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# Identity in sustainability transitions: The crucial role of landscape in the Green Heart

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## ABSTRACT

This article proposes that identity formation and reformation are important dynamics that influence and are influenced by the course of a sustainability transition. We study identity (re-)formation in the transition of the dairy sector in a rural area in the Netherlands: the Green Heart. Soil subsidence, high emissions, and economic pressures require substantial changes in practices in the dairy sector and most importantly, the landscape that it is intertwined with. We use narrative analysis to study identity (re-)formation in two new stakeholder collectives that aim to address sustainability in the area. We identify discrepancies between the narratives in these collectives and the transition challenge. These discrepancies can be explained by the role that the landscape of the Green Heart plays in the identity (re-)formation within these collectives. The attachment to the current landscape forms a lock-in for the sustainability transition in this area.

## 1. Introduction

The role of identity in transitions has received little scholarly attention thus far. In this article, we study the role of identity (re-)formation in sustainability transitions from a geographical perspective by studying dairy farmers' and other stakeholders' responses to the transition challenge in an iconic Dutch region: the Green Heart (het Groene Hart, in Dutch). By examining the influence of existing identities as well as identity formation on the course of a sustainability transition, this article contributes general insights into the cultural aspects of sustainability transitions and also sheds more light on the specific challenges of the transition of dairy farming. Furthermore, by studying the role of identity in a specific rural area, we respond to the concern that the field of sustainability transitions lacks geographical sensitivity and highlights the importance of space and place of sustainability transitions (Binz et al., 2020; Coenen et al., 2012; Murphy 2015; Truffer et al., 2015).

"An endless flat and treeless land that disappears into a mist in the horizon, cows grazing- a picture of harmonious tranquillity". The identity of the "Green Heart" of the Netherlands builds on its typical flat Dutch landscape, its agricultural roots and its calm and spacious qualities in the middle of the urbanised region to the west of the Netherlands. This regional landscape is at stake: the Green Heart's iconic landscape is intricately entwined with the practice of dairy farming that shaped it, while that same practice is increasingly normatively contested (Elzen et al., 2011) for its effects of soil subsidence and rising emissions by sustainability scientists as well as regional and national policy makers (PBL, 2015; Van Diepen et al., 2019; Van Odijk et al., 2016).

A sustainability transition is necessary, because without change, the Green Heart's soil will continue subsiding between 0.25 and 3

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cm per year, causing CO<sub>2</sub> emissions of 1.4 million tonnes per year and damage to buildings, salinisation, and a reduced load capacity of the soil (PBL, 2015; Van Diepen et al., 2019). In response to this, the national government has proposed to introduce Circular Agriculture in the area (LNV, 2018). The regional government of South Holland also suggests that changes in dairy farming are necessary, which could be achieved if stakeholders, including dairy farmers join forces in innovative programs, with the aim of creating a more sustainable system. In these innovative programs, stakeholders are supposed to interact and learn from each other, while negotiating their future (<https://www.groenecirkels.nl/kaas-en-bodemdaling>, <https://groenehartwerkt.nl/>).

But change is difficult for people whose livelihoods are attached to an area. Dairy farmers are rooted in the region and their families have often lived there for decades. They are attached to the cultural landscape as is. Being a dairy farmer is not just an occupation; it is an identity. Similarly, the place of farming is not just the location of a business. Rather, dairy farming is place-based (Vermunt et al., 2020). It shapes and is shaped by the traditional Dutch peat meadow landscape of the Green Heart and is thus identified with and by it. Because of the geographical importance of the area for incumbent farmers (Elzen et al., 2011; Vermunt et al., 2020), studying (re-)formation of identity for these actors is vital for creating endogenous regime change (Runhaar et al., 2020).

We first introduce the theoretical background of this research in terms of identity and narratives in sustainability transitions. In Section 3 we elaborate on the methods, and in Section 4 we report on the transition challenge in the Green Heart and how it figures in the narratives of different stakeholders. Section 5 synthesises our results in terms of the interaction between different identities and their level of alignment with the transition challenge. In Section 6 we discuss the (lack of) alignment and how identity (re-)formation can shed light on the course of the transition in the Green Heart.

## 2. Conceptual framework

### 2.1. Conceptualising identity in the context of sustainability transitions

A sustainability transition entails fundamental changes in stakeholders' daily practices. Such changes in practices change how people conceive of themselves, the community that they are part of, and how they give meaning to their life (cf. Wenger, 1998; Brown and Duguid, 2000, 1991). Quitting a certain practice will have direct consequences for the practitioners' identities.

Transitions are likely to provoke concerns about identity, as change often entails reorientation of existing relationships, economic security, and other 'givens' in life (Jenkins, 2014). Identities can be reinforced in the context of change: "communities under pressure from potentially disruptive, externally-induced change can display their resilience through existing social solidarities, which in turn reinforce their identities" ('O Riordan, 2001, p.6). Conversely, in case of changing to new practices, existing identities can be reformed or newly formed (Vesala and Vesala, 2010). At the time of this writing, scholarly accounts of the role of identity in transitions are still in their infancy, which had led some to identify it as an important avenue for further research in transitions (Schulte et al., 2021; Sovacool et al., 2018).

Some work on connecting identity to sustainability has focused on personal identity (Whitmarsh et al., 2011), more specifically on consumerist identities (Banovic et al., 2022; Fernandes and Saraiva, 2021; Lonkila and Kaljonen, 2022; Strannegård and Dobers, 2010), and the role of individuals in SME strategies (Kiefhaber et al., 2020). Other work has investigated collective identity, such as the influence of community identity and/or political identity on support for transition policy or democratic processes (Becker et al., 2021; Burnett and Nunes, 2021; Mayer 2018; Velasco-Herrejón et al., 2022), or corporate/organisational identity in transitions (Bien and Klußmann, 2021; Greco et al., 2021; Prieto-Sandoval et al., 2021).

There is also work on place attachment, place identity, or regional identity and how this links to sustainability issues (Axon 2018; Brown et al., 2019; Chapin and Knapp, 2015; Masterson et al., 2017, Paasi, 2009; 2003, Runhaar et al., 2020). Place attachment is referred to as people's emotional bond with a particular environment (Low and Altman, 1992; Masterson et al., 2017). Place attachment can be instrumental, in the sense that a place is a good environment for achieving one's goals. But place attachment can also run deeper and turn into place identity when the place becomes part of a sense of self, individually or collectively (Harner, 2001; Masterson et al., 2017; Proshansky 1978), or into regional identity, if the place refers to a specific region (Paasi, 2009; 2003). These spatial types of identity have been studied especially in the context of change, such as displacement (Shearer, 2012; Speller 2000), land-use changes (Bonaiuto et al., 2002), the decline of an industry (Johnstone and Hielscher, 2017; Pérez-Sindín and Van Assche, 2021), or the emergence of a new industry (Silva and Sareen, 2021). Identification with, or attachment to place or region can be a source of conflict or used as leverage (Islar and Busch, 2016; Ruggiero et al., 2021; Semian and Chromý, 2014; Velasco-Herrejón et al., 2022).

From this literature we see that various types of identity are important in relation to sustainability transitions. We extend this work by analysing the role and influence of identity on the course of a sustainability transition, with a specific eye to teasing out different identity types (e.g. personal, collective, and regional). Investigating a wide range of possible identities provides a rich picture of the transition process in the Green Heart, while illustrating how the transition literature can engage with identity in general.

Inspired by Vignoles et al. (2011), we conceptualise identity in sustainability transitions as (1) involving multiple levels; (2) fluid; and (3) performative. First, identity spans multiple social levels, from individual identity to relational identity to collective identity. Individual identity includes someone's personality, personal values and outlook in life. Relational identity is an identity in relation to specific others, such as father or friend (Aron et al., 1991; Chen et al., 2011). Collective identity (Abdelal et al., 2006; Adames and Chavez-Dueñas, 2021; Albert and Whetten, 1985; Castells, 2011; Furlong and Vignoles, 2021; Gioia et al., 2000; Sedikides and Brewer, 2015; Tajfel and Turner, 1986; Whetten, 2006) refers to groups that someone identifies with: parents, LGBTQIA+ people, environmentalists, farmers, Spaniards, etc. A spatial form of collective identity can be called place identity: when the place becomes part of a sense of self, individually or collectively (Harner, 2001; Masterson et al., 2017; Proshansky, 1978). In sustainability transitions, such

groups feature as the actor collectives that have multiple and shifting roles as they bring about change (Avelino and Wittmayer, 2016).

Second, we see identity as fluid, because it is both multi-faceted and subject to change (Alvesson and Willmott, 2002; Cerulo, 1997; Cherni, 2001; Galupo et al., 2017; Gioia et al., 2000; Hopf, 2009; Jenkins, 2014; McDermott, 2009; O’Riordan, 2001; Simpson and Carol, 2008). Identity is multifaceted in the sense that people can have many identities at the same time (which can sometimes be in conflict as well). For example, farmers do not only have an occupational identity, but also a gender identity, and these identities can influence someone’s views on and role in a transition (Newsome, 2021). Identities can also change over time, both individually and historically or socially: someone can start identifying as transgender, and the meaning of certain identity categorisations such as ‘father’ can change over time and differ from one social context to another.

We expect to see identities shifting due to their linkages with socio-technical systems that are essentially variable, unstable, and changing: “The meanings of an identity are, in part, the products of the particular opportunities and demand characteristics of the social situation, and are based on the similarities and differences of a role with related, complementary, or counter-roles” (Burke and Reitzes, 1981, p.84). This quote presents identity as fundamentally context-dependant: it is constructed in interaction within a (changing) context. If the context is changing, as it is in a sustainability transition, then the concept of identity must also allow for fluidity. For example, a farmer that has always identified as a productivist farmer (Wilson, 2001) might start identifying as a multi-functional farmer (Potter and Burney, 2002) if her practices and network change.

Third, we regard identity as performative: an identity is constructed in the presentation of oneself in a social context with others (Goffman, 1959; Butler, 1988; Bullingham and Vasconcelos, 2013). Identity is enacted and re-enacted over time, through performative acts of talk and behaviour in interaction with a person’s audience. In transitions, identities are formed, shaped, and adjusted in the context of changing practices, cultures, and institutions. And conversely, identities can play a role in forming and shaping these changing practices, cultures, and institutions. A performative approach can highlight the political dimensions to transitions (Yuana et al., 2020). For example, including tourism in their business, farmers must walk a fine line between their performance as professional tourist hosts and as conventional farmers (Brandth and Haugen, 2011).

In sustainability transitions we expect that identities are not internally consistent, that they might both be reinforced and changed by transition pressures, and that both internal and external struggles will result from these different responses. Furthermore, the identities might show different types and degrees of alignment with the transition challenge. In Sections 4 and 5 we look at these discrepancies or alignments - within identities, between identities, and between identities and the transition challenge.

## 2.2. Studying identity in narratives

There are many ways to study identity, including surveys, content analysis, discourse analysis & ethnography, cognitive mapping, and experiments (Abdelal et al., 2009). Because of its performative nature, being constructed in and through interaction, identity lends itself well to being studied from a discursive perspective - by investigating identity in the narratives of the persons and groups involved in a transition. We see the relation between identities and narratives as twofold: on the one hand narratives are the empirical source that can reveal the dynamic interplay of different underlying identities in the context of a sustainability transition. Studying narratives allows us to capture the multilevel as well as fluid nature of identity, as narratives can reveal the most salient identities in this time and context. Studying identity directly would run the risk of only capturing a particular level of identity or only capturing identities that are relatively stable.

The relation between identity and narrative is not only epistemological but can also be productive in the sense that narratives that challenge the status quo can be precursors for new, transformative identities (Bauer, 2018; Geels and Verhees, 2011; Penna and Geels, 2012; Rosenbloom, 2018; Hubeau et al., 2019; Leeuwis and Aarts, 2011). Through the generation and dissemination of narratives, often by niche actors, transition pathways gain legitimacy and can put pressure on existing socio-technical regimes. Narratives can also have an impact on regimes by using them as tools to translate socio-technical landscape shocks (Hermwille, 2016). Moreover, narratives can contribute to identity-formation by shaping a shared collective identity around a particular desired future and can interweave personal values with collective expectations (Pfothenhauer and Jasanoff, 2017; Sunio et al., 2021; Wittmayer et al., 2019).

While narratives or discourses do not need to overlap completely in order for transition networks to move forward, “it is clear that meaningful change can only happen when actors eventually develop a certain degree of coherence, complementarity and/or congruence” (Leeuwis and Aarts, 2011, p.28). Diverse stakeholders can have different underlying values or views, but if these are congruent or aligned (rather than opposite or incompatible), it can help stakeholders to act congruently as well (Grin and van der Graaf, 1996; Leeuwis, 2004; Röling, 2002; Loeber et al., 2007). Studying the level of alignment within and between identities can shed more light on the challenges and opportunities of a sustainability transition.

In this paper, we analyse stakeholder narratives to study identity formation and reformation and identity alignment. At later stages of a transition, new congruent identities have been formed around new desired futures, new occupations, new collaborations, etcetera and could be studied more directly, on the basis of interviews for instance. In the early stages of a transition however, new identities may still be nascent, as new practices and communities of practice around them are not fully established yet (Wenger, 1998). ‘Old’ identities, related to one’s current occupation, may be just beginning to shift - implying struggle. In these stages, stakeholder narratives are an entry point to reveal those initial identity shifts and struggles in a transition.

### 3. Research design

#### 3.1. Overview

We studied stakeholder narratives in two networks in which various stakeholders discuss new ways forward in the Green Heart. In one network, called Green Circles for Cheese and Soil Subsidence (Groene Cirkels Kaas en Bodemdaling - GCKB, in Dutch), regional government actors, scientists, and dairy farmers collaborate to envision a future for dairy farming in the context of soil subsidence and other environmental pressures in the Green Heart. The other network, called the Green Heart Works (het Groene Hart Werkt - GHW, in Dutch) brings together regional government actors, scientists, and small to medium enterprises (not in dairy farming) in order to facilitate green, circular innovations in the Green Heart. Comparing the narratives of dairy farmers to those of other SMEs in both collaborative spaces will help us understand the role of identity formation for different types of stakeholders in the region.

Our study consisted of three distinct parts. First, we synthesised the transition challenge in the Green Heart based on our professional experiences as action researchers in relation to the area over the last six years, through meetings, and stakeholder workshops, as well as publications about the transition challenge in the Green Heart. Second, we studied identity formation in relation to the transition challenge by analysing narratives in stakeholder meetings in the two networks. Third, we hosted a stakeholder workshop to verify and enrich the findings about the identities. We synthesise the findings by drawing relations between the narratives and (re-)forming identities and the transition challenge.

#### 3.2. Transition challenge: the Green Heart

Our understanding of the transition challenge was based on various reports and a broad range of professional experiences in the Green Heart and the Province of South Holland. We did not employ structured data collection to synthesise the transition challenge, but we have been part, as action researchers, of various projects and policy processes in the region that give us a unique insight in the challenges in the Green Heart.

From 2015 until the time of this writing we were involved in the South Holland Food Families (henceforth: SHFF), an innovation network of farmers, entrepreneurs, NGOs, citizens, government workers and other interested individuals that strive for a more sustainable agricultural sector in South Holland, with a sub-network called “Polderpioneers” specifically devoted to the Green Heart. Challenges in the Green Heart were discussed over the entire course of this project, in a range of meetings and reports.

Furthermore, since 2018 our research about identity and transitions research was part of a wider project that studied the circular economy in the Green Heart. This gave us access to additional meetings and enabled us to become acquainted with wider stakeholder networks in the Green Heart.

#### 3.3. Narratives and identities

##### 3.3.1. Data

In order to acquire a corpus of data to analyse identity (re-)formation, we started with identifying various relevant (i.e., transition orientated) networks and the related stakeholders. We looked for networks that satisfied three criteria: (1) they had to be spaces for collaboration with heterogeneous stakeholders, with representatives from governmental bodies, science, and business; (2) they had to be focused on the Green Heart; and (3) they had to be orientated around the transition challenge in the region.

Two networks fit these criteria. Both networks were initiated by regional governments and include scientists and businesses. One network focuses on the transition pressures in dairy farming in the Green Heart, while the other has a green innovation focus, and mostly includes non-agricultural SMEs, including for example car companies, printing companies, construction companies and research organisations. Through this action research of 1.5 years we became a stakeholder in the region (Wittmayer and Schöpke, 2014), which means we also analysed our own contributions during the meetings.

We documented the narratives in interaction during six stakeholder meetings, three of each network, by taking elaborate notes and by coding these notes (see below). In addition, we studied promotional materials of these two networks in which participating organisations present their aims and visions and who they are (four videos).

##### 3.3.2. Analytical framework

For constructing the narratives of stakeholders within the two networks, we did a first reading of our data using a thematic analysis (Braun and Clarke, 2006) in order to construct themes in our data that could function as narrative elements. In so doing, we

**Table 1**  
Analytical themes for narratives in the Green Heart.

Theme	Conceptualisation
Sustainability	What is the sustainability challenge?
Change	What kind of change is necessary, and what is the attitude towards this change?
Collaboration	Who are the most important collaboration partners in the transition challenge?
Landscape	What does the landscape look like in the transition challenge?
Proposed actions	What actions are necessary to create that change?

constructed five themes: sustainability, change, collaboration, landscape, and proposed actions, and conceptualised them as follows (see Table 1).

### 3.3.3. Constructing prototypical narratives

We coded our documents using the five above themes. We extracted all the quotations that we coded and analysed different stakeholder (the network participants) interpretations for each theme. For example, it turned out that “sustainability” was interpreted as the circular economy, as biodiversity, as climate change, or as sustainable income, and “landscape” could be featured in an abstract form (as “the earth”) or in its current regional form.

After mapping these different interpretations per analytical theme, we looked for patterns between these interpretations, based on co-occurrences per stakeholder. In this way we analysed whether a specific interpretation of for example sustainability co-occurred with seeing change in a particular way. By this method we constructed five prototypical narratives across different stakeholders (see Results). We acknowledge that every stakeholder probably has a slightly different version of this narrative and also that the narratives that we constructed are snapshots of a more fluid reality.

### 3.3. Verification workshop

As a final step, we organised an online (during the first Covid-19 lockdown in the Netherlands) stakeholder workshop to verify and enrich the five prototypical narratives that we had constructed. A total of 34 participants attended the workshop, including farmers, other entrepreneurs, policy makers, representatives of lobbying organisations, researchers, and NGO representatives. We assigned participants to five groups corresponding to each of the prototypical narratives, based on a short questionnaire about their narrative in the transition challenge.

## 4. Results

### 4.1. Transition challenge in the Green Heart

The Green Heart is a rural region in the Netherlands located between the four largest cities: Amsterdam, Utrecht, Rotterdam, and Den Haag. The Green Heart lies across three provinces (North Holland, South Holland, and Utrecht) and consists of 32 municipalities. While the area contains a few small cities, the region is characterised by a rural, “typically Dutch” landscape: flat green peat meadows with cows, narrow ditches, wide horizons and few trees. Dairy farming is the dominant agricultural practice in the Green Heart. The peat meadows offer rich grasslands for the cows to feed on, while they are hard to use for other agricultural practices.

We distinguish two dominant developments that affect the long-term viability of dairy farming in the Green Heart: mounting economic pressures and peat oxidation / climate change. The importance of economic pressures was documented in various publications from the SHFF (Voedselfamilies, 2016, 2017) and was mentioned at various SHFF meetings that we attended in 2015 and 2016. Conventional dairy farmers face a continuous challenge to increase their cost-effectiveness. They compete at international markets, but with Dutch labour and land prices being relatively high, and little or no opportunity for growth. Farmers were said to be caught in an “agro-growth regime” (Voedselfamilies, 2016, p.27). This challenge – to become ever-more cost efficient – comes at the price of farmers feeling increasingly disconnected from Dutch society. A shared sentiment appeared to exist amongst participants in the SHFF network that the sector was facing societal and economic challenges that could not be solved through further optimisation, and that new business models are needed that provide an alternative to cost-price leadership.

The second development – peat oxidation in combination with climate change – is highly specific to the Green Heart. Much of the Green Heart sits below sea level and has soils with large amounts of peat (Erkens et al., 2016). In the current system, ground water tables are artificially lowered throughout the region to keep the land sufficiently dry for dairy farming. However, this exposes layers of peat to the atmosphere, which results in peat oxidation, which in turn causes soil subsidence and CO<sub>2</sub> emissions (Erkens et al., 2016; Joosten, 2009; Hoogland et al., 2012; Leifeld and Menichetti, 2018), far more than other soil-based agriculture in the Province of South-Holland (Van Diepen et al., 2019). Furthermore, with ongoing soil subsidence, the risk of soil salinisation also increases (Daliakopoulou et al., 2016; Oude Essink et al., 2010). Subsoil irrigation technologies are under development that promise mitigation of peat oxidation and soil subsidence, but early results show that they do not lower carbon emissions (Weideveld et al., 2021)

To sum up - we recognise a dairy farming regime that depends on ever-increasing cost efficiency and artificially lowered ground water tables. This regime faces mounting international competition, societal concerns about the position of agriculture in society (Van der Ploeg, 2020), and concerns about climate change. The associated transition challenge involves having to change the landscape by raising water levels in order to deal with soil subsidence, salinisation, and emissions.

### 4.2. Narratives

The first transition network, the GCKB, responds to this transition challenge. The network’s goal is to create a sustainable and economically resilient agricultural sector in the peat meadows, to find solutions for soil subsidence, a climate-proof water system, and to restore biodiversity in the Green Heart. This dairy farming network was set up by the province of South Holland and is a space for collaboration between government actors, scientists, and agricultural enterprises. The sub-initiative that we studied in this research focused on finding ways to restore biodiversity in the Green Heart, but this aim was strongly interrelated with the other aims. The main businesses included in this network are a cheese factory, a cooperation of dairy farmers that deliver their milk to this factory, and a

(national) bank.

The second network, GHW, presents itself as a platform for everyone who wants to contribute to green innovations in the Green Heart, and views its own role as to inspire and support collaboration. The network has been set up by the province of South Holland together with 13 municipalities in the Green Heart region. The businesses that are part of the network are mostly small to medium sized enterprises, in all kinds of sectors, ranging from education to building.

Across the two networks, we distinguish five prototypical narratives, based on the patterns in the data (see Table 2). All five were mostly recognised and accepted by the participants in the verification workshop, while some refinements were made, and some minor changes were suggested. Four of these narratives were also self-identified with by at least some of the participants. Nobody in the workshop self-identified with the artisanal entrepreneur narrative, but it was recognised as others' narrative in the region.

One of these narratives, which we call 'the Collective searcher', was found in both initiatives, prominently amongst government actors and scientists. Collective searchers regard themselves as the ones bringing diverse perspectives together from a systems perspective in order to collectively fight climate change impact in the area. As one participant said: "*different organisations come up with nice things, but at the system level we have to come up with solutions for a transition to a sustainable economy*" (translated from video).

In the dairy farming network GCKB, we additionally found two prototypical narratives amongst the farmers: Stewards, and Artisanal entrepreneurs. Stewards are typically very concerned with the biodiversity on their land and in their soil. They want to restore the health of the whole ecosystem. A good example of a steward is a farmers' association that says: "*we follow organic and ecological principles to restore the health of the soil*" (translated from meeting notes). Another typical quote of a Steward is a farmer

**Table 2**

Description of prototypical narratives found in two transition networks.

Collective searchers (actors in government and science)	
Sustainability	We have to prevent climate change, which is a systemic problem for which people have to take collective responsibility. Specific challenges for the Green Heart are soil subsidence and greenhouse gas emissions.
Change	Climate change as well as its consequences and the associated responses to it are already taking place – so we don't have a choice but to play a part in facilitating this change.
Collaboration	We need many different perspectives on the issue, so our role is to bring all parties together: government, science, business, look for a solution together and create a new system.
Landscape	We have to protect nature against climate change. The Green Heart's iconic peat meadow landscape comes with its own challenges in terms of climate change.
Proposed actions	We have a system perspective, take on a reflective, visionary role, and want to connect, inspire, and facilitate change. Collective social values are paramount in this new system.
Stewards (farmers)	
Sustainability	Biodiversity is under pressure. We must restore the Earth's resilience, so that it becomes future-proof.
Change	We take on the role of steward and want to take care of the Earth, sometimes inspired by religious values. From other sources of inspiration, we see humankind very much as part of nature, and have a holistic perspective on restoring the balance of the earth. This duty weighs heavy on us, and the current state of nature worries us.
Collaboration	We must bring people closer together in a communal spirit, trust each other, be transparent, and solve this problem together.
Landscape	We have to look at the health of the total ecosystem: the soil, plants, animals. We'd like to see regional species coming back. We see the landscape primarily as farmland, but it can be combined with nature.
Proposed actions	We do not want to intervene in natural systems (even more) and increase the damage done. We refrain from using pesticides, and are experimenting with more varied vegetation in order to boost biodiversity.
Artisanal entrepreneurs (farmers)	
Sustainability	We dairy farmers need a sustainable societal perspective, and a sustainable income, so we can pass our farm on to the next generation.
Change	Our current practices and regional landscape are under pressure - their survival is at stake. We want to maintain our current practices and regional core values: family, history, and the current landscape are very important to us.
Collaboration	We feel that we are not being heard by political actors and resist new ideas from outsiders. We work together with our current clients and other stakeholders.
Landscape	We value our traditional, unique, historical landscape in the Green Heart. The Green Heart is an agricultural area with cows grazing in the meadows. The calm and open qualities of the Green Heart's landscape are different from the urban ring around it.
Proposed actions	In response to the pressure from the city, we adjust our practices, for example with high-tech solutions, or by making a local, high-quality product.
Innovators (other SMEs)	
Sustainability	Waste is a shame. The Earth has limited resources– we should adopt a circular economy.
Change	We are optimistic about change - we welcome it. We have a technical, eco-modernist story, with terms such as development, innovation, perseverance, and inspiration (an entrepreneurial discourse).
Collaboration	We work together mainly with other entrepreneurs.
Landscape	The landscape hardly plays a role.
Proposed actions	We are pragmatic, result-driven, energetic, and eager to fix things. We're going to do something smart, something innovative and don't shy away from machines / technical solutions.
Idealistic entrepreneurs (other SMEs)	
Sustainability	The world is changing because of climate change. We must think differently and do differently, otherwise the Earth will go to waste.
Change	The entrepreneur is central to the changes towards sustainable development that includes planet, people, and prosperity. We are open, courageous, and display personal leadership.
Collaboration	We also work together with knowledge parties (to help develop innovations) and governments (to provide space). This is similar to the triple helix, but entrepreneurship / business is the top priority here.
Landscape	Our planet is of great value and we must protect it.
Proposed actions	We are real idealists but want to translate those ideas into practice. We are going to do something new, something innovative and lead the way with our new concepts and business models.

saying: “we have to limit human intervention so we don’t disturb nature’s complex processes.” (translated from meeting notes).

Artisanal entrepreneurs resist radical change and want to maintain the regional landscape as is. In response to the transition challenge, they adjust their practices with high-tech solutions, or by making high-quality, local products, in order to find a sustainable income. The prototypical narrative of artisanal entrepreneurs is exemplified by a quote from a cheese factory: “*there’s pressure on our food chain because of urban development. We’re making a local, beautiful product on unique soil. Cheese from the heart.*” (translated from video).

In the GHW network, we additionally characterised prototypical narratives of Innovators, and Idealistic entrepreneurs amongst the participating SMEs. Innovators propose to adopt a circular economy and are optimistic about the technical innovations that are needed for that. An example of an Innovator is a company that recycles mattresses: “*mattresses used to be treated as waste, but that’s such a shame. Currently we turn 250,000 m<sup>3</sup> of old mattresses into new materials – you can’t get more circular than that*” (translated from video).

Idealistic entrepreneurs are concerned about climate change and propose new business models and products to mitigate that change. A quote that represents an Idealistic entrepreneur well is from a printing house: “*CO<sub>2</sub> emissions, nitrogen, pollution – we don’t accept it anymore. The time of looking away is behind us*” (translated from meeting notes).

## 5. Synthesis

### 5.1. Alignment

In this section, we analyse the alignment of the prototypical narratives with the transition challenge of the Green Heart (Section 4.1) in each of the networks. In this way, we judge the potential and challenges of the prototypical narratives with respect to the transition challenge of having to change the landscape by raising water levels and allowing more varied vegetation in order to deal with soil subsidence, salinisation, and emissions. We consider the narratives better aligned with the transition challenge if the related problem definition and solutions would further the sustainability transition and if the narratives are well aligned (congruent) within the network. Conversely, they are less aligned with the transition challenge if they would counteract or neutralise the sustainability transition.

Before we analyse the alignment, we would like to acknowledge that the transition challenge as we presented it in Section 4.1 is constructed by us as action researchers who also have a stake in the transition process. Our involvement in the process and background as transition scholars may have influenced the way we weighed the different stakes, or the degree of certainty with which we present the options going forward in this transition. However, the challenge presented was not only based on stakeholders’ perspectives, but also on scientific literature and research reports about dairy farming in the peat meadows (Erkens et al., 2016; Daliakopoulos et al., 2016; Joosten, 2009; Hoogland et al., 2012; Leifeld and Menichetti, 2018; Oude Essink et al., 2010; Weideveld et al., 2021)

### 5.2. Alignment of narratives in GCKB with transition challenge

We see an important discrepancy between the role that the landscape plays in the different prototypical narratives, and the prominent role of the Green Heart landscape in the transition challenge. The landscape features most prominently in the narratives of Artisanal entrepreneurs and Stewards.

Artisanal entrepreneurs have a twofold relation to the landscape. First, Artisanal entrepreneurs are the proud custodians and producers of this iconic landscape. This is exemplified by someone in the dairy farming industry: “it’s a dream to be making unique cheese in that beautiful landscape” (translated from a video, with images of a tractor on the peat meadow landscape in the background). Second, Artisanal entrepreneurs depend on the landscape: without the peat meadows and the lowered water levels, there would be no dairy farming. Because of this intimate relationship between the landscape and the main practice of Artisanal entrepreneurs, maintaining the traditional landscape is one of their main values. Artisanal entrepreneurs’ attitude towards the transition challenge is one of resistance or reluctance. While they see that it is necessary to change something in order to survive, they try to change their practices as little as possible, with for example techno-fixes, and resist the more radical changes, such as moving towards more extensive modes of production, with more space for ecosystem services and higher groundwater tables.

For the Stewards, the landscape is important because they are concerned with the soil quality and are worried about the loss of biodiversity. They see the need for changing practices in order to save the planet, restoring resilient soils and living in more harmony with nature. The practices that the Stewards propose, such as not mowing on the side of the ditches that surround the meadow, allowing a mixture of herbs to grow in between the grass, and resisting the use of pesticides, are radical compared to mainstream, intensive farming practices. At the same time, these practices do not address soil subsidence and do not change the main look of the flat meadows. While the Stewards do not explicitly want to maintain the landscape as it is, the practices that they propose would not alter it.

For the Collective searchers, the landscape of the Green Heart only plays a role as a result of the fact that it is important for some stakeholders, which fits with the idea that the Collective searchers want to bring all stakeholders together and safeguard each of the groups’ values.

Collective searchers recognise the transition challenge and would propose more radical changes. But in this interaction with Stewards and Artisanal entrepreneurs, we see that Collective searchers have a hard time conveying the significance and magnitude of the transition challenge. We observed this in one of the meetings of the network, in which researchers and policy makers suggested some more radical solutions for subsidence and CO<sub>2</sub> emissions, such as a food forest. However, these suggestions were hardly discussed over the next two meetings - instead, discussions mainly targeted mixing herbs and grass in the pastures, underwater drainage and

mowing regimes.

All in all, none of the narratives that we found within the GCKB propose changing the landscape of the Green Heart. While there is no explicit conflict between the prototypical narratives in the GCKB, there is also no alignment between Collective searchers on the one hand, and Stewards and Artisanal entrepreneurs who are cautious or resisting profound changes. This means that the combination of prototypical narratives in the GCKB is not well aligned to address the transition challenge.

This does not mean that nobody in the Green Heart proposes to alter the landscape. Some organisations do ([Buro Sant en Co and FABRICations, 2019](#); [Daatselaar and Prins, 2020](#); [de Ruyter, 2019](#); [Prins et al., 2018](#)). However, these reports have not led to discussions of altering the landscape in platforms in which stakeholders from (regional) government, scientists, and businesses come together. The broader discourse about the openness and quietness of the Green Heart is dominant, and the idea that it should stay this way is reproduced in many contexts.

### 5.3. Alignment of GHW with transition challenge

The discrepancy between the prototypical narratives and the transition challenge could potentially be different in the second network, GHW, because changing the landscape does not challenge the current practices of the participating SMEs. For example, growing cranberries in the Green Heart is a good solution according to the Idealistic entrepreneurs, even though this vegetation is not traditionally part of the landscape.

However, the prototypical narratives in this network do not challenge the current landscape of the Green Heart either. For the Innovators and the Idealistic entrepreneurs, the landscape only appears to play an abstract role. They are concerned with climate change but do not talk about the specific qualities of the landscape of the Green Heart in relation to climate change. This means that interestingly, they do not mention the landscape as it is, neither positively, nor negatively.

This lack of discussion contrasts with the transition challenge. However, in GHW, we cannot speak of a real discrepancy, because the practices proposed would not hinder the transition either. The business activities of Innovators and Idealistic entrepreneurs are not tied to the landscape as they are for Stewards and Artisanal entrepreneurs, and the former two do not actively propose to keep the landscape the same.

Does this mean that the prototypical narratives in GHW are well aligned with the transition challenge? While the Idealistic entrepreneurs resemble the Innovators in their entrepreneurial spirit and preference for working with other businesses, there are some key differences in terms of their alignment with the transition challenge. Idealistic entrepreneurs motivate their implementation of new practices and innovative solutions by a deep concern about climate change, whereas Innovators present it more as a business opportunity. More importantly, the two groups differ in their radicality in the transition: Innovators stays closer to the current regime, while Idealistic entrepreneurs challenge the regime. For example, recycling mattresses does not challenge the regime of consumption, whereas creating a burger out of crickets (an example of an Idealistic entrepreneur) challenges the meat industry and its consumption patterns. However, none of the proposed activities challenge current practices related to the landscape in the Green Heart.

All in all, we see a better alignment of the prototypical narratives in the platform GHW with the transition challenge, compared to those in the dairy farming platform GCKB in the sense that there is no apparent resistance against changing the landscape. There is also more alignment between the prototypical narratives, in the sense that the narratives of the Idealistic entrepreneurs and Innovators are closer to the narrative of the Collective searcher, compared to the GCKB. All narratives involve an innovation story, are optimistic about change and think it is necessary, which leads to congruence between the narratives. The Idealistic entrepreneurs and the Collective searchers appear open to new practices, culture, and institutions. The Innovators are similarly open to change, but focus on technical innovations rather than system innovations. However, this openness to (fairly) radical change appears only loosely coupled with the transition challenge, due to the very minor role of the landscape.

## 6. Discussion

### 6.1. Identity (re-)formation

What do the transition challenge, the prototypical narratives, and their interaction tell us about identity in this sustainability transition? In line with the epistemological relation between narratives and identity, we believe that the results show that the prototypical narratives reveal underlying identities that can influence the course of the transition, which we explain further below. We also contend that the prototypical narratives are productive of new sustainable identities, to some extent. While nobody in the verification workshop would have called themselves a Steward or Innovator before, the narratives were strongly recognised, and participants identified themselves with them. We thus see processes of identity (re-)formation: a dynamic interplay of existing and new identities.

In the previous sections, we showed that the five prototypical narratives that developed in the two platforms do not challenge the current landscape fundamentally. None of the prototypical narratives seems to address the transition challenge, which entails rising water tables, at its heart. In this section, we argue how this can be explained.

### 6.2. Place attachment and place identity amongst the farmers in the GCKB network

We see place attachment in the prototypical narratives of the Steward and Artisanal Entrepreneur. The Green Heart's landscape is important for different stakeholders and residents, as shown by their place-protective actions ([Devine-Wright, 2009](#)) such as outright



resistance of farmers (Sneijder, 2019) to proposals for more radical change, like rising water levels and redistribution of land (De Ruyter, 2019). The landscape's importance is also indicated by the lack of discussion in the networks that we studied about why and how the landscape may alter or should be altered.

The current landscape is known for its openness and peacefulness (Stuurgroep Nationaal Landschap Groene Hart, 2017; Den Boer et al., 2011) in contrast to the qualities of the four big cities that surround the Green Heart, called 'the Randstad' (the Urban Rim). This contrast, we think, is one of the factors contributing to the place attachment to the landscape in the Green Heart as shown by the Stewards and Artisanal entrepreneurs: the landscape is both historically and fundamentally dependant on these cities and embodies its qualitative antithesis. The Green Heart came about at the end of the 1950s as a green area within an urban rim in the west of the Netherlands. Its functions were to provide a recreational space for city dwellers, as well as to have food production close to the cities (Den Boer et al., 2011, Chapter 1). This function and contrast might explain the place attachment to the landscape and the resistance to changing it: the Green Heart should remain calm, spacious, and un-urban.

Another factor that might contribute to place attachment in the Green Heart is that it so clearly demonstrates the history of creating the Netherlands. A prominent story about the history of the Netherlands is that Dutch people reclaimed the land from the sea, by digging deep ditches, creating dykes and lowering the water level. The reality is slightly different, in that the Dutch dug into the peat soil, which created lakes which only later were reclaimed for land by lowering the water levels. However, "God created the world, but the Dutch created the Netherlands" is a strong narrative, and the system of ditches, dykes, and bridges is still very visible in the Green Heart, which means it is considered a traditional Dutch landscape.

As our results show, the landscape plays a prominent role in the narratives of the farmers whom we described as Stewards and Artisanal entrepreneurs. This suggests that their attachment to the area is not just instrumental but builds on a place identity.

The place identities of the Stewards and Artisanal entrepreneurs seem to be strong because they intersect with a traditional farmer identity, in which the landscape also features prominently. The strength of the place identity in relation to the farmers' identity is in line with what has been observed in the literature. What many farmers consider 'good farming' is to be highly productive (McGuire et al., 2015), and to take good care of the cattle, produce, and soil (Westerink et al., 2019b). To be a good farmer is a source of pride (Westerink et al., 2019a), and becomes part of self-identity through comparisons and associations with others (Burton, 2004). The land is a vital part of farmer identity, and farmers usually have a strong attachment to it (Little, 2002; Brandth and Haugen, 2011). Interestingly, one way to show craftsmanship to fellow farmers is to have neat and tidy pastures (Westerink et al., 2019b). Such farmer identity ingredients are at odds with more sustainable farming practices, such as nature-inclusive farming and a high water level.

In this section, we have used place identity rather than regional identity, because we want to be careful in reifying the identification with the Green Heart as a region (Paasi, 2003). The landscape is clearly important for the Stewards and Artisanal entrepreneurs, but whether they are attached to the Green Heart in its regional demarcation is unclear. In this sense we distinguish between the identity of the region (i.e., its openness, and rural nature), and identification with the region.

### 6.3. Where's the conflict?

The strong place identities of the Stewards and Artisanal entrepreneurs shed light on the discrepancy between them and the transition challenge, as well as between them and the Collective searchers in the GCKB platform.

Despite these discrepancies, we have not observed explicit conflict about the landscape or other elements of the transition challenge in the interaction between the Stewards, Artisanal entrepreneurs, and Collective searchers. This lack of conflict may first be explained by the network's focus on biodiversity, which in itself might not require radical solutions. However, the wider network's mission is to address soil subsidence as well, for which we would expect conflict between the practices that the different prototypical narratives propose. We hypothesise that the Collective searchers are ambivalent; while they know that more radical changes are needed to address the issues of subsidence, salinisation and rising emissions, they want the transition to be supported socially as well. They aim to give everyone a voice in the process, and not explicitly counter more conservative approaches to the transition challenge.

Second, the lack of conflict can be explained by the narrative of Artisanal entrepreneurs. In sustainability transitions, existing (place) identities become problematic when they are in part defined by practices that are obsolete from a transition perspective: abolishing a practice becomes the same as abolishing a group of peers. Artisanal entrepreneurs in platform GCKB are faced with a transition narrative from the Collective searchers that challenges their main practice and with it, their identity. In response, the Artisanal entrepreneurs' narrative borrows elements from the more powerful Collective searcher's narrative about sustainability, innovation and being open to change, and combines it with maintaining the dairy farming sector and the landscape as it is.

The linking elements in this story are twofold: on the one hand Artisanal entrepreneurs propose technical innovations such as underwater drainage that allow for varying water levels and hopefully, would lead to less soil subsidence. On the other hand, there is a strong economic narrative in which the consumers or government need to pay for these changes: "the farmers are open to anything, but have to have a future" [translated from meeting notes]. They resist being made responsible for solving problems that partly impact the surrounding cities (such as damage to buildings because of soil subsidence, and greenhouse gas emissions) without financial compensation.

This practice of borrowing story elements from other stakeholders can be seen as institutional bricolage, "gathering and applying analogies and styles of thought already part of existing institutions" (Cleaver, 2002, p.15). One of the practices of institutional bricolage is *alteration*, in which actors respond to introduced institutions by tweaking them and improvising to make them fit their identity and livelihood better (De Koning and Cleaver, 2012; van Mierlo and Totin, 2014). In this sense the narrative by Artisanal entrepreneurs is a bricolaged narrative: a combined narrative borrowing elements from the more powerful transition narrative, while trying to salvage farmers' identity, practices, and the landscape.

The third reason for a lack of conflict, more specifically between Collective searchers and the Stewards, seems to relate to a partial alignment of their narratives. Stewards' values of caring for the earth and their wish to increase biodiversity in their practices are well aligned with the Collective searcher's wish to address climate change, but obscure the fact that in terms of halting soil subsidence and the associated emissions, they are not in line with the change that Collective searchers find necessary to address the full transition challenge.

#### 6.4. Place independence amongst actors in GHW network

We also observed a lack of discussion about changes of the landscape in GHW, the platform with various SMEs. How can this be explained? The participating SMEs personally have less need to question the landscape or resist proposed changes: their businesses are in the Green Heart, but are generally not dependant on its landscape: of 71 participating SMEs, only four can be considered dependant on the current landscape, two of which are dairy farming organisations. Most SMEs do not have to change their business practices drastically in order to survive economically. In that way their involvement in sustainability initiatives is more voluntary than for many dairy farmers. Furthermore, the Collective searchers that are researchers are even more place independent: they operate at a national or international scale, being only temporarily involved in the transition networks in addition to work they do elsewhere.

### 7. Conclusion and way forward

We conclude that both the prominent role of the current, iconic landscape in place attachments of diverse stakeholders, the place identities of the farmers residing in the area, and place independence of the other stakeholders in the investigated networks contribute to a lock-in for the sustainability transition of the Green Heart. The complex interactions between identities and range of identification with the landscape can explain discrepancies within and between the prototypical narratives, as well as barriers for addressing a transition challenge. In this way, we add to the transition scholarship that identity (re-)formation is important to consider in the course of a transition. It is especially pertinent when collective identities based on practices (such as dairy farming) intersect with place identity, because identity then gets a material aspect. In a way, the landscape serves as a proxy for the collective identity that is threatened, which adds to others' hesitations to discuss changing the landscape.

To further the transition in the Green Heart, we propose to explicitly address the landscape in both its current and potential or desirable future forms, as well as their associated consequences for all stakeholders in the area. Future research could further investigate place identity in the Green Heart, and assess which qualities of the landscape are important to which stakeholders (including residents) in the region, as well as how to navigate these attachments in a transparent way in the context of a transition.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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