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DOI

[10.1016/j.landusepol.2023.106823](https://doi.org/10.1016/j.landusepol.2023.106823)

Publication date

2023

Document Version

Final published version

Published in

Land Use Policy

Citation (APA)

Koreman, M. C. J., & Korthals Altes, W. K. (2023). Re-using vacant farm buildings for commercial purposes: Two cases from the Netherlands. *Land Use Policy*, 132, Article 106823.
<https://doi.org/10.1016/j.landusepol.2023.106823>

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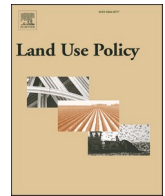
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Re-using vacant farm buildings for commercial purposes: Two cases from the Netherlands

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ARTICLE INFO

Keywords:

Property re-use
Farm buildings
Spatial planning
Youth
Rural development
The Netherlands

ABSTRACT

Across the European Union, farm modernisation results in vacant farm buildings in agricultural areas. This is an issue at the crossroads of rural development and spatial planning. The debate often revolves around the options of either demolishing these buildings or re-using them for residential purposes. There is less emphasis, however, on re-using vacant farm buildings to create new employment opportunities in rural areas. This article analyses two cases in the Netherlands to explore the commercial re-use of vacant farm buildings in relation to rural development. The analysis specifically focuses on governance issues, the contribution of different types of commercial re-use to rural communities, and how re-use helps in retaining or attracting young people. The findings suggest that commercial re-use of vacant farm buildings can attract new entrepreneurs, jobs, and liveliness to rural areas. This is likelier if local government efforts and local entrepreneurship align. The cases also show limitations of commercial re-use in relation to the potential for wider uptake and the risk of enhancing rural gentrification. This raises the question of whether the current planning systems can deal with the upcoming complex processes of rural transformation.

1. Introduction

The decline in farm numbers is transforming the economic landscape of rural Europe. Between 2005 and 2016, the European Union [EU] witnessed the cessation of over 4 million farms, constituting 28.6% of all farms. Meanwhile, the utilised agricultural area remained unchanged. Merely 6.5% of European farmers fall below the age of 35 years (Eurostat, 2021). Thus, farm enlargement goes hand in hand with decreasing opportunities for young people to work in farming. The many vacant farm buildings physically express the changing economic structure of the countryside. From a planning perspective, farm enlargement prompts consideration of viable alternatives for vacant farm buildings. From a rural development perspective, the focus is on whether new employment opportunities can be fostered in rural areas, especially for young people. This bears significance as rural areas face an ageing population, while younger people tend to move towards urban areas (Kashnitsky et al., 2021).

This article examines the situation in the Netherlands, focusing on two case studies that demonstrate the re-use of vacant farm buildings to establish new enterprises and create employment opportunities. The declining number of farms in the Netherlands aligns with the broader

trend observed in the EU. In 2016, there were 32.0% fewer farms compared to 2005 (Eurostat, 2021), slightly exceeding the European average. The commercial re-use of farm buildings has been studied before (Daalhuizen et al., 2003; Fuentes et al., 2010; Verhoeve et al., 2012; Kristensen et al., 2019). This article adds to these studies and incorporates the increased redundancies of farm buildings resulting from the ongoing agricultural transformation and policy changes towards farming (Gies et al., 2016; Erisman, 2021). In the Netherlands, these policy changes are partly the result of the nitrogen crisis, in which the Dutch government has decided to diminish farming activities close to nature areas to meet European and national biodiversity targets (Van der Ploeg, 2020; Rijksoverheid, 2022).

Knowledge about the commercial re-use of vacant farm buildings adds to the debate on whether the idea of a 'post-productivist economy of rural space' (as has been criticised by Marsden, 2003) can be bent towards the development of 'cooperative neo-productivism' (Burton and Wilson, 2012). This discussion fits in the long process of marginalising the once-dominant agricultural profession in rural areas. The re-use of vacant farm buildings may add to the development of rural areas as areas of consumption rather than production, or more precisely formulated, areas without jobs. The horsification of farm buildings and

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<https://doi.org/10.1016/j.landusepol.2023.106823>

Received 18 July 2022; Received in revised form 15 June 2023; Accepted 17 July 2023

Available online 31 July 2023

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their re-use as residential locations are clear examples of this consumptive, gentrifying countryside (Van der Vaart, 2005; Bomans et al., 2010; Sutherland, 2021). This article also addresses the career opportunities for young people, who may be attracted to stay in or come to rural areas if they can find a job (Thissen et al., 2010; Rauhut and Littke, 2016; Makkai et al., 2017). It explores the re-use of vacant farm buildings as new workplaces that add new activities and jobs to rural communities, and it reviews the planning issues that go with these. After all, re-using former farm buildings may result in urban sprawl, and a lack of re-use may result in a landscape filled with ruins.

This article seeks to answer the following question: To what extent can the commercial re-use of farm buildings contribute to rural development? This is investigated by analysing two Dutch case studies of re-used farm buildings: Mouthoeve in Boekel, Noord-Brabant, and The Green East in Raalte, Overijssel. The analysis focuses on governance issues regarding re-using farms, the contribution of different types of commercial re-use to rural communities, and the extent to which the commercial re-use of vacant farm buildings maintains or attracts young people to rural areas. Additionally, critical success factors will be analysed.

2. Issues of rural development and planning in re-using vacant farm buildings

2.1. Approaches to rural development

The role of planning in supporting rural development is broadly debated. Murdoch (2000) distinguishes between exogenous and endogenous rural development approaches. Exogenous rural development seeks to overcome market neglect in rural areas through a vital role for large firms (Murdoch, 2000). This top-down approach requires a decisive role for the state or market agencies and comes with economies of scale. Agricultural modernisation and the large farm stables from the early decades of the Common Agricultural Policy [CAP] are examples of exogenous rural development (Galdeano-Gómez et al., 2011). Alternatively, endogenous rural development seeks to promote 'locally rooted, indigenous development capabilities.' (Murdoch, 2000, p.407). This bottom-up approach requires a decisive role for local initiatives and enterprises, as it seeks to harness local resources (Galdeano-Gómez et al., 2011).

The exogenous/endogenous development approach aims to reconcile top-down and bottom-up approaches (Murdoch, 2000). It maintains that exogenous and endogenous development processes happen simultaneously. External effects, local resources and networks of local actors all affect the success of rural development (Lowe et al., 1995, p.103). Terluin (2003) analysed the extent to which the different approaches are supported by evidence in European rural areas and found the most support for the exogenous/endogenous development approach. The study on which this article is based also assumes that the exogenous/endogenous development approach is a helpful lens to study rural development.

A parallel discussion considers the economic role of the countryside and its productivity. In the post-war period, European agriculture quickly modernised and maximised production. This approach, known as productivism, aimed to produce ample food at low prices, as the Common Agricultural Policy [CAP] emphasised. However, Marsden (1999) argues that the countryside should not be solely viewed as a site for food production but also as a space for consumption, leisure, and residence. Ilbery and Bowler (1998) propose a post-productivist countryside that involves the diversification of agricultural activities and extensification. Farmers can engage in leisure-related ventures, transforming their farms into sites for both production and consumption.

Critics, such as Wilson and Burton (2015), challenge the notion that post-productivism follows a linear progression from productivism. They argue that post-productivist and productivist practices coexist and persist in rural areas. One should thus be critical towards the use of

post-productivism or the thought that the productivist era has finished. Therefore, Burton and Wilson (2012) propose using 'cooperative neo-productivism' as a lens to study rural development. Cooperative neo-productivism is "driven by an alliance of grassroots governance, corporate objectives and government facilitation" (Burton and Wilson, 2012, p.54). This means that productivist activities happen with more grassroots support and that post-productivist practices can happen simultaneously. The study on which this article is based also assumes that cooperative neo-productivism is a helpful concept for understanding rural economic production.

Concerning the economic potential of rural areas, there is also broad literature about the out-migration of rural youth and their interest in living in rural areas. Kashnitsky and colleagues (2021) show that rural areas tend to depopulate and that young, highly-educated people often leave villages and move to urban places. However, some rural communities can overcome external challenges, such as a need for more career opportunities (Li et al., 2019). Kuhmonen et al. (2016) critique the macro-level demographic predictions on rural depopulation. Their investigation into the future dreams of the Finnish youth finds that a higher percentage of them than demographically predicted would prefer a future in rural areas. A lack of career opportunities is an essential factor in why young people leave their rural areas or are not attracted to them (Thissen et al., 2010; Makkai et al., 2017). Commercially re-used farm buildings could support rural development and incentivise young people to settle in rural areas.

2.2. Alternatives for vacant farm buildings

The re-use of vacant farm buildings, such as old stables, for new economic activities raises important planning considerations in rural areas (Klusáček et al., 2021). This article explores four alternatives to address this issue. The first alternative involves farmers re-using the buildings for other productive purposes. The second alternative is the conversion of barns and stables into housing. The third alternative, which is the focus of this article, examines the re-use of vacant farm buildings for productive functions by non-farmers. The fourth alternative is the demolition of vacant farm buildings. Each alternative presents specific planning challenges and has different implications for the local community, rural economic development, landscape preservation, and property markets. The assessment of appropriateness depends on the contextual factors surrounding the development, emphasising the need for a case-by-case evaluation.

The topics of the local community and rural economic development relate to the debate on endogenous development, as has been analysed above. Landscape development is an integrating topic of high relevance for spatial planning. Urban sprawl is one of the main issues in rural areas within commuting time of cities. As stables are scattered throughout rural areas, the re-use of stables may add to urban sprawl and harm landscape quality. In the context of the Netherlands, provinces are key actors in providing regulations that limit development outside build-up areas (Korthals Altes, 2018). Re-use may also prompt a process of rural gentrification (Sutherland, 2019). Ample re-use possibilities of farm properties may boost property prices, making farmers stop farming in these facilities, as selling the buildings for urban uses is more profitable. So, strict regulations on the re-use of farm buildings may ensure that buildings are continued to be used for farming. However, the current deterioration of farm buildings suggests the economic limits of such strict regulations. It is essential to strike a proper balance between the need for economic activities and the danger of the disposition of farm activities.

The first alternative of the re-use of farm buildings by farmers themselves fits insights raised by many scholars, including Marsden (2003) and Van der Ploeg (2018), who have indicated that there are alternative pathways to farm enlargement. One of the options is to diversify farm activities. This can be done within or outside agricultural production (Tacconi et al., 2022), such as by lengthening production

lines through food processing, direct sales, or providing other services such as agritourism or childcare (Arru et al., 2021; Gramm et al., 2020). In this context, old stables, developed in one of the phases of agricultural modernisation, may still become redundant for farming purposes. However, the farmers re-use the stables for other productive purposes, adding to their income. Planning regulations play a role in defining the scope of what constitutes a farm, and the enforcement of these regulations also holds relevance. Both farm diversification and the re-use of farm buildings have developed extensively in some metropolitan areas. Kristensen and colleagues (2019) report that near Copenhagen, 60% of the farms use 'On-farm business structure diversification', including storage, offices, accommodation, and construction.

From a planning perspective, distinctions may arise between permitting auxiliary activities on a farm, such as farm shops, small camping facilities, or daycare centres, and allowing broader productive activities. Planning regulations draw a line between farms pursuing a broader agenda and companies that engage in farming as an ancillary activity. While planning measures can support local farmers in maintaining viable operations without compromising the landscape, they may not actively encourage the transformation of farms into dominant, auxiliary functions, which could disrupt the property market.

A second alternative entails the conversion of farms and barns to housing, typically in areas located within commuting distance of urban areas. This raises several concerns regarding urban sprawl and the phenomenon of 'rural gentrification' (Sutherland, 2019), whereby non-agricultural residents displace farming and other productive activities. An example of this process can be observed in Flanders (Belgium), where ample re-use of farm properties is allowed, and even more is possible as enforcement is no priority (Vlaamse Overheid, 2016). Some Flemish farmers sell their buildings to urban users and reinvest that money in green field locations in the agricultural zone. This approach is financially more attractive than reinvesting in existing farm buildings (De Waele et al., 2021). Consequently, only vacant farm buildings without commercial value remain (Verhoeve et al., 2021). In the Netherlands, the rules are much more stringent. A specific designation of a house on a farm involves that people living in a house on a former working farm must accept the environmental impacts of nearby farms (Wet Plattelandswoningen, 2012). Furthermore, provincial planning regulations, such as in Utrecht, Noord and Zuid-Holland (Korthals Altes, 2018), do not allow to add of more of these dwellings to the parcel on which farm buildings are located without provincial consent on the change of planning provisions.

The third alternative involves re-using farm buildings for alternative productive activities, which can have positive implications for rural employment and the vitality of local communities. From a planning perspective, ample re-use of scattered farm buildings may provoke sprawl of economic sites and infrastructures. A building contractor, a transport company or a garden centre located at an old farm may contribute to a generation of excessive traffic relating to the road capacity (Jaarsma and de Vries, 2013). Therefore, re-use may affect the spatial development and landscape negatively. This may even result in 'virtual farmland', i.e., 'land within zones allocated for agriculture that is used for non-agricultural land uses' (Verhoeve et al., 2015). Therefore, similar to housing, the re-use of farm buildings for work-related activities can contribute to rural gentrification.

A final alternative is the demolition of vacant farm buildings. This alternative often lacks an economic rationale. Who is going to pay for the demolition? Here, planning authorities have found potential in using a 'cross-subsidy approach' (Van Rij, 2008, p. 80) in which new urban ('red') developments pay for improving the qualities of green areas. There are various examples of such a 'red for green approach' (Van Rij, 2008, p. 80; De Wolff and Spaans, 2010; Simeonova et al., 2019). A well-known and still running (Orbio de Castro, 2023) example is the 'space-for-space programme' (De Jong and Spaans, 2009; Van der Veen et al., 2010) in the Netherlands in which development rights for new housing are provided under the condition that former pig stables are

demolished. However, this solution tends to be costly and only feasible in areas with sufficient market potential and a regulatory planning framework that allows linking new development to demolishing existing stables. It primarily focuses on housing development and does not necessarily contribute to rural job creation, aligning with the shift towards post-productivist rural areas.

This points to another issue of relevance for choosing these alternatives, the potential for the re-use of farm buildings. Next to many old farm buildings for which alternatives can be developed based on their heritage values (Fuentes, 2010), also different farm buildings have been developed as part of modernisation. These buildings are tailor-made to a specific use and time-bound to a specific stage in modernisation. Many of these, like former pig stables, do not fit current standards and lack re-use potential (Gies et al., 2016). Removing these structures, including underground manure facilities, is expensive. Financial barriers may result in the abandonment of buildings (Joye et al., 2018). This issue of outdated once-modern farm buildings is very explicitly the case with former collectivist farms in Central and Eastern Europe (Navrátil et al., 2020), which serve as 'agricultural brownfields' (Skála et al., 2013; Navrátil et al., 2021). In the Netherlands, it is estimated that by 2030, the number of vacant farm buildings will starkly increase. Most appear unsuitable for re-use outside the agricultural sector (Gies et al., 2016). Nevertheless, it is also noted by Navrátil and colleagues (2020) that there is a lack of literature on the re-use process.

However, from a rural development perspective, re-using farm buildings could help strengthen rural areas. Daalhuizen and colleagues (2003) already pointed out the potential for rural municipalities to profit from rural economic dynamics by allowing re-use for commercial purposes. Cano et al. (2013) argue that re-using farm buildings results in new economic activities, including cultural tourism, benefiting the local community.

Kristensen and colleagues (2019) raise this tension between the planning and rural development perspectives:

"From a physical planning perspective, a location in an industrial zone would comply with current planning intentions and designs. Hence, from a public economic perspective this would be a wiser use of public investment in infrastructure, utilities, etc. However, from a rural development perspective, the use of left-over buildings and the creation of economic activity in rural areas can be a vital economic driver [...]" (Kristensen et al., 2019, p. 10)

Furthermore, considering planning aspects, the significant decline in farms and the rise of non-farm rural properties have led planning authorities to adopt less stringent policies. There was initial hesitation in the Netherlands to permit the commercial re-use of farm buildings, but this has become more flexible (Daalhuizen et al., 2003; Van der Vaart, 2005; Gies et al., 2016). All four alternatives, including the commercial re-use of stables, can now be found. In Czechia, the potential for new industrial employment in abandoned farm properties is seen as positive (Klusáček et al., 2021). The re-use potential varies depending on the local context, specific farm locations, and setups, making case studies valuable for more specific insights. Ultimately, determining the most suitable alternatives from a rural development perspective relies on the unique context of each situation.

3. Methodology

This article is based on an EU-funded Horizon 2020 project in which different promising rural development practices have been studied. For the case study selection, an analytical framework has been used in which potential cases have been tested for the following dimensions: (1) efficiency, (2) legitimacy, (3) local rootedness, (4) ability to create (inter) connections, (5) innovativeness and (6) adaptability of the practice (Murtagh et al., 2021). These dimensions have been selected to grasp these cases' potential for rural development, and the outcomes connect practices to their context. A particular emphasis was placed on whether

these initiatives could attract young people to rural areas. The selection process aimed to identify two promising cases rather than representative ones, resulting in a critical case study approach. If the commercial re-use is not successful in these cases, it is unlikely to be successful in any case (Flyvbjerg, 2006). The information about the cases was obtained by checking the websites of the case study projects and two telephone calls with relevant stakeholders in which more information was provided (Mouthoeve, 2023; The Green East, 2023; R1, R3, R14, R15). Eventually, two farm conversions in the Netherlands were selected: Mouthoeve in Boekel, province Noord-Brabant, and The Green East in Raalte, province Overijssel. Table 1 shows how both selected cases fit the selection dimensions.

Numerous vacant farm buildings exist in the provinces of Noord-Brabant and Overijssel (Table 2), and further redundancies are expected (Gies and Naeff, 2019; Gies and Smidt, 2020). Policies to meet nitrogen targets (Erisman, 2021; Rijksoverheid, 2022) will add to this. The potential for the re-use of vacant farm buildings will partly go to agrarian re-use and other commercial re-uses, concentrating on vacant farm buildings closely located to settlements (Gies and Smidt, 2020).

In the Netherlands, it is difficult to deal with vacant farm buildings (Gies et al., 2016). They are not always used, and, in some cases, vacant farm buildings are used for illegal activities, such as synthetic-drugs laboratories (Claessens et al., 2019). Existing farm buildings from before 1965 are generally made of more sustainable materials and may add to landscape amenities and have more multi-use potential than farm buildings built later. These buildings are, however, scarce in Noord-Brabant (14.6% of the surface) and Overijssel (22.6%). The farm buildings built between 1965 and 1993 are the most problematic. During this period, asbestos was common in farm building construction (Gies et al., 2016). Moreover, the buildings were tailor-made for a single type of agricultural activity. In both Noord-Brabant (43.6% of the surface) and Overijssel (42.7%), a large part of the surface of farm buildings is from this period. Farm buildings built after 1993 can often be modified to meet current functional, material, and animal welfare requirements (Gies et al., 2016). Such buildings are also found in Noord-Brabant (41.7% of the surface) and Overijssel (34.7%) (Gies and Naeff, 2019; Gies and Smidt, 2020).

Table 1
Case study selection.

Dimension	Mouthoeve, Boekel	The Green East, Raalte
Efficiency	Achieves the intended aims and connects with a broader development framework—minor effect on sustainability.	Achieves the intended aims and has an expected spin-off effect—minor effect on sustainability.
Legitimacy	Based on local informal knowledge and aligning with local policies.	Addresses the need for local jobs and diversification of the rural economy.
Local Rootedness	Uses local financial capital and existing built capital that is local heritage for re-use.	Uses local financial capital and existing built capital for re-use and focuses on attracting young people who are new to the area.
Ability to create (inter) connections	Helps to connect Boekel and its businesses with the broader area by attracting visitors, shop owners and employees.	Helps to connect agro-food businesses in the area and interested students from the broader region.
Innovativeness	The practice of creating businesses in vacant farm buildings close to the town can be transferred to other places.	The clustering of businesses suggests organisational innovation and represents a new solution for the vacant farm buildings problem.
Adaptability of the practice	Strengthens local social, human, and built capital while increasing economic diversity.	Strengthens local human and built capital while increasing economic diversity.

Source: This research, based on Murtagh et al. (2021).

Table 2
Overview of vacant farm buildings in Noord-Brabant and Overijssel.

	Noord-Brabant 2017	Noord-Brabant 2030 (estimate)	Overijssel 2018	Overijssel 2030 (estimate)
No. of farms	9400	6800	6200	4850
Surface farm buildings	26.6 million m ²	Not available	14.23 million m ²	Not available
Surface vacant farm buildings	2.0 million m ²	5.26 million m ²	1.56 million m ²	2.49 million m ²
Surface re-used vacant farm buildings	0.6 million m ²	2.76 million m ²	0.49 million m ²	0.83 million m ²

Source: Gies and Naeff (2019); Gies and Smidt (2020).

The case studies (Table 3; Fig. 1) are based on analysing policy documents, interviews with relevant stakeholders and site visits. Respondents comprised owners of the re-used buildings, entrepreneurs and employees, local entrepreneurs, local politicians, representatives from village councils, and civil servants on the local and provincial levels. To pay attention to the impact on young people, they have explicitly been approached for interviewing. Although the study occurred during the Covid-19 pandemic, many interviewees preferred on-site interviews. In total, 23 interviews have been held, of which 13 (R1-R13) at Mouthoeve and 10 (R14-R23) at The Green East (See List of respondents).

4. Case study Mouthoeve

Mouthoeve in Boekel is a former dairy farm redeveloped into a commercial shopping centre, and it is located about 400 m from the shops in the town centre (Fig. 2). Boekel had 10,785 inhabitants in 2020 (CBS, 2020) and is a town and municipality in the East of Noord-Brabant, an area with many landless pig farms. Over the last decades, numerous policy initiatives have been employed to reduce the concentration of pig farms because of their effect on the environment (Van den Brink and Heinen, 2002; Janssen-Jansen, 2008). Additionally, the national government has established ambitious targets for nitrogen reduction in the area, which results in more vacant farm buildings (Rijksoverheid, 2022).

Mouthoeve is located adjacent to the residential area of Boekel (Fig. 2). The municipality bought the farm in 2007, and this is an uncommon policy action for municipalities in the Netherlands (Gies et al., 2016). The motive behind this acquisition was the municipality's concern about potential conflicts between residents and the farmer, prompting them to take ownership of the farm (R2). In 2015, a local entrepreneur bought the farm from the municipality and developed a plan to re-use it for catering services and a mall with craft shops (Fig. 3). Parking places were also created on the compound. It opened in early 2017. The entrepreneur was motivated to contribute to the local community (R1). Currently, it hosts 20 companies, including a craft nut shop, a flower shop, a hairdresser, a yoga studio, and a home furnisher (Fig. 4). Mouthoeve attracts entrepreneurs with small shops, low rents, an original business location, and flexible rent contracts (R1, R8, R10).

The developments taking place at Mouthoeve serve as a prime example of Boekel's governance approach. This municipality has gained

Table 3
Information about selected cases.

	Mouthoeve, Boekel	The Green East, Raalte
Permit granted:	2015	Not applicable
Opened:	2017	2018
Gross floor area:	1650 m ²	1500 m ²
No. of companies:	20	6

Source: Gemeente Boekel (2016); Kadaster (2023); Mouthoeve (2023); The Green East (2023).



Fig. 1. Case study locations,
Source: Authors, based on PDOK (2022).

regional recognition for its accommodating stance and flexible approach towards planning regulations (R1, R2, R5, R8, R9, R13). In its 2011 structural vision, the Boekel municipality suggests that the reduction in agricultural employment should be offset by employment opportunities in other sectors, acknowledging the presence of numerous local businesses within and outside the town (Gemeente Boekel, 2011, p.39). This indicates that the municipality supports initiatives like Mouthoeve and does not necessarily require such developments to be situated in the town centre.

The municipality had bought the dairy farm close to the settlement. In 2007, it listed the main farmhouse, without the stable, as a municipal heritage, a category of monuments that municipalities can decide about to protect its cultural-historical and design characteristics (Gemeente

Boekel, 2016, R2). As a seller of the farm, the municipality was immediately optimistic about the plan and was quite helpful in granting permits for the type of shops (R1). It issued a local land use plan for the site location to allow the redevelopment. The idea was that the new functions would provide a financial basis for the reconstruction and maintenance of the heritage and architectural values of the farm without costs to the municipality. The land use designations were the following: social services; services; supportive catering (less than 20% of the area); crafts (based on a list); supportive shops with agricultural regional products and products derived from functions mentioned above; one dwelling on a specific location; heritage values and parking (Gemeente Boekel, 2016).

Initially, there were strict regulations concerning the number of

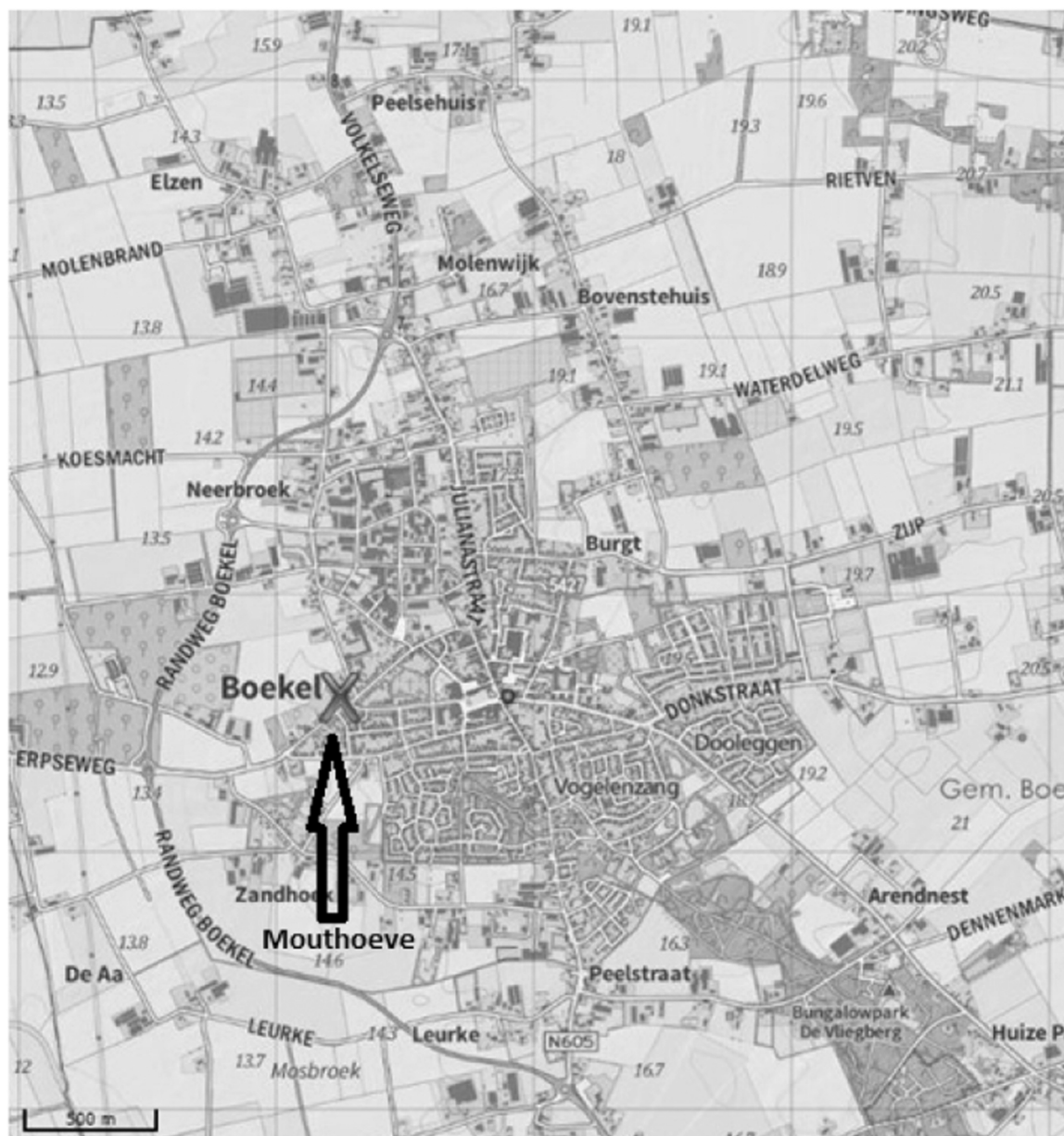


Fig. 2. Mouthoeve in Boekel,
Source: Authors, based on PDOK (2022).

retail and craft shops permitted. For instance, shop owners had to regularly organise workshops to qualify as "craft shops" and adhere to the permit conditions. However, these rules later became more lenient, and holding workshops is no longer obligatory. The entrepreneurs at Mouthoeve express their satisfaction with this flexible approach, which contributes to making Boekel an appealing municipality for starting a business (R1, R8, R9, R10). The municipality's adaptability appears to support the success of Mouthoeve.

Among the other shop owners in Boekel, there are some complaints about how the municipality dealt with Mouthoeve. Some think the flexibility was also necessary since the municipality had to sell an outdated dairy farm on the edge of a town (R12). The fact that new shops were allowed conflicts with the stricter local planning rules on where shops are usually allowed. The municipality wants other shops to stay in or relocate to the town centre, where redevelopment is about to occur (R2, R3, R4, R5). For some local entrepreneurs, the contrasts between this policy and the generous permits at Mouthoeve show that the municipality is fickle. Furthermore, they fear that if the expensive town

centre redevelopment leads to higher rents, the rent gap with Mouthoeve becomes too large, resulting in unfair advantages for shop owners at Mouthoeve and more vacant shops in the town centre (R11, R12). The municipality and the entrepreneurs at Mouthoeve are much less concerned about this (R1, R2, R4, R5, R10).

These differing perspectives also highlight a significant risk associated with planning flexibility. When entrepreneurs perceive that their competitors can benefit from this flexibility while they cannot, it can undermine trust in local government. To mitigate this, transparency is crucial in decision-making, demonstrating that equal decisions are made in similar situations to prevent any perception of unfair advantages given to specific entrepreneurs.

Mouthoeve also appears to contribute positively to the local community. Despite initial doubts expressed by some residents and local retailers, the entrepreneurs at Mouthoeve now report having a good relationship with these groups. Concerns among residents regarding the viability of the shops and fears of future vacancies (R1, R8, R9, R10, R11) have diminished since the opening. Local citizens appreciate the



Fig. 3. The re-used farm building of Mouthoeve, Source: First author (2020).



Fig. 4. Shops inside Mouthoeve, Source: First author (2020).

added value, which has also strongly increased their opportunities to buy locally (R1, R2, R3, R4, R5). Most entrepreneurs experience little competition from the (craft) shops at Mouthoeve, as they are focusing on different target groups (R3, R11, R12). An exception may be the flower shop (R8). Despite initial doubts, Mouthoeve seems to be supported by the local community of Boekel.

Moreover, Mouthoeve attracts young and female entrepreneurs who would otherwise have been located elsewhere or would not have started a business. The small shops, low rents, and flexible lease contracts severely lowered the barriers to entry for these entrepreneurs, and it helped to cover the costs of starting up a business. Mouthoeve was a perfect location for these entrepreneurs to begin their shop (R1, R8, R9, R10). Some shop owners had searched across the wider region for business opportunities and ultimately opted for Mouthoeve. They cite the unique atmosphere, setting Mouthoeve apart from conventional shopping malls or high streets, as a key motivating factor for choosing this location. Without this distinctive setting, they would not have chosen Boekel as their business location (R8, R9). The specificity of a re-used farm building thus makes it more attractive for young entrepreneurs. The businesses offer jobs to employees from the town and the broader region (R1, R8, R9, R10). Therefore, the practice directly contributes to regeneration in Boekel.

Mouthoeve exemplifies how a former farm building can be a suitable venue for (craft) shops, particularly when situated near a town. The presence of a determined local entrepreneur and a flexible governance approach are additional crucial factors. However, this flexibility carries the risk of potential disparities in treatment compared to other entrepreneurs.

5. Case study The Green East

The Green East in Raalte is a former experimental pig farm of Wageningen University & Research [WUR], which has been redeveloped into a Business and Research centre for innovative start-ups in the circular economy. It is located outside the town settlement but only 500 m from the N348 main road (Fig. 5). Raalte (19,880 inhabitants) is the main town of the eponymous municipality of 37,712 inhabitants (CBS, 2020) and is located in Salland, Overijssel, an area with traditionally more dairy than pig farmers.

After WUR ended the activities and decided to sell the farm, a local company bought it in 2017 (R14, R15, R16, R22). Two stables were still leased to a local pig farmer. However, the local company, active in the glue industry, aimed to start innovations, including using glue in agricultural production. It considered the vacant farm stable of WUR, which had been used to research before, a suitable location (R14, R22). The location was too large, so the company initially planned to attract other innovative businesses or start-ups by letting offices and laboratory spaces (R15, R16, R18, R21, R22). The site could also serve as an educational hub for students from applied universities and vocational schools. In August 2018, the project, known as 'The Green East,' opened its doors (R14, R15, R16, R22). It currently houses four companies in the agri-food industry, a medical biotech company, and a landscape consultancy firm (Figs. 6 and 7). Aside from the redevelopment and the establishment of lab facilities, no new utilities were added. The main objective was to create an inspiring location for their own business and other innovative ventures, with the added benefit of attracting young people to the area through education and employment opportunities (R22).

Concerning governance issues, the Raalte municipality, the province of Overijssel and the regional development agency OostNL were involved and supportive from the beginning (R14, R15, R16, R22). The local land use plan has a specific designation of 'test farm' (*proefboerderij*) based on the previous land use by WUR, which was defined as '...a company focusing on knowledge, education and innovation that conducts research into innovations in the agricultural sector; this includes innovation in the field of new varieties of arable and open field



Fig. 5. The Green East in Raalte, Source: Authors, based on PDKO (2022).



Fig. 6. The re-used farm building of The Green East, Source: First author (2021).

crops, milk production, nutrition, housing and automation' (Gemeente Raalte, 2012, 2021; (translation by authors)). This designation was not changed to accommodate the companies at The Green East and was considered wide enough to fit the new activities. The Raalte municipality also developed its new planning vision during the period in which

The Green East was developed. This vision includes the opportunity to develop small businesses in the areas outside settlements (Gemeente Raalte, 2020). As The Green East fits this vision, it is understandable that the municipality did not require it to be developed at another location in Raalte.

Environmental issues also played a role. When the local company bought the experimental pig farm, two old and environmentally unfriendly stables were left (R14, R15, R16, R20, R22). Although a local pig farmer used to lease these buildings, the new owners feared that they would make it harder to create a better atmosphere for their innovative business environment, making it more challenging to expand the office spaces in the future. Consequently, the lease contract was not renewed, and the owner of The Green East unilaterally decided to demolish the outdated farm stables, which had much asbestos in the construction (R14, R22). Usually, this would be costly for a farmer and only happen if subsidised. In this case, the new owners paid to demolish the buildings and later received a permit to connect two office spaces, between which the former stables were located, instead (R14, R22).

However, the initial plan to collaborate with educational institutions did not materialise as intended. The idea of regular student visits for practical lessons on agrotechnological innovations faced practical challenges. It was determined that such visits would disrupt business operations and prove unprofitable for the organising entrepreneurs (R14, R18, R19, R21, R22). Consequently, the scope of collaboration with educational institutions was limited to providing student internships (R22).



Fig. 7. Pink-lighted research and production facilities inside The Green East, Source: First author (2021).

The Green East seems to contribute to the local community. A successful family business from Raalte, which already had strong contacts with the local population, entrepreneurs, and politicians, has created it. The newly attracted businesses, who are the rural newcomers, feel welcome and supported (R18, R19, R21, R23). The supportive approach can also be related to the net contribution of The Green East to the area. A pig farm with quite some pollution has been replaced by a multi-company building in which innovative businesses seek to create jobs for highly educated employees (R16, R20, R21, R22). Local citizens are happy because they now have less nuisance (such as smell) from the pig farm (R15, R16, R20).

One significant benefit of The Green East is its ability to attract young and highly educated individuals to Raalte and the province of Overijssel, who may not have otherwise considered relocating to the area (R14, R18, R19, R20, R21, R22, R23). If the businesses at The Green East experience substantial growth and transition beyond the start-up phase, they will be invited to continue their operations at a regular business park within the municipality. This planned progression would enable them to scale up their production volumes. Simultaneously, the vacant space at The Green East would become available for new start-ups (R15, R16, R18, R19, R20). So, The Green East may provide Raalte with a continuous stream of young and talented people, which will help regenerate the area, which fits local policy ambitions (R15, R16, R20). Although this future ambition sounds promising, it is still being determined whether it will materialise. After all, the specific situation of The Green East was attractive for settling entrepreneurs, who sometimes came from other provinces (R14, R18, R19). If a future scale-up cannot be continued at the premises, it might move away from Raalte altogether.

In this case, the ability of a local family firm to develop this plan is the first critical factor. In addition, the role of the municipality, the province, and the development agency OostNL in supporting The Green East and helping to find suitable entrepreneurs is also essential (R15, R16, R17, R22). On the other hand, the plan to attract students did not

materialise.

6. Critical factors in both cases

Both examples demonstrate the positive impact of re-using former farm buildings for commercial activities, making the areas more appealing to young people and supporting rural regeneration. Entrepreneurs involved in these cases emphasise that they would not have chosen a conventional business location within these municipalities (R8, R9, R10, R18, R21). This underscores the significance of this practice in rural development (Daalhuizen et al., 2003; Kristensen et al., 2019).

Some critical factors may support the commercial re-use of vacant farm buildings (Table 4). In both cases, a local entrepreneur with a good network among the local community and institutions played an important role. The cases also showed that specific circumstances, such as the special status of the farm stable, help to make governmental institutions supportive of commercial re-use. This might also apply in other contexts. At The Green East, for example, it was helpful that their premise had already been used as a test farm and had a research function, which meant that this did not need to be added to the permit. While not a decisive factor, this aspect helped to facilitate the re-use of vacant farm buildings.

Furthermore, it helps if a plan for commercial re-use goes hand in hand with local ambitions. Suppose a municipality or local businesses consider concentrating certain types of businesses in an original location. In that case, this could be an argument to re-use a vacant farm stable commercially. For example, The Green East coincided with a local ambition to attract start-ups in the agri-food industry (Gemeente Raalte, 2020). As suggested by Daalhuizen and colleagues (2003), municipal support is crucial for the success of commercial re-use projects involving former farm buildings.

Attention to architecture, heritage and authenticity is also critical in re-using former farm buildings for commercial purposes. If the re-used farm stable aims to attract multiple businesses and contribute to regeneration, it seems vital that people are proud to work in this location. Constructing a narrative around the commercial re-use of a vacant farm stable can immediately enhance its appeal to potential newcomers in rural areas. Both The Green East and Mouthoeve are considered attractive, in part, because they focused on preserving the authentic character of the farm buildings (R14, R21, R23). Shop owners at Mouthoeve argue that its authenticity attracts potential new shop

Table 4
Case study results.

	Mouthoeve, Boekel	The Green East, Raalte
Planning principle:	New local land use plan	Continuation within existing land use plan as 'test farm'
Key actor:	Local entrepreneur	Local entrepreneur
No. of jobs created at firms in a location:	25–35	25
Contribution to local community:	-More shop diversity -Increased job availability	-Less disturbance from farm -Increased job availability
Economic sustainability:	-So far, an economic success -Risk for future shop vacancies	-So far, an economic success -Risk that firms may leave during scale-up process
Critical factors:	-Local entrepreneur -Flexible governance approach -In line with local policies -Focus on heritage value & authenticity	-Local entrepreneur -Governmental support -In line with local policies -Focus on authenticity
Disadvantages and potential problems:	-Flexible governance approach -Future economic success	-Failed to attract students -Ability to maintain highly-qualified young people

Source: This research

owners and clients (R9, R10).

This fits the design background in planning practice. Many planning professionals are trained to consider design quality and heritage values in planning decisions, and many planning frameworks are open to this line of thinking. The listing as a municipal heritage of Mouthoeve in Boekel shows that policies aiming to protect the heritage by developing a viable function for the farm can be successful.

7. Discussion

Re-using vacant farm buildings for commercial use has both positive and negative environmental implications. On the positive side, it prolongs the lifespan of existing structures and reduces the need for new construction (R13). Additionally, it prevents the gradual deterioration of outdated farm buildings and facilitates the removal of environmentally harmful materials like asbestos. However, there are also adverse environmental effects associated with this practice. It can conflict with anti-sprawl policies as farm buildings are scattered throughout rural areas. The commercial re-use of these buildings may result in the spread of functions outside villages and towns, leading to increased traffic in these areas. Research by Jaarsma and de Vries (2013) in the Netherlands and Belgium highlighted the traffic generation impact of farm-building conversions in areas outside settlements.

However, the proximity of Mouthoeve to town centre shops allows visitors to combine visits without needing a car in between (see Fig. 2). The strategic location of The Green East near the N348 main road facilitates convenient handling of additional traffic (see Fig. 5). These location-specific details significantly influence the planning impact and the potential for farm-building re-use. The farther away from settlements, the more likely that the negative environmental effects outweigh the positive ones, as observed in the Dutch (Daalhuizen et al., 2003) and Danish (Kristensen et al., 2019) contexts. Planning systems can be adapted to address these differences. For instance, zoning plans could consider the potential positive and negative impacts of commercial re-use of farm buildings, with closer proximity to towns and villages being seen as an opportunity to enhance rural development.

The issue of careful use of land also has broader implications. Vandermeer and Halleux (2017) evaluated industrial land policies' spatial and economic effectiveness in Northwest Europe. They found that in 'predominantly rural regions, close to a city, an increase in land consumption for economic activities is accompanied by a decrease in the production of wealth and employment numbers' (Vandermeer and Halleux, 2017, p.1468). They argue that in areas with low GDP and jobs, offering more land for economic activities is an ineffective strategy (Vandermeer and Halleux, 2017). For the re-use of farms for commercial purposes, this suggests that careful consideration of new functions matters. Providing extra properties for commercial purposes will not automatically create jobs or economic development.

Nevertheless, the active businesses at The Green East are a straightforward addition to the local business landscape (R15, R16, R20). This has attracted potentially interesting enterprises that have the potential to create numerous highly skilled jobs. As a result, it opens up opportunities for educated young individuals to either remain in or migrate to the Raalte area (R14, R18, R19, R21, R22, R23), thereby partially revitalising the countryside in the municipality of Raalte. Similarly, Mouthoeve has enhanced the appeal of Boekel as a settlement location for young entrepreneurs (R8, R9). Compared with The Green East, the entrepreneurs at Mouthoeve will generate fewer jobs in the long term due to the limited growth potential of shops. Thissen and colleagues (2010) emphasised the significance of career prospects in attracting young people to rural areas in the Netherlands, and this research supports their findings. Although the employment impact is relatively modest, it holds importance for local entrepreneurs, residents, and municipalities.

The contribution of The Green East and Mouthoeve to rural economic development confirms earlier findings by Daalhuizen and

colleagues (2003) about the positive effects of the re-use of farm buildings in the Netherlands. It also suggests the value of the exogenous/endogenous development approach proposed by Terluin (2003). The exogenous process of the increasing number of vacant farm buildings happens simultaneously with initiatives by local entrepreneurs to re-use them commercially. The top-down flexibility and support of local or regional governmental institutions also strengthen the bottom-up initiative of commercial re-use. The Green East and Mouthoeve can also be seen as examples of a cooperative neo-productivist approach to rural development, as explained by Burton and Wilson (2012). The commercial re-use of farm buildings that used to be close to settlements and the jobs created align with community embeddedness and local political interests. Meanwhile, the commercial re-use of vacant farm buildings also supports the commercial and productive interests of the involved entrepreneurs. As shown in Table 4, the current balance between local embeddedness, and governmental and commercial interests could be disturbed when shop vacancies increase or firms leave during scale-up processes.

While the approach of The Green East and Mouthoeve can be generalised to some extent, there are limitations to the widespread applicability of commercial re-use of vacant farm buildings. Many countries already face an oversupply of retail and office spaces, and the demand for such spaces has recently decreased (Remøy and Street, 2018; Buitelaar et al., 2021). The COVID-19 pandemic has further accelerated this trend (Sheth, 2020). Therefore, it is unlikely that there will be significant demand for extensive commercial re-use of the extensive inventory of vacant farm buildings in the Netherlands. This is already shown in the province of Noord-Brabant, where the provincial government tested the demand for commercial re-use and found that this demand was limited (R7, R13). If the demand does increase, this may lead to shop and office vacancies in other locations, partially shifting the vacancy problem from vacant farm buildings to rural retail and office spaces. This would limit the positive effect on rural development. However, the attractive landscape that comes with certain locations with vacant farm buildings may allow for forms of development that would not happen in the current rural retail and office spaces. Entrepreneurs contend that they mostly settled in Boekel or Raalte because of the uniqueness of Mouthoeve (R9, R10) and The Green East (R14, R21).

Planning issues are also involved in permitting commercial re-use of vacant farm buildings. Many governmental institutions, even the relatively flexible municipalities of Boekel and Raalte, work from the established tradition of separating functions rather than from a logic of mixed-use (Groulx et al., 2022). They prefer to concentrate shops in town or village centres, businesses in business parks, residents within settlements, and to locate farming in the areas outside settlements. They fear that a mixture of these activities would create multiple problems and may reduce the planning advantages of combining similar activities in specific places. If farmers, residents, and business owners have their activities very close to each other, this may incite conflicts between them, while the countryside clutters. For these reasons, governments are likely hesitant to permit increased commercial activities in vacant farm buildings and only allow this when it fits the local context. Rural gentrification is a specific planning issue; that is, non-farming values exceed farm values in such a way that it impedes access to land for new farmers. Access to land is a significant issue in rural regeneration (Korthals Altes, 2022). However, in cases where vacant farm buildings are left empty, and there is limited potential for agricultural re-use, commercial re-use can be a helpful option in maintaining landscape qualities and in supporting rural development.

In an international context, the findings of this study suggest that the commercial re-use of farm buildings can offer opportunities for rural development in specific circumstances. These circumstances may vary in different countries. Studies conducted in Belgium by Verhoeve and colleagues (2012) and in Denmark by Kristensen and colleagues (2019) have revealed that farm diversification is often unplanned and not systematically monitored by governments. In contrast, in the cases

examined in this research, the government played a supportive role. It would benefit governments across the European Union to have a clearer understanding of the extent of farm conversions and their potential for commercial re-use.

8. Conclusion

This article studied the contribution of commercial re-use of farm buildings to rural development by analysing cases in Boekel and Raalte, The Netherlands. Re-using vacant farm buildings for commercial purposes helps to support rural development, albeit to a limited extent. From a planning perspective, it presents promising opportunities to deal with the surplus of unused agricultural structures in rural areas. Commercial re-use could be one of these solutions, depending on local circumstances. The involvement of a local entrepreneur, the alignment with local policy ambitions, and a focus on authenticity help to enthuse the local community. Moreover, the cooperative neo-productivist commercial re-use of vacant farm buildings helps to attract and to retain young people in rural communities. However, the positive impacts found in these cases do not suggest that a sole focus on commercial re-use would solve the problem of vacant farm buildings, as the demand for commercial re-use remains relatively small. In general, careful land use is recommended. Furthermore, in less ideal cases than those studied in this article, the adverse effects of commercial re-use are likelier to outweigh the positive effects. The planning strategies of local governments may counter plans to allow mixed-use of space. This would reduce the opportunities to make commercial re-use successful since local governmental support was a critical success factor for both The Green East and Mouthoeve. Further away from settlements, environmental effects such as increased traffic may appear.

In future research, four topics deserve further investigation. First, it would be interesting to evaluate the success of these cases in the long run. Will the promising results so far endure in the upcoming decade? Second, the success of commercial re-use of vacant farm buildings in other countries. Are there similar planning issues? How significant is the demand for this solution in dealing with the problem of vacant farm buildings? Third, the problem of vacant farm buildings in the Netherlands requires further analysis. This research suggests that re-use for commercial purposes is one of the solutions, albeit only in particular contexts. Fourth, the issue of how this can be translated into planning strategies, visions and policies warrants further research. On the one hand, policymakers do not want to give way to massive urban sprawl, but on the other hand, they promote commercial development on sites that are fit for this purpose. This relates to the well-known topic of discretion in planning.

Compared to a potential state of decay, with all the problems that come with such a state, both Mouthoeve and The Green East have a profoundly better impact on their respective areas. They help to attract new entrepreneurs, to create jobs and to improve the countryside's livability.

List of respondents

- R1: Owner Mouthoeve.
- R2: Civil servant Spatial Planning Boekel Municipality.
- R3: Young Civil servant Boekel Municipality.
- R4: Young Civil servant Permits Boekel Municipality.
- R5: Alderman Boekel Municipality.
- R6: Civil servant Spatial Planning North Brabant Province.
- R7: Young Civil servant North Brabant Province.
- R8: Young Shop owner Mouthoeve.
- R9: Young Shop owner Mouthoeve.
- R10: Shop owner Mouthoeve.
- R11: Local entrepreneur, board member entrepreneurs' association Boekel.
- R12: Local entrepreneur, board member entrepreneurs' association

Boekel.

R13: Programme leader, vacant farm buildings, North Brabant Province.

R14: Young Employee of Main practitioner The Green East.

R15: Young Civil servant Spatial Planning Raalte Municipality.

R16: Alderman Raalte Municipality.

R17: Civil servant Spatial Planning Overijssel Province.

R18: Entrepreneur The Green East.

R19: Entrepreneur The Green East.

R20: Local entrepreneur, board member entrepreneurs' association Raalte.

R21: Entrepreneur The Green East.

R22: Young Main Entrepreneur/Owner The Green East.

R23: Young Employee of an entrepreneur at The Green East.

List of funding sources

The research and results incorporated in this paper received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 817642. The funder did not have a say in the study design, the collection, analysis or interpretation of data, the writing of the paper or in the decision to submit it for publication.

Declaration of Competing Interest

The funding for this research is not impacting its independent nature or the objectivity of the authors. Therefore, there are no known competing financial or personal interests that could have appeared to influence the work reported in this paper.

Data Availability

Data will be made available on request.

Acknowledgements

We thank the reviewers and Marjolein Spaans for their helpful comments and critical insights.

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