market garden	End of contract	Male	Economical
27	JB Farm	USA	Chicken	Market garden & Hemp	End of contract	Male & Female	Economical

than 15 text segments. Thus, the analysis focused on 6 main codes: "Empathy to animals" (162 segments), "External support to transition" (90), "Environment" (41), "Financial issues" (20), "Vegetarianism and veganism" (36), "Organic" (16). For each main code, I read all segments of this code and wrote a synthesis of the content in an associated memo (as per the MAXQDA terminology). The memo is usually in the form of text. For the code "external support to transition," I produced a figure to synthesize the support process. Each memo also extracted some key citations for illustration of a specific aspect. These citations are also used in the result section of this article. When a code included some sub-codes (for "Empathy to animals" and "External support to transition" codes), the memo detailed specific aspects of each sub-code.

3. Results

In the result section, I detail the main elements that explain transformation based on the farm stories. The first three sections detail the three main motivations to transform: compassion, economic and environmental. Among 27 farms studied, 19 mention compassion as

a main motivation for change. The two other main motivations of transformation are the environment (7) and economics (6). For six of these farms, the motivation is both compassion and the environment. For the twelve farms motivated by compassion, the decision to transform was taken only by a woman on 6 farms. The decision was taken by a woman and man together on 5 farms. When transformation is motivated by the economy, it is a decision taken only by a man in five of the six stories (Table 2). The fourth section describes the range of transformation from one farm model to another. The last section introduces the key role of external support in the transformation process. I use quotes from the collected texts to illustrate the results. The identification number of each farm is given in brackets, in line with the identification number in Table 1.

3.1. Most transformations are motivated by compassion

A majority of the studied farms share a sense of compassion for the non-human animals previously raised as livestock. The expression

of compassion for animals includes four different non-exclusive elements. I introduce these four elements below together with one quote and then detail some aspects of them in a meta-narrative paragraph about the sense of compassion for non-human animals.

- (1) **Sensitivity to suffering** in relation with the slaughtering of raised animals and the separation at birth of the mother cow and her calf. E.g: *“The sorrow I felt for their condition, the pain I felt when they all were sent to slaughter was no longer something I could transcend.”* [7].
- (2) **Love for animals** and desire to care for them. E.g: *“I fell in love with all the critters...kinda like Elly Mae Clampett – I named them all and loved them everyone – I’d go out and spend time with them, dance around them – sing to them and talk to them.”* [8].
- (3) **Recognition of animal rights** (and lack thereof) by giving a voice to the voiceless, recognizing animal individuality and creating a society based on principles of co-existence. E.g: *“That is why we decided to move forward step by step into a new future by founding animal sponsorships, where every living creature is allowed to exercise its right to a happy, healthy and long life.”* [23].
- (4) **Acknowledgment of injustice** in relation to the killing of animals that are no longer economically performant. E.g: *“I do not think it’s right that the hybrid chickens are bred for performance in such a way that they have to be replaced because of their declining performance”* [21].

Sending animals to the slaughterhouse is the act that most often triggers transformation, as farmers feel negative emotions, mostly pain, sorrow and sadness when doing so. This happens especially when animals are put in the transport to the slaughterhouse or in the sale barn. These two places seem to symbolize the irreversibility of the decision. These negative emotions are consistent with the care and love felt by compassionate farmers to their animals. Emotions of care and sadness about the death and loss of an animal are at odds with being responsible for sending the animal to slaughter – a classic case of cognitive dissonance (Festinger, 1962). Raised animals are sometimes named “faithful companions” [4] or “wonderful fellow creatures” [24]. These farmers recognize the individuality of animals and call them by their name. In particular, cows are praised for their care for calves (“Honey was a tame, gentle cow who loved all the babies” [9]) and their suffering when separated from them is acknowledged (“the experience of watching them leave, the mamas wailing for a week and the absence of their souls in the pasture haunted me” [8]). One farmer expresses directly that the repression of these emotions is important and taught at an early age: *“I thought I was giving my children some sort of gift by toughening them up or desensitizing them to the reality of farming at an early age. I was in high school when we raised our first batch of chickens and I was traumatized the first time I saw them all being caught and hauled away in trucks, knowing their fate. I really believed that it was beneficial to educate my children from an early age to know the reality of food production. The chickens, cows, pigs, and goats were a commodity. Any sentimentality was accepted as a cute novelty, but we all knew not to get too attached or to show too much emotion.”* [7]. These emotions are never totally repressed for these farmers (“It hurts me every time (...) this removal was always difficult to me” [21]) and the difficulty of dealing with these emotions

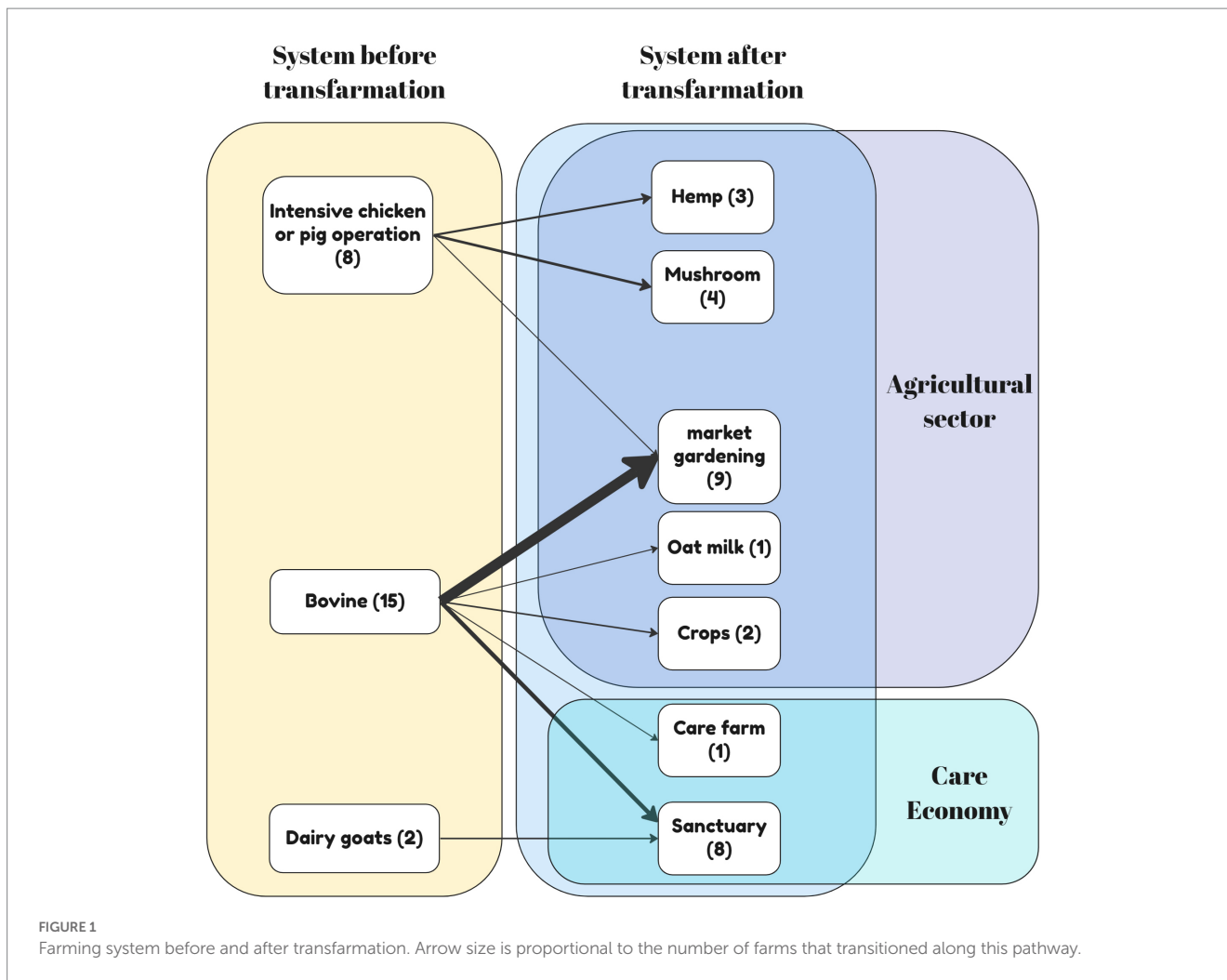
accumulates over time (“more and more unbearable to me” [22]; “becoming more and more overwhelming” [5]) until it seems to reach a threshold where it is no longer bearable (“She would rescue goats that she could not bear seeing go to slaughter” [17]; “I could not stand to watch the babies leave their mamas even one more time to go to the sale barn FOR SLAUGHTER.” [8]). Passing this threshold triggers the necessity to act (“I had to do something to prevent that from ever happening again” [8]; “From now on, I will not send any more animals to their death” [24]). Once the decision is taken, the first priority is to stop the slaughter; finding a solution to sustain the farm without the income of selling animals usually comes second. While the confrontation with one’s emotions is usually personal, the second step triggers the need for external support (see Section 3.5).

3.2. Transformation motivated by financial troubles

Economic difficulties can be a strong incentive to transition out of livestock farming. All transformants with this type of motivation are from the United States. Among these 6 farms, all of them used to have intensive operations with animals living in high density. Five of these farms raised chickens and one raised pigs. Chicken farmers operated in the system of “contract farming,” raising hundreds of thousands of chickens per year. The chicken industry in the US is depicted as particularly hard for farmers that are “isolated from other farmers and had no say on how the chickens were raised” [27], “living in constant fear that they [the company they contracted with] would let us go and we could not pay the bills” [26]. This system seems to trigger health issues among them: “When faced with mounting financial and health troubles from chicken farming, Bo and Sam decided to give up raising birds for good” [10]. Farmers in this system usually go into debt to build facilities where they will raise the animals delivered to them by the contracting company. Maintaining viable profits on such contracts seems particularly difficult. One farmer mentions that “they were losing five dollars on every pig leaving their farm” [11], and another that “the income from chicken farming proved to be unreliable” [10] thus “paying off their debt extremely difficult” [10]. Even when they manage to pay off their debts, one farmer mentions the “debt treadmill of poultry farming” that forces them to incur new debts “creating a vicious cycle of debt that leads to financial insecurity and bankruptcy” [10]. Mike Weaver, one of the transformants, became a spokesperson denouncing this system in the US. Transformants that quit this type of contract farming face the difficulty of postponing debt payment without an income. However, their transition is facilitated by the fact that they do not own the animals and can “simply” end the contract. In other words, they are not responsible for the future of the last animals they raised. They can also capitalize on the buildings they invested in to reinvent their farm.

3.3. Transformation motivated by the environment

The environment is the primary trigger of the transformation in only one case: “Humanity’s dependence on fossil fuels or animals is not sustainable. We have to change with the times and focus on renewable resources. There’s a shift away from systems powered by consumption and we are moving into building value instead” [14]. Environmental



consideration is usually a secondary source of motivation. In the case of the Traylor for example, the husband consented to transform based on environmental arguments but this came after the original decision to transform was taken by his wife on compassionate grounds: “Richard had an epiphany. He recognized that being an environmentalist, he was a hypocrite if he took the cows to market!” [9]. Within the small number of farmers studied here, environmental consciousness seems to act mostly as a catalyst of transformation rather than a root cause.

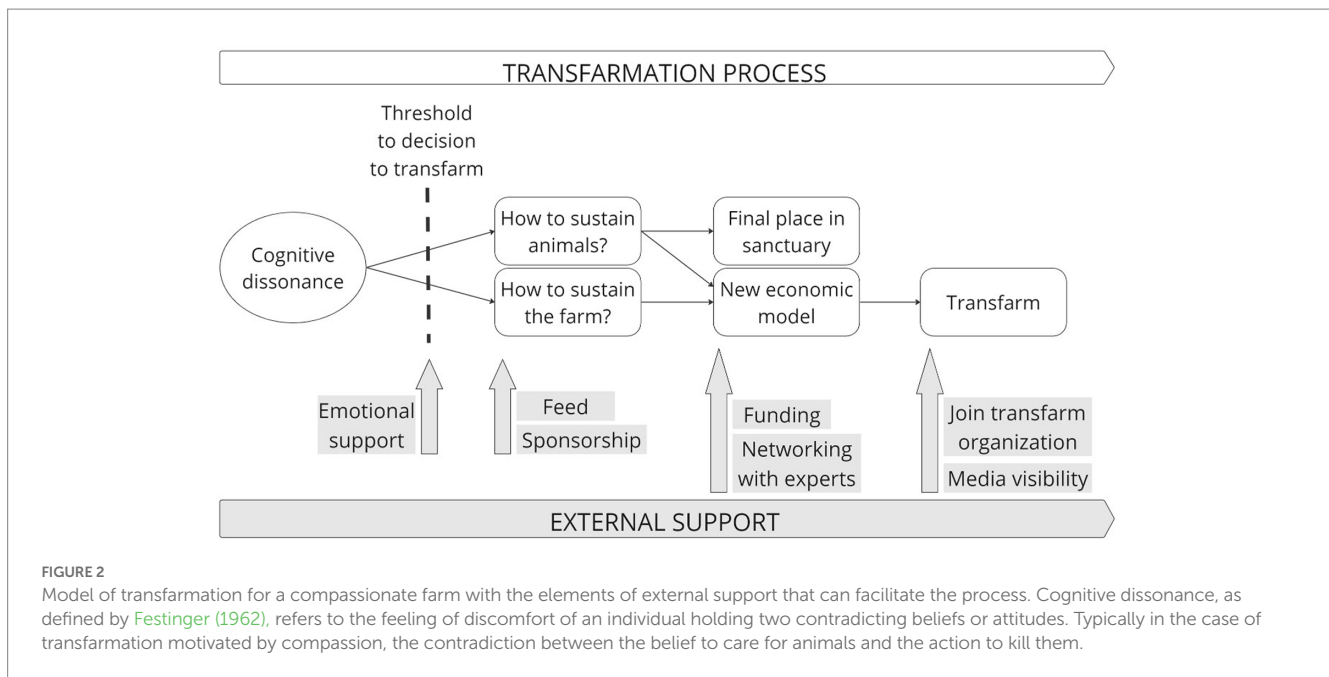
Three farmers [2, 20, 25] mention that a transition to organic farming preceded their transformation. While organic standards allow for better welfare for the animal “reducing the size of the herd, enlarging the barn, abolishing tethering” [25], organic standards do not solve the emotional tension mentioned in section 3.1, “But even “organic” is not an ideal world: if a cow’s milk yield declined, she was no longer pregnant or sick, she was slaughtered.” [25]. For these organic farmers with compassionate motivation, the transition to organic is only a transitory step towards transformation.

3.4. Transformation pathways and models

In this section, I introduce an overview of the different pathways taken by the different farms studied here (Figure 1). The following paragraph provide some details about the most popular evolutions.

Coming from more extensive goat or bovine systems of production, the main system chosen for transfarmers is the sanctuary model, where the farm dedicates itself to sustaining the lives of the animals living there and eventually sheltering new animals. This is consistent with the fact that 15 out of these 17 farms are motivated to transform by compassion (see Table 2). In the sanctuary model, the living costs of animals are usually met by sponsorships and donations. In this model the farm leaves the productive agricultural sector to enter the “care economy.” While the term “care economy” usually applies to humans, and usually mostly women, taking care of other humans (Folbre, 2006), I believe it can also be adapted to these farmers who dedicate their life to the care of non-human animals. Some systems called “care farms” (Hassink and Van Dijk, 2006) combine care for humans and care for non-human animals, as this system involves using the sheltered animals for therapeutic purposes. The other most popular transition for extensive bovine systems involves remaining in agriculture and producing fruits and vegetables on small holdings. Such market gardening relies on the small-scale production of labor-intensive and high added-value horticultural products.

For intensive systems raising pigs and chickens, all from the US, the most popular alternatives are to produce mushrooms or hemp, and market gardening. Mushrooms and market gardening have the advantage that buildings formerly used to raise chickens can be reused as mushroom fruiting chambers or as greenhouses. These farms are



mostly economically driven in their desire to transition their farms to other agricultural systems of production, as the compassionate motivation is only present in 2 out of the 8 intensive farms and none of them turned into sanctuaries.

3.5. External support in the transformation process

The role of external support is central to the transition process. Support is particularly critical for transformation with compassionate motivation. As described in Section 3.1, these are times of uncertainties and emotional distress for some: “One very cold and dark day, I sat down with all my brokenness, confusion, and desperation and wrote a letter to the universe asking for help. There was an intrinsic knowing that we would never be able to dig out of this alone. And, it turns out, there were people out there willing to help us out of our situation” [7]. Once the decision to stop selling animals is taken, transformers encounter two main problems: (1) finding food and shelter for the animal on the short term and (2) finding a production system to sustain the farm in the mid-term. The Figure 2 below synthesizes the process of transformation with the role of external support.

In all the stories collected for this article, two organizations, Rancher Advocacy Program (RAP) and Hof Narr, stand out for their centrality in supporting other transformations as they have, respectively, 10 and 9 farms being affiliated (see Figure 3). I considered a farm to be affiliated to a support organization when its name was referenced in the support organization website. As a consequence, the same farm can be affiliated to several organizations. RAP and Hof Narr were created by two women and transformers [8] and [19] and they are mentioned in stories as key agents of change. From famers’ stories, this support from RAP and Hof Narr is provided through:

- (1) helping to find a place for animals through their network “That is how we came across the Narr farm, among others. With their existing network and their experience in building a life farm, they

supported us in realizing our vision” [24]. Sometimes by directly taking some animals in their sanctuary or taking over the sponsorship of some animal: “When Sarah told me that the association Hof Narr would take over the sponsorship for this cow, it was Christmas, Easter and everything together for me.” [4].

- (2) providing information and support for short-term economic sustainability “she was at my farm the very next day organizing and executing a fund raiser to get us hay. The next 24h were a whirlwind of generosity and we met our fundraising goal, bought hay, and had money left over to buy diesel. The logistics of how this all played out still baffles me.” [7] or more long-term solutions: “they are helping us by providing links to possible grants and loans” [9].
- (3) giving information and advice about the transition, sometimes mobilizing experts: “Renee set up zoom meetings with the “best of the best” in agriculture and ranching. Individuals who gave us many ideas on what would suit us.” [9].
- (4) providing emotional support: “Without Renee and Tommy’s encouragement and support, we would not have even thought about this endeavor.” [9].

As a final note, other forms of support appear to play a more modest role in transformations documented here. Two farms [8, 16] mention the role of the “vegan community” as a support for buying products from transformers or making successful crowdfunding campaigns. The Transformation Project, Farm Transformers, Refarm’d, Stockfree Farming and It’s cowtime support organizations seem to play only a minor role in the stories of transformations.

4. Discussion

4.1. The futures of transformations

Transformation is still a niche innovation where innovators are organized in small networks of individuals driven by their vision

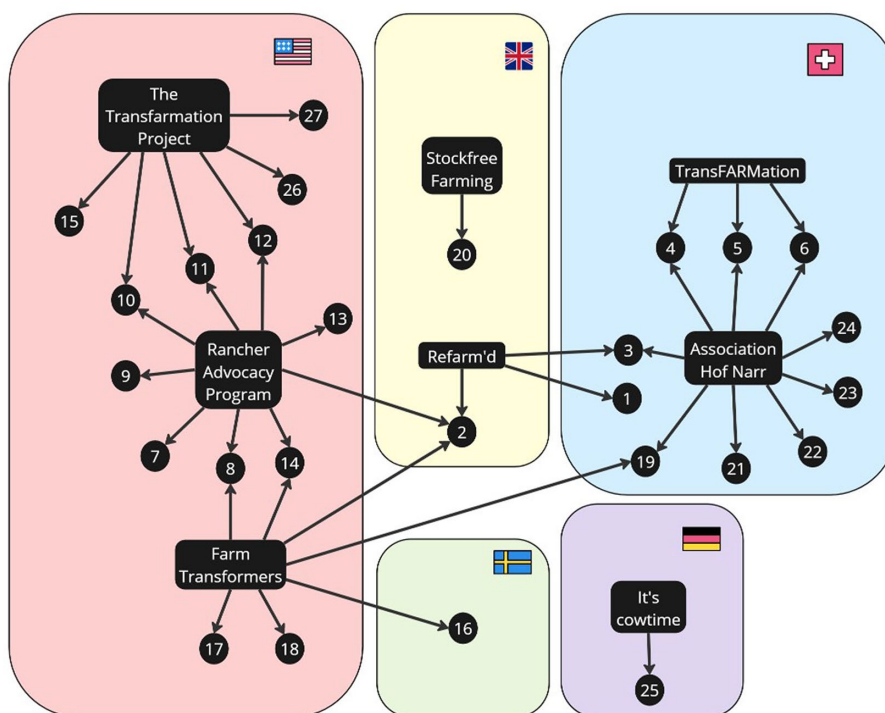


FIGURE 3

Networks of farms and their affiliations to transformation support organizations (in black rectangles) in different countries. Farms are numbered from 1 to 27 according to Table 1.

(Geels and Schot, 2007). Among these small networks (Figure 3) I identified two main types of vision about the future of transformation depending on the main motivation: based on either economics or compassion towards animals. This section discusses the potential evolution of some of the pathways identified and their potential for scaling up and tackling the health and environmental challenges of livestock operations.

Economically driven transformations come from intensive livestock operations that encounter economic difficulties, mainly among intensive operations raising pigs or chickens. Such transformations have the highest potential for ethical and environmental impact due to the scale of their production. The study here shows some farm transitions that involved leaving livestock farming, such as transitions from poultry operations to mushrooms or market gardening. However, if the motivation would be purely economic, the transformation process may be reversible if new economic activities involving raising animals become economically interesting. Also, it seems that this type of transformation is triggered by exploitative working conditions that are quite specific to the United States.

Half of the farms motivated by compassion transitioned to another agriculture production system. The most common system is market gardening (5 out of 9 farms that remained in the agricultural sector). A third of the 19 farms motivated by compassion transitioned to a farmed animal sanctuary model. Some authors refer to this model as the “refuge + advocacy” model, as they not only shelter animals but also have an educational role (Donaldson and Kymlicka, 2015). While ensuring a much better life for the animals rescued, this model comes with new difficulties. The sanctuary model still relies on animals living

in captivity as well as actively restricting their natural behaviour, such as reproduction (Abrell, 2019). The main role of farmed animal sanctuaries is not to be an alternative to livestock farming but to educate the public to animal welfare with rescued animals as ambassadors (Abrell, 2019). Given the number of livestock in the world (Bar-On et al., 2018), sanctuaries can only play a niche role. To go beyond this model, the authors of Zoopolis (Donaldson and Kymlicka, 2011) suggest that sanctuaries should consider rescued animals not just as representatives of other animals who did not escape livestock farming (or “ambassadors”) but as individuals having a say in matters that concern them (or “citizens”) in inter-species communities (Donaldson and Kymlicka, 2015). Thus, sanctuaries could become incubators of new social arrangements between humans and non-human animals. These small-scale innovations could be blueprints for wider diffusion to society as a whole.

Among farms motivated by compassion, the Lebenshof Frei Sein, despite being a single case, is an interesting model for transformation related to the care economy. More broadly, this type of activity is part of the green care economy, where “nature” is used for health purposes (Haubenhofer et al., 2010). Care farming specifically involves domesticated animals in therapeutic interventions. Positive effects of these interventions on patients have been measured (Elings, 2012; Leck et al., 2015). The therapeutic benefits of care farms are rooted in human-animal interactions (Leck et al., 2014; Hassink et al., 2017). Care farms tend to consider non-human animals as co-workers, thus going further than the sanctuary model by not only recognizing previously farmed animals as victims but as agents who actively participate in an inter-species community. Considering non-human animals as workers raises the question of the “humane job” (Coulter, 2017), where non-human

animals in the green care economy should not find themselves in new forms of degrading or lethal work. For [Cochrane \(2019\)](#), providing “good work” to a domesticated animal is possible under the condition that they take pleasure in the activity, can use and improve their skills, and that their agency is recognized in a community that values their contribution. While the positive effects of such farms on humans are more and more documented, establishing the conditions of a “humane job” for animals in care farms is still an understudied topic. Nevertheless, this re-orientation of productive farms to care farms offers interesting perspectives as a source of income and good reputation for farmers and for the agricultural sector as a whole ([García-Llorente et al., 2018](#)). However, it also requires specific skills from farmers to deliver these interventions and might require significant investment in training and education. Finally, it is also quite uncertain how many of such care farms would be actually needed before saturation of therapy needs.

Finally, our results show the key role that support organizations can provide to help transfarmers, especially those founded by transfarmers themselves. There is evidence that farmer-to-farmer support is particularly efficient to help transitions. The key role of such organizations has been extensively researched in the context of transition from conventional to organic agriculture. For instance, in Switzerland, the lack of a peer network to support transitioning organic farmers has been shown as a major impediment to change ([Home et al., 2019](#)). Studies from Ireland and Mexico indicate that knowing another farmer who transitioned to organic farming has a positive impact on the decision of a farmer to adopt organic farming ([Hattam et al., 2012](#)). Such support organizations could expand their support services in the future to help transfarmers to market their product. For instance, while the post-livestock farmers in our sample appear to show only limited interest in veganic agriculture (as only two farmers actually mention this approach in their farming practices) a study conducted in Germany showed that 17% of its respondent consumers are interested in products produced by veganic agriculture ([Jürkenbeck and Spiller, 2020](#)). This suggests a virtually untapped consumer base. However, veganic agriculture still has many technical, agronomic and socio-economic challenges ([Schmutz and Foresi, 2017](#); [Mann, 2020](#); [Seymour and Utter, 2021](#)). In this regard, [Hirth \(2021\)](#) details the case of the Bradley Nook Farm, one of the farms in this case study. One agronomic difficulty is for organic farmers to cultivate crops without livestock and thus without animal manure. In that sense, organic agriculture may only feed a large human population with intensive use of green manure and legumes ([Chatzimpiros and Harchaoui, 2023](#)). Another challenge is to conserve or find a substitute for manure as a source of habitats for soil biodiversity ([Köninger et al., 2021](#)). Even so, the veganic farming movement shows promise to radically transform and address some of our current food systems shortcomings ([Nobari, 2021](#)).

4.2. Research perspectives

A first direction for research is about the role of gender in transformations. We have seen that, when it comes to support transformations, the two most active and central individuals are women. We also saw that the decision to transform is shared in equal numbers between genders. The results hint towards an equal share between genders in decisions to transform, suggesting a difference with traditional decision making about production in farms where men have the lead ([Pandey et al., 2011](#)). When compassion is the main

motivation, women seems to play a key role. This tendency corresponds to women being on average more empathetic than men ([Christov-Moore et al., 2014](#)) and women having more empathy to non-human animals ([Taylor and Signal, 2005](#)). Knowing more about these gender specificities could help transformation support organizations to target their communication and tailor their actions.

A second direction for research is about the best way to steer farms out of livestock farming while avoiding conflict as much as possible. Transformation is potentially a supply-side solution for decreasing livestock by limiting the offer of animal products from farm owners to the market. However, it is still very uncertain how transformations could be scaled up to have a meaningful impact on the supply side. Therefore, complementary solutions on the demand side also need to be considered. Some policies may involve higher prices of animal products with information and nudging ([Kurz, 2018](#); [Vellinga et al., 2022](#)). For example, a meat tax was implemented in Denmark but was repealed by influential opponents shortly after despite positive health outcomes ([Vallgård et al., 2015](#)). At the EU level, a multi-stakeholder participatory policy, designed to engage with these powerful opponents, could establish consumption corridors to limit the quantities of animal products available according to social, nutritional, ethical and environmental factors ([Fuchs et al., 2016](#); [Cué Rio et al., 2022](#)). The consumption corridor concept aims at establishing minimum and maximum standards for consumption to guarantee a good quality of life for everyone ([Di Giulio and Fuchs, 2014](#)). The balance of all these tools (support of transformation, tax, nudges and consumption corridors) for a post-livestock economy remains to be investigated.

4.3. Limitations of the study

The main limitation of this study is its data collection method. As this is desk research, I did not collect directly all stories, but were written by either the support organization or the farmers themselves. Therefore, the context in which these stories were written was not under my control, which could create bias. For instance, when farmers publish their story on the website of their farm they might want to portray themselves in a positive light to attract customers to buy their products, motivate readers to sponsor an animal or donate to their sanctuary. Similarly, support organization might have an interest in appearing particularly helpful to motivate other farmers to join their organization or to trigger donations. Additionally, elements mentioned in these stories are at the writer's discretion, which limits comparability between stories. Conducting interviews with farmers with the same set of questions could lead to more in-depth insights and greater comparability. In particular, more details about the economics of such transformation could be particularly helpful as most stories barely scratch the surface on such challenges. Furthermore, because I could not ask questions to farmers in this study, certain aspects may have been omitted from the stories. For example, some farmers do not explain the future of the last animals in their possession at the time of the transition to a post-livestock farm. Some farmers might omit the role of their partner in the decision to change the farm, which limits what could be learned about the role of gender in transformation. The final limitation of this study is that it solely focuses on the experiences of farmers who transitioned away from livestock production systems. In order to gain a more comprehensive understanding of the topic, it

would be valuable to also investigate the perspectives of farmers who were unable to make the transition or who are opposed to it. These alternative viewpoints could offer insights into the obstacles that hinder successful transformation.

5. Conclusion

In this article, I qualitatively analyzed the stories of 27 farms that decided to quit livestock farming. I identified two main processes based on their fundamental motivation, which was either economic or compassionate. We found that organizations that support the transformation process for compassionate purposes are critical to provide key services along the transition process. This support is probably legitimized by the fact that these organizations are founded by transfarmers. Economically driven transformations are often motivated by the desire to leave exploitative and health damaging working conditions. They mostly engage with transformation support organizations for new economic opportunities and technical support for new systems of production. The reuse of intensive farming buildings (poultry and pig) is particularly promising for mushroom or market gardening operations. Farms that want to keep interactions with domesticated animals have promising perspectives in the green care economy. Transformation is still a niche innovation that might become more relevant in the near future as some countries might reduce the number of livestock for economic, environmental, health or ethical reasons. Knowledge on the different motivations, pathways and necessary support can facilitate easier transitions.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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