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Collaborative agri-environmental governance in the Netherlands: a novel institutional arrangement to bridge social-ecological dynamics

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ABSTRACT. The theoretical benefits of collaborative landscape-scale approaches to agri-environmental land management have been widely discussed. However, there is little empirical study of the practical governance mechanisms through which such collaborative management may be realized. In 2016, an innovative collaborative agri-environmental scheme was established in the Netherlands. In this scheme, “agricultural collectives”—i.e., groups of farmers organized as certified conservation organizations—are collectively responsible for the implementation of agri-environmental policies at the local level. With a focus on the Dutch model’s multi-level governance dimensions, this article examines how devolving important aspects of decision making on agri-environmental management to the level of a collective body of farmers shapes the implementation of agri-environmental policies on the ground. Based on new empirical data, we highlight the important roles of agricultural collectives in balancing trade-offs between ecological and social targets when setting environmental objectives, coordinating landscape-scale management, and contracting individual farmers. At the same time, the local embeddedness of agricultural collectives and close interpersonal ties can give rise to new governance risks that need to be considered, including goal divergence between the collectives and public bodies, as well as cases of prioritization of social interests over ecological interests in agri-environmental management. As we argue, combining governance through agricultural collectives with a high level of transparency regarding contracting decisions, as well as enhancing the inclusivity of the scheme through new funding opportunities for agri-environmental management, can optimize the benefits of these collectives.

Key Words: *agri-environmental management; collaborative governance; farmers; multi-level governance; nature conservation*

INTRODUCTION

Agriculture continues to be a major driver of biodiversity loss, with profound impacts on most ecological systems and processes, including our food system (Henle et al. 2008, Stoate et al. 2009, European Commission 2020b, 2020c, Ogura and Forwell 2023). Policies aimed at incentivizing farmers to voluntarily engage in “agri-environmental land management,” for example through the provision of subsidies, can be an important instrument toward realizing biodiversity-rich landscape features on agricultural land (Kok et al. 2020). Such land management embodies “all measures that farmers and others take in agricultural businesses to realize the preservation or improvement of the quality of nature and landscapes” (de Haes et al. 2016:26, own translation). Examples include the planting of flower-rich field margins alongside arable land or applying a delayed mowing regime on grassland to protect farmland bird nests.

In the European Union (EU), agri-environmental subsidy schemes have been a part of the Common Agricultural Policy (CAP) since 1994 (Harvey 2003), specifically the Rural Development Pillar. As part of the CAP, EU member states are required to implement an agri-environmental scheme, but have the necessary flexibility to design schemes based on national or regional priorities (Prager 2015). Two important legal requirements are that schemes should “aim to preserve and promote the necessary changes to agricultural practices that make a positive contribution to the environment and climate” and that they should “compensate beneficiaries for all or part of the additional costs and income foregone resulting from the commitments made” (EU Regulation 1305/2013, art 28, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R1305>).

Unfortunately, the limited ecological remediation resulting from existing agri-environmental schemes (European Court of Auditors 2020) underlines the continuing challenges in linking

ecological and social considerations in ecosystem management (Olssen et al. 2007). For example, nature conservation carried out by farmers continues to be fragmented, and the financial schemes offered are often insufficiently attractive to bring about meaningful changes to conventional agricultural practices (McKenzie et al. 2013). In addition, gaps in monitoring and compliance have led to the misdirection of funds away from environmental goals (European Court of Auditors 2016:26).

To address these issues, the CAP promotes possibilities for collective agri-environmental management and collaborative governance, which, in the words of the European Commission, offers “new opportunities to bring a broad range of people [or] other entities together, thereby overcoming the disadvantages of fragmentation” (2014:4). Although there is no legal requirement for landscape-scale coordination, several initiatives to promote collaborative agri-environmental management have already been launched across several EU member states (Westerink et al 2017).

In Belgium, for instance “agricultural management groups” are on the rise: informal collaboration arrangements between farmers, working together to share best practices and deliver on joint environmental goals (see, for example, Agrobeheergroepen, <http://www.agrobeheercentrum.be/ABGs>). In Germany, regional trusts are active in the securing of federal and private funds to compensate and coordinate nature conservation measures on farmland (Westerink et al 2017). In the West of Ireland, the Burren Programme provides a case where an environmental organization sets conservation objectives adapted to local circumstances, coordinates agri-environmental measures, and provides guidance to farmers to respond to local needs (Cullen 2018).

In 2016, the Netherlands introduced a new collaborative agri-environmental model that is breaking new ground, however. Within this innovative model, key responsibilities for the

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coordination and distribution of the state's agri-environmental subsidies between farmers are delegated to so-called "agricultural collectives."^[1] Agricultural collectives are groups of farmers and other landowners, organized as publicly certified conservation organizations (Westerink et al. 2020). Building on a long tradition of farmer cooperation (Glasbergen 2000), the collectives have been made responsible for implementing localized and area-specific approaches to agri-environmental land management within specific Dutch regions. There are currently forty region-based agricultural collectives in the Netherlands, together covering the entire Dutch countryside. Each collective has its own governing board that is elected by the participating farmers. The mandate of these boards is expansive and includes—in addition to tasks such as coordinating, inspecting, and, if needed, sanctioning the management efforts of individual participants (Boonstra et al. 2021)—decision making on the organization and implementation of agri-environmental policies at the local level. This means that individual farmers no longer decide independently on these issues; rather, there is collective decision making in the board, and in the collective more generally.

At the establishment of this new model, the Dutch government underlined the need for coordinated environmental action between and across farms (Terwan et al. 2016) to address ongoing biodiversity declines in agricultural landscapes. In fact, since 1950, the population numbers of wild mammals, butterflies, and birds typical of Dutch agricultural landscapes have been halved (van Norren et al. 2020:8). The new scheme addresses critiques of fragmentation in the former agri-environmental scheme, where farmers were individually contracted by the government for agri-environmental services (Gudde 2013). Making the collectives locally responsible for concentrating measures at a "landscape-scale," in areas where they would have high ecological potential, was welcomed by the government as a more promising approach, providing "better value for money" (Terwan et al. 2016:8).

The Dutch collaborative management model has generated wide domestic and international interest among academics and policymakers (Prager et al. 2012, Jongeneel and Polman 2014, Prager 2015). Relatively little of the existing research considers, however, the governance mechanisms through which collective agri-environmental land management is, and can be, organized (Runhaar et al. 2017, Westerink et al. 2017). In this paper, we seek to address this gap by providing new empirical insights on how devolving important aspects of decision making on agri-environmental management to the level of a collective body of farmers shapes the implementation of agri-environmental policies on the ground. We are particularly interested in how the Dutch collective model as institutional arrangement may provide new collaboration functions between government actors and farmers, needed to respond to complex social-ecological systems (Armitage et al. 2009). This focus is especially timely considering the European Commission's intention to further encourage "collective implementation of commitments by groups of farmers" in the new CAP, which is planned to enter into force in 2023 (European Commission 2020b:15). Gaining a better understanding of this new model further provides helpful points of comparison to cases in and outside the EU, including co-management models between state agencies and non-governmental actors.

In this article, we support the theoretical findings through the thematic analysis of original qualitative data, showing how agricultural collectives play a determinant role in balancing trade-offs between optimal ecological targeting and social targeting in agri-environmental land management (Olsson et al. 2007, Van Zwanenberg et al. 2018). At the same time, we show how governance through collectives can also give rise to new cases of goal misalignment between public bodies and the agricultural collectives, as well as instances of prioritization of social over ecological interests, which need to be considered.

AGRI-ENVIRONMENTAL CO-MANAGEMENT AND COLLABORATIVE GOVERNANCE

In the past few decades, an abundance of scholarship has developed on co-management and collaborative governance in ecosystem management (Armitage et al. 2009, Plummer 2009, Armitage et al. 2010). In agri-environmental literature, co-management commonly refers to the collaboration between farmers and other landowners carrying out agri-environmental measures, whereas collaborative governance foresees the "involvement of governmental and non-governmental actors in the processes and structures of decision making and management at the scheme level" (Westerink et al. 2017:177). These two processes are closely linked, given that the management of ecosystems is shaped by the institutions underpinning such management (Hahn et al. 2006). In this article, we focus on the aspect of collaborative governance, defined here as the "processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished" (Emerson et al. 2012:2; Westerink et al. 2017).

As emphasized by Olsson and others, a major challenge exists in "addressing the governance dimension of ecosystem management and the social factors that enable such management" (2007:2). In brief, the deeply interconnected nature between human and ecosystem dimensions must be recognized in governance systems for ecological and societal advantages to materialize (Folke et al. 2007). In the literature, it has already been noted that collaborative governance may help bridge gaps between ecological and social dynamics in ecosystem management (Young 2003), manifesting across "temporal and spatial scales and institutional and organizational levels" (Folke et al. 2007:1). Based on the existing theoretical literature (Brown 2003, Armitage et al. 2009), we see these gaps manifesting particularly in the setting of environmental objectives, the selecting of ecologically promising areas and the contracting of individual farmers.

Starting with the setting of environmental objectives, a particular governance challenge is found in "bridg[ing] divergent perspectives on sustainability" while securing a "broad political alliance of actors in favor of a more sustainable practice" (Van Zwanenberg et al. 2018:3). Agri-environmental schemes are traditionally top-down, government-led undertakings, aimed at facilitating "the delivery of multiple (including public) benefits from agriculture" (Prager 2015:61). A difficulty of this top-down policy articulation is that regulated parties often do not fully understand or endorse the policy objectives sought, which reduces

their willingness to contribute to the meeting of these objectives (OECD 1998). Although co-management between farmers has the potential to “shift attitudes, values and aspirations among members” (Franks 2011:655), a core challenge exists in sustaining the institutional partnerships between governmental and non-governmental actors underpinning such management (Adams et al. 2016). More specifically, government objectives for agri-environmental schemes are often narrower than those of farmer collectives, which may result in frictions and goal misalignment between the different actors involved (Prager 2015).

A second challenge relates to the selection of ecologically promising areas and, more specifically, the creation of spatial coherence at the landscape level. In brief, configuration problems arise when ecosystem management requires intervention at a scale that surpasses that of the individual landowner and thus requires bridging boundaries between private land ownership (Gottfried et al. 1996). In existing literature, it has already been signaled that agricultural collectives may promote spatial coherence by reaching “across current land ownership and land management boundaries [...] allowing for example, improved habitat connectivity through stepping stones and linear features” (Franks and McGloin 2007:474). At the same time, it has been recognized that close cooperation and/or partnerships among state and nongovernmental actors is needed to achieve landscape-scale management, which presents novel governance and institutional challenges for which there are no ready-made solutions available (Trauger 2014, Adams et al. 2016).

A third, and interconnected, challenge relates to the contracting of farmers within ecologically promising areas. This issue comes strongly to the forefront in a recent report by the Dutch Court of Auditors, which detailed that in the Netherlands, in approximately 85% of the ecologically promising areas for the Black-tailed Godwit (*Limosa limosa*), a focal species in national conservation policies, farmers are not participating in agri-environmental schemes (Algemene Rekenkamer 2021). In the literature, much attention has been given to the reasons why farmers participate in agri-environmental management, including economic, social, and environmental considerations (Barghusen 2022). In addition, researchers have examined the factors that may “crowd-out” participation, including a poor sensitization of policies to farmer’s natural and social environments (Siebert et al. 2006, Kingston et al. 2021). Thus far, however, little is known about the role and potential of agricultural collectives in the decision-making processes around farmers’ participation, signaling a need for further theoretical and empirical analysis.

In this article, we examine how agricultural collectives engage these three challenges by acting as “bridging organizations,” mediating between local farmers and other (public) actors across organizational levels and taking on roles as “coordinators and facilitators in co-management processes” (Olsson et al. 2007:3). Although in early scholarship mostly informal forms of intermediation have been examined (Mendel 2003), increasingly, it is recognized in regulation and governance literatures that bridging organizations may be formally institutionalized in governance arrangements as “regulatory intermediaries” (Abbott et al. 2016, Havinga and Verbruggen 2017). Public bodies may rely on such intermediary actors for “various forms of external

assistance and resources to accomplish their goals” (Abbott et al. 2017:14). At the same time, engaging intermediaries can also entail various risks for a governor. For instance, an intermediary may use informational advantages to exploit or evade a governor’s controls, or could use its competences in ways that do not align with existing policy goals, resulting in goal misalignments and “policy drift” (Van der Heijden 2017). This may, in turn, result in friction and cost and may threaten the meeting of public policy objectives (Abbott et al. 2016).

The main added value of combining these different strands of literature is that it enables the studying of the roles and policy interactions of agricultural collectives, as institutionalized “bridging organizations” in a complex governance regime. This addition is particularly relevant as the study concerns a multi-layered institutional arrangement, in which different “nested sets of institutions” interact at local and higher organizational levels (Hahn et al. 2006:577). As is commonly recognized, such institutional arrangements can effectively enhance the possibilities for resolving complex problems (Ostrom 1998), although the success hereof depends on the level of congruence and collaboration between the different actors involved (Hahn et al. 2006).

METHODS

This study was part of a larger socio-legal research project studying the law and governance dimensions of the Dutch agri-environmental model on paper and in practice (Alblas 2021). We approach this topic as socio-legal scholars with a key interest in studying how and under what conditions multilevel governance configurations may contribute to “striking a balance between centralized and fully decentralized or community-based governance” in the environmental domain (Carlisle and Gruby 2019:928). The first author grew up in one of the case study regions, Hoeksche Waard, but neither of the authors has a farming background or formal affiliations to the agricultural sector.

The original empirical data collected for this study consists of 35 semi-structured, in-depth interviews with board members of three agricultural collectives selected as case studies, participating farmers, and a range of public and non-governmental stakeholders as detailed in Appendix 1. The data collection was completed in the period of July 2019 to July 2021, and was complemented with e-mail correspondences with various respondents, field visits, and desk-study research and documentary analysis.

The study employed a purposive, non-random sampling approach to select participants for the qualitative study. In brief, individuals were identified and selected as being “proficient and well-informed with a phenomenon of interest” (Etikan et al. 2016:2), and were subsequently invited to participate in the study by email or telephone. Interviews lasted an hour on average and were, in the first instance, conducted in person (n = 15). During the unfolding of the Covid-19 pandemic, interviews were mainly conducted online, via Zoom or Skype (n = 20). A semi-structured interview format was used, with open-ended questions that were sent to the respondents before the interviews. Interview schedules were adapted slightly per respondent group (e.g., collective board member versus participating farmer), but all interviews dealt with

the same common themes detailed in Appendix 2. Questions focused on the lived experiences of respondents in relation to the collective's role and functioning within the new governance model, as well as the linkages and partnerships with other governmental and non-governmental actors at various levels.

Each individual interview was carried out in Dutch, transcribed, and subsequently translated into English. The textual data was manually coded through Applied Thematic Analysis, organizing the data based on common (sub-)themes identified in the data (Guest et al. 2011). A condensed version of the codebook is provided in Appendix 2. The responses were anonymized, with each respondent given an individual ID, as stipulated in Appendix 1. To give the necessary context to the IDs, each interviewee involved with Collective Poldernatuur Zeeland is classified with an ID starting with PZ, Collective Hoeksche Waard with HW, Collective Midden Overijssel with MO, and other stakeholders (including policy advisors from different administrative layers) with OS.

Case studies

Out of the forty agricultural collectives in the Netherlands, three were purposely approached to participate in this study, taking account of geographical diversity, size of the collective, agricultural context, and agri-environmental focus, as detailed further in Appendix 3.

The first case study, *Poldernatuur Zeeland* (hereafter Collective Zeeland, PZ), is a collective that covers the entire Zeeland province, where arable farming is the predominant mode of agriculture. Collective Zeeland has 350 farmer members, predominantly arable farmers. Since 2016, the provincial government has gradually increased the collective's annual budget from 1.5 to 2.2 million euro. The collective's focus is on agri-environmental land measures to promote the habitats of arable birds. The collective has a governing board composed of one representative for each sub-region within the collective, making nine members in total, including a director, secretary, and treasurer. The collective has delegated the day-to-day organization of the collective to an external agency called ZeeBra, which is composed of representatives of several landscape-related and farmers' stakeholder organizations in the region. For a fee, this organization provides the collective with a project coordinator, an ecologist, and an IT-admin coordinator.

The second case study, Coöperatie Collectief Hoeksche Waard (hereafter Collective Hoeksche Waard, HW) is one of eight collectives active within the province of South-Holland. It covers the Hoeksche Waard region, which is characterized by its "historically rich cultural landscapes and predominant agriculture" (Paulin 2020:3). With a total of 90 participating farmers, the focus of the collective is on agri-environmental landscape measures on arable land, such as flower and herb-rich field margins. To lesser extent, the collective also contracts measures for meadow birds on open grassland. The total annual budget of the collective is approximately 0.6 million euro. The collective has a governing board of twelve, composed of members from a wide variety of backgrounds, including a representative of the participating farmers, a local environmental non-governmental organization (ENGO), and a municipality. The governing board's director and secretary/treasurer are responsible

for the day-to-day organization of the collective, for which they are assisted by two field coordinators, one person responsible for administering contracts, and one person responsible for overseeing inspections.

The third and final case study, Collectief Midden Overijssel (hereafter Collective Midden Overijssel, MO), is located in the area between the river IJssel and the German border and is one of three collectives that operate in the province Overijssel. The collective's focus is on promoting habitats of meadow birds on open grassland, as well as promoting landscape elements such as hedgerows and field margins (Gedeputeerde Staten Overijssel 2020). The collective has a membership of around 400 farmers, most of which are (intensive) livestock farmers. Its annual budget is approximately 1.3 million euro. The collective has a governing board of seven members with a mix of farming and non-farming backgrounds, one for each sub-region within the collective, assisted by a secretarial assistant. Alongside the governing board, the collective has enlisted a project coordinator who manages most of the day-to-day activities, as well as two field coordinators who organize the contracting and coordination of measures on the ground.

RESULTS

Following the theoretical framework detailed above, we focus our findings on three interrelated themes, namely the bridging functions of agricultural collectives in the setting of environmental objectives, the selecting of ecologically promising areas, and the contracting of individual farmers.

Bridging environmental objectives

Through its agri-environmental scheme, the Dutch government wants to contribute to the protection of 68 specific target species that the country is legally required to protect under EU environmental law, specifically through the flagship Birds and Habitats Directives (see Economische Zaken, <https://www.bij12.nl/assets/Internationale-doelen-biodiversiteit-ANLb2016-versie-3.21.pdf>). Although the national government is ultimately responsible for meeting these obligations vis-à-vis the EU, the provincial governments are in charge of implementing nature policies. Accordingly, the twelve provinces can select provincial target species out of the national list of 68 target species, based *inter alia* on the provincial natural characteristics and political priorities.

The agricultural collectives, in turn, are responsible for developing subsidy bids that set out what agri-environmental land management they are planning to contract among farmers and how this will contribute to the provincial objectives. The provincial governments are responsible for concluding subsidy contracts with collectives in their region, and hold (at least) yearly meetings with the collectives to discuss progress in terms of meeting the objectives set. In practice, the provinces researched were found to allow the collectives a relatively wide margin of discretion in terms of deciding what target species local agri-environmental management should be geared towards, in line with the regional and situational characteristics [OS11, OS12, OS13]. Specifically Collective Hoeksche Waard and, to lesser extent, Collective Midden Overijssel, demonstrated a focus on broader species and environmental concerns than the provincial target species [HW1, HW2, MO1, MO3]. In the interviews with

Collective Hoeksche Waard, the provincial target species were even described as functioning as a “straitjacket”:

The province sets a list of five species for the six-year management period. [...] But we are going our own way, we are stubborn like that. Of course, we also focus on farmland birds, but we center our work on nature in its entirety. We are concerned with the total balance of the ecosystem. [HW2]

Though such differences in environmental priorities need not be intrinsically problematic, they can lead to inefficiencies in terms of meeting public policy goals. In some instances, they could also lead to adverse environmental outcomes, for instance if a collective’s broader measures come at the cost of using funding for the target species. In the case of Collective Hoeksche Waard, however, it became clear that collectives can also help bring the provinces more closely in line with the national conservation priorities. At the start of the new model in 2016, the province South-Holland in the first instance decided to employ its available subsidies almost exclusively for the protection of meadow birds. The Hoeksche Waard region is an area where one can find arable birds, which are also part of the national list of 68 target species, for which thus no funding would be made available. After intensive lobbying by Collective Hoeksche Waard, the province also allowed funding to be used for agri-environmental land management geared at promoting arable birds in the region [HW1, OS12].

The collectives were further found to perform important bridging functions in “translating” the environmental objectives to the level of individual farmers, emphasizing not only the general importance of nature conservation to farmers, but also the purpose of specific agri-environmental policies [PZ1, HW2]. Specific mechanisms employed by the collectives include close communication with the participating farmers through regular newsletters and educative meetings [HW1], as well as repeated field visits and inspections by the collectives’ field coordinators to assess whether farmers are carrying out the land management in line with set rules [PZ3, HW2, HW3, MO2]. Several respondents noted that they felt more compelled to work towards specific environmental objectives when they were asked to by someone from the board of the collective, compared to being asked by a governmental body, because the participants trust their “colleague-farmers” [HW4], whereas they often distrust government actors [HW4, HW6, PZ4]. Although interviewed farmers overall felt that agri-environmental rules and objectives were clearly communicated by the collectives [HW4, MO5], several respondents felt that the collectives could still improve their communications and increase the level of personal guidance [MO2; MO4: “if that’s the rules, I’ll do it. But it’s unclear to me where these things come from”]. This signals that, to further farmers’ buy-in of the environmental objectives, collectives could still improve on their communication of the rationale behind specific goals and accompanying rules.

Bridging landscape-scale management

The move towards the new collective model has meant a stronger focus on concentrating management at a landscape-scale, in ecologically promising areas, to ensure efficient use of (limited)

public funds [OS11, OS12, OS13]. For this purpose, the provincial governments designate specific areas—for instance areas with high concentrations of farmland birds—as “funding eligible.” It is then the responsibility of the collectives to coordinate a coherent set of measures within those demarcated areas through the contracting of local farmers for agri-environmental management. As a policy officer of the province of Zeeland emphasized, “[t]he collective has as its primary role ensuring that the [agri-environmental] subsidies end up in the right place” [OS11].

Within the demarcated areas, collectives try to create “mosaics” of different types of agri-environmental measures connected at a landscape scale, with the aim of maximizing ecological effectiveness [PZ1, HW1, HW2, MO1]. The director of Collective Midden Overijssel explained this process as follows: “the collective aims to [...] realize a mosaic of measures so that the habitat requirements of the local target species are met. This mosaic should also support as many other species as possible” [MO1]. Collective Zeeland furthermore has a self-imposed (and non-binding) goal of clustering management with at least “25 hectares of agri-environmental land management within a cluster of 500 hectares” [PZ2].

The actual discretion of agricultural collectives with respect to selecting areas in which agri-environmental land management can be contracted was found to differ widely between the provinces. For instance, the whole area in which Collective Hoeksche Waard is active has been demarcated by the province of South-Holland as a funding-eligible area, meaning that the collective can theoretically contract interested farmers throughout its territory, as long as there are funds available. As a policy officer of the province of South-Holland stated, the decision has been made to “largely follow the collectives: if they think specific locations are suited for management, it should be possible” [OS12]. The rationale behind this approach is that the collectives “know the farmers and know what is possible and where [...] I sit here behind my desk in The Hague, I don’t know everything that goes on in the *polders*” [OS12]. The strong place-based knowledge of collectives as compared to that of provincial and national governmental actors was repeatedly emphasized in the interviews, including by the coordinator of a local ENGO:

When the new model came into place, it turned out that, for years, numerous farmers had been getting the highest funding available, while there weren’t actually any farmland birds on their land. Others, where birds did occur on their land, had not been getting any funds. The money is there to protect farmland birds, now everything is being inspected and there is much more clarity as to where the money is going. [HW7]

As was found, the provinces of Zeeland and Overijssel apply a much stricter approach to demarcating funding-eligible areas, mainly because of financial constraints. The province of Zeeland’s policy officer acknowledged that employing this strict approach “was very disappointing for many farmers, as a lot of management had to be let go. We are increasingly selecting the most suited areas so as to move towards a more focused approach per region” [OS11]. In fact, this province is seeking to further narrow down

its demarcation, to ensure the limited funding ends up in the locations with the most ecological potential. In the view of the province, the collective still contracts farmers who may be very committed to nature conservation, but who can realistically contribute little to meeting the overarching environmental objectives, for instance because they are not located in areas where farmland birds or other target species occur. As was noted, the collective “would prefer the entire province as an eligible area. The farmers are clearly still too much at the center of their thinking, not the target species” [OS11].

Representatives from the collectives, especially respondents from Collective Midden Overijssel, voiced that there can be a mismatch between their own assessment of what are ecologically promising areas, and the demarcation of the province [MO1, MO3]. In the words of one of their regional coordinators: “[the province] draws the lines of where management can be carried out, while it is us who know the area, know where the opportunities are and know where the farmers are who are serious and committed” [MO3]. The demarcation by the province was felt to be too static and rigid to accommodate the wide array of both ecological and social factors relevant for creating a mosaic of different agri-environmental measures at a landscape scale [MO1, MO3].

Reflecting on the present demarcation, the coordinator of a local ENGO further concluded that

I do agree with the current focus on eligible areas, but that is mostly beneficial for the selected target species. We would also like to promote biodiversity more broadly, and create possibilities for essentially all farmers to join in. Not with the idea of protecting hyper threatened species, but for a base-level biodiversity of bees, plants, mammals, general farmland birds... because farmland is so deteriorated in terms of biodiversity, we just want to get it up to a basic level of biodiversity. [MO6]

In this context, various respondents argued that more funds should be made available so all motivated farmers, including those located outside of areas demarcated as ecologically promising for selected target species, can engage in at least some type of agri-environmental management [PZ4, MO3, MO5, MO6]. Such statements underline the complex trade-offs between social and ecological considerations that exist within the present model for agri-environmental management.

Bridging farmers' participation

The agricultural collectives are thus responsible for making contracting decisions regarding who to contract and for what types of agri-environmental land management. Across the board, interviewees felt that farmers appreciate the possibility to coordinate agri-environmental measures with someone from their own area who “speaks their language” [PZ1, HW4, HW5]. Within the larger collectives studied, Zeeland and Midden Overijssel, local sub-groups of the collectives were employed as “satellites” and the collective’s “eyes and ears at the local level” [MO1, PZ1]. This approach allows the collectives to “be small enough to stay close to the farmers, but big enough to keep the transaction costs low” [PZ2]. At the same time, the success of this approach was found to depend on the local leadership within these sub-groups,

as the secretary of Collective Zeeland explained: “[t]here are a couple of people who take the lead. You can really notice the difference, in some [sub-groups] little or nothing happens, and as a result there are also fewer hectares of contracted agri-environmental land management in those areas” [PZ1]. As farmers were found to often have difficulties identifying funding opportunities without the help of a collective, an absence of active engagement with farmers on the part of these local sub-groups was found to reduce the level of farmer participation in those areas [PZ1, MO7].

An important challenge for the collectives was found in matching ecologically promising areas and motivated farmers. Within Collective Midden Overijssel, for instance, ecologically promising arable landscapes were identified, but the intensive farmers managing those lands were not willing to join the scheme [MO1: “they feel: I have always farmed this way, and I should produce more this year than the last”]. Other factors such as distrust in government schemes were also found to act as a barrier for farmers to join in [MO1, MO4]. Within other landscape types such as open grassland, there was actually a surplus of interested farmers willing to participate, resulting in waiting lists because of insufficient funds available.

A complicating factor here was found to be a mismatch between provincial priorities and those of the collectives. Province Overijssel for instance has a strong focus on meadow birds and requires collectives to use a fixed amount of the available subsidies strictly for field-covering management to promote meadow birds [OS13]. Such land management is, however, very costly. One respondent argued for instance that “there are many people who want to join, but there is not enough budget. Field-covering contracts are just way too expensive,” adding that with “field margin management you can do much more, with the same amount of money” [MO2]. Funding additional field margin management was not possible, however, because of the provincial prioritization of field-covering measures.

One farmer further voiced a specific worry in relation to the issue of oversubscription, stating, “I am not accusing [the Collective’s board] of anything, but if you get two requests; one from someone you know, and one from someone you do not... That is a risk of the collectives; the government would look only at the numbers. Who it is, is not important to them” [HW4]. This observation signals how an important characteristic of collectives, namely that it is composed of farmers with often pre-existing, and long-standing, relationships as neighbors, competitors, and colleagues, may also give rise to questions concerning the transparency of contracting decisions.

From the data, it appeared that collectives presently base contracting decisions first and foremost on the ecological expertise of their field coordinators [PZ1, PZ2, HW2, MO1]. These contracts are formed generally for a six-year period. Within all collectives studied, it was voiced that, when existing contracts expire, the collective will evaluate whether current farmers are in fact (still) committed to agri-environmental land management and whether they can provide a significant contribution to the objectives set. If not, the collectives may decide to terminate these contracts to make space for new participants [HW2: “we have a waiting list and would rather have a participant that does better”].

To accommodate additional participation requests by farmers in the short term, the three collectives further all actively apply for additional funding at regional, national, and EU levels. Although such entrepreneurialism may help create new funding opportunities, the collectives are still not able to accommodate all requests and waiting lists remain [PZ1, PZ2, HW1, MO1].

DISCUSSION

Bridging the ecological and social through collaborative governance

Agricultural collectives in the Netherlands fulfill key roles in the national agri-environmental scheme. In this study, we provided new empirical insights on the Dutch collective model as an innovative institutional arrangement, focusing specifically on its potential to respond to complex social-ecological systems through collaboration between the collectives and its members, as well as between the collectives and the provincial governments as their governing peers (Armitage et al. 2009). Importantly, the Dutch model embodies a devolution from top-down decision making to the level of agricultural collectives, composed of farmers with pre-existing, and long-standing, relationships as neighbors, competitors, and colleagues. Our findings demonstrate how this shift to collaborative decision making has important consequences for both governance processes and outcomes, because agricultural collectives act not only as “coordinators and facilitators in co-management processes” (Olsson et al. 2007:3), but also as actors with the capacity to effectively shape the implementation of agri-environmental policies on the ground.

This capacity shows first of all in relation to the bridging of environmental objectives, as agricultural collectives were found to play an important role in mediating the provincial target species to the level of individual farmers, *inter alia* through close communication and personal guidance of farmers on the ground. A core element of this personal approach is that participating farmers now deal with the collective only—composed of colleague-farmers—which seems a particularly promising approach considering the distrust interviewed farmers portrayed towards government actors. In line with earlier work by Prager (2015), however, we also found various instances of mismatches between the (more narrow) provincial objectives, and the environmental objectives of the collectives. Though not intrinsically problematic, such misalignments can lead to inefficiencies in terms of meeting public policy goals, and even adverse environmental outcomes (Van der Heijden 2017). In addition, there is a risk that, if policy goals are not met, this can reduce the credibility of agri-environmental schemes and, as such, the prospects of continued subsidies for farmers (Terwan et al. 2016). At the same time, we also detailed how the involvement of the collectives may help bring provincial objectives more closely in line with national priorities, inviting further research into how agricultural collectives impact the integration of biodiversity targets across institutional levels.

With respect to the bridging of landscape-scale management, the move towards the new model in 2016 has meant a stricter focus on ecologically promising areas, as demarcated by the provincial governments. Farmers located outside of these areas are no longer able to participate in (government-funded) agri-environmental

land management. As became clear, the close knowledge agricultural collectives possess of both the social and environmental characteristics in an area makes it possible to better link ecological and social considerations, ensuring funding indeed goes to farmers with “farmland birds on their land” [HW7]. The provincial demarcation of funding-eligible areas can, however, be perceived by the collectives as too stringent, restricting their scope for contracting in what the collectives deem ecologically promising areas. In the case of Zeeland, the provincial government felt however that collectives still prioritize social over ecological considerations, to which it may respond by further narrowing down the demarcation. The close interpersonal connections within a collective may thus have both positive and negative implications for current governance processes and outcomes. Echoing Armitage and others (2008), this finding signals the need for further policy review and assessment, to consider both the benefits that policy makers expect from the governance through the collectives, and how these expectations may best be met.

This observation strongly relates to the third challenge of linking social and ecological considerations in relation to the contracting of individual farmers. Where existing literature has focused on the motivations of farmers to participate or not in agri-environmental schemes (Barghusen et al. 2021, Kingston et al. 2021), this article emphasized the important role of collectives in shaping the possibilities of individual farmers to engage in agri-environmental land management. Particularly in areas where the scheme is currently oversubscribed, it appears of key importance for the collectives to ensure the transparency of contracting decisions, in order to remove doubts as to whether contracting decisions might be based on social preferences. Although more research is needed to further unpack these dynamics, collectives could think for instance of developing score cards against which the bids of different farmers can be compared. At a broader level, the government may consider whether the current scheme is inclusive enough overall in its present form, given that farmers within demarcated areas cannot join absent sufficient available funding, and farmers outside demarcated areas are now altogether excluded from the scheme. This may result in lost opportunities for strengthening conservation networks among farmers and other potential stakeholders, which could otherwise help open new spaces for sustainable agricultural transformations (Adams et al. 2016, Van Zwanenberg et al. 2018). To reduce the risk of lost potential in this domain, it is important to ensure new agri-environmental policies, also in the backdrop of the new CAP, can create sufficient funding opportunities to enable farmers to take much needed steps in a nature-inclusive direction.

CONCLUSION

In this article we considered how the Dutch model of devolution with respect to important aspects of decision making on agri-environmental management to the level of a collective body of farmers may help bridge ecological and social considerations in ecosystem management. Through our original empirical analysis, we provided new insights into the institutional framework in which collaborative governance functions, as well as the potential governance risks involved. This analysis may further provide helpful points of comparison to cases elsewhere, including those that incorporate co-management models between state agencies

and non-governmental actors, such as farmer associations or tribal communities. Building on the explorative work presented here, future research could further unpack optimal ways to balance trade-offs between optimal ecological and social targeting in dynamic systems. As emphasized by Adams and others, the partnership between different actors within a process of adaptive co-management requires “constant attention,” and learning from social-ecological feedback demands a “dynamic approach to partnerships” (2016:4). Where remaining gaps between the ecological and social cannot be bridged by existing collaborative approaches, it is necessary to think of new and/or complementary solutions and “spaces for the creation of alternatives” (Trauger 2014:1148). Novel advancements in the literature, including through this special issue, will continue to play an important role in this exercise.

^[1] In the literature, the terminology used to describe these farmer groups is not always consistent. A government publication published at the outset of the new scheme speaks of “environmental cooperatives” (Terwan 2016), although more recent literature talks about “farmer collectives” (Dik et al. 2021), “agri-environmental collectives” (Westerink et al. 2017), or “agricultural collectives” (Barghusen et al. 2021). This latter term is the most literal translation (*agrарische collectieven* in Dutch) and also more inclusive than for instance “farmer collectives,” as non-farmer landowners can also be members of a collective. For this reason, this terminology has been used here.

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Edwin Alblas: conceptualization, data curation, methodology, formal analysis, original draft, review and editing. Josephine van Zeven: conceptualization, original draft, review and editing.

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Data Availability:

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available because they contain information that could compromise the privacy of research participants.

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Appendix 1: Qualitative data and anonymized IDs

a. Respondents linked to the case studies

Case study	Description ¹	ID	Data type	Date
PnZ	Board secretary collective / director local ANV	PZ1	Interview (phone)	10 February 2020
	Project coordinator	PZ2	Interview (phone); Interview (Zoom)	16 October 2020; 4 June 2021
	Field inspector / participating farmer 2	PZ3	Interview (phone)	20 November 2020
	Participating farmer 1 / board member local ANV	PZ4	Interview (Zoom)	11 February 2021
	Coordinator local ENGO <i>Het Zeeuwse Landschap</i>	PZ5	Interview (in person); field visit (Partridge project site, Zeeland)	10 January 2020
	Local organic farmer, not participating in the collective (located outside of demarcated area)	PZ6	Interview (phone)	14 November 2019
CCHW	Director collective	HW1	Interview (in person)	6 January 2020; 10 June 2021
	Field coordinator / inspector 1	HW2	Interview (in person)	16 January 2020
	Field coordinator / inspector 2	HW3	Interview + field visit (open grassland) / field visit	30 June 2020; 13 August 2021.

¹ Note: several interviewees had multiple roles within the collective model, for instance board secretary of the central collective, and director of a local agri-nature group (ANV). If this was the case, the roles are separated by a '/' in the descriptions.

			(inspections open arable land)	
	Participating farmer 1	HW4	Interview (in person)	10 January 2020
	Participating farmer 2	HW5	Interview (in person)	24 August 2020
	Participating farmer 3	HW6	Interview (in person)	6 January 2020
	Coordinator local ENGO <i>Hoekschewaards Landschap</i>	HW7	Interview (in person)	27 August 2020
	Ex participant collective	HW8	Interview (phone)	29 March 2021
	<i>Akkerbelt</i> pilot participants meeting (n = 7)	n/a	Focus group (in person)	14 July 2020
	Stakeholders meeting CCHW (n = 15)	n/a	Focus group (in person)	23 July 2020
	Collective participants meeting (n = 13)	n/a	Focus group (in person)	22 July 2020
CMO	Director collective	MO1	Interview (phone) / interview (Zoom)	20 January 2021; 1 February 2021
	Inspector collective	MO2	Interview (phone)	10 May 2021
	Secretary local ANV / coordinator meadow bird group	MO3	Interview (phone)	31 March 2021
	Participating farmer 1	MO4	Interview (phone)	11 November 2019
	Participating farmer 2 / coordinator local ANV	MO5	Interview (Zoom)	6 April 2021

	Coordinator local ENGO <i>Natuur & Milieu Overijssel</i>	MO6	Interview (Zoom)	6 April 2021
	Local farmer, not participating in the collective	MO7	Interview (in person)	27 July 2019

b. Other stakeholders

Actor	Role	ID	Data type	Date
Ministry of agriculture, nature & fisheries	Senior policy advisor ANLb	OS1	Interview (Zoom)	10 December 2020
	Senior policy advisor ANLb	OS2	Field visit Burren, Ireland (in person)	3-5 January 2020
RVO (paying & inspection body AES)	Advisor EU implementation	OS3	Interview (in person)	8 January 2020
	Senior advisor	OS4	Field visit Burren, Ireland (in person)	3-5 January 2020
	Senior advisor agriculture	OS5	Field visit Burren, Ireland (in person)	3-5 January 2020
NVWA (inspection body AES)	Senior inspector	OS6	Interview (Zoom)	10 November 2020
	Coordinator	OS7	Interview (Zoom)	10 November 2020

BIJ12 (governmental assisting body AES)	Advisor ANLb	OS8	Interview (Zoom)	18 December 2019
Certificering SNL (certification body collectives)	Board member	OS9	Interview (Zoom)	21 July 2020
Boerennatuur (network organization collectives)	Director	OS10	Interview (in person)	15 January 2020
Province Zeeland	Senior policy advisor AES	OS11	Interview (Zoom, with written input from second Policy advisor)	21 January 2021
Province South-Holland	Policy advisor farmland birds / AES	OS12	Interview (Zoom)	23 February 2021
Province Overijssel	Senior policy advisor AES	OS13	Interview (Zoom)	8 April 2021

Appendix 2: Applied Thematic Analysis – condensed codebook

This study was part of a larger socio-legal research project studying the law and governance dimensions of the Dutch agri-environmental model on paper and in practice (Alblas 2021). In line with the theoretical framework detailed in the article, we focus our analysis on three interrelated themes, namely the bridging functions of agricultural collectives in the *setting of environmental objectives*, the *selecting of ecologically promising areas* and the *contracting of individual farmers*. These themes are reflected primarily in themes 1-3 of the codebook.

Theme	Sub-themes	Short description
1. Collective in context.	I. History of the collective; II. Old situation versus the new model; III. Collective as area partner.	Respondents were asked to reflect on the history of the collective, comparing this also to the agri-environmental respondents reflect on the agri-environmental governance situation before and after the collective model entered into force in 2016. The collective is placed in a broader context by asking respondents about the collective's cooperation with various other local actors active in the agri-environmental domain.
2. Objectives of the collective.	I. Objectives of the collective in light of provincial agri objectives; II. Securing goal alignment.	Respondents are asked about the core objectives of the collectives and/or those of the provincial governments. Respondents are asked to reflect on the extent to which the two align.
3a. Role of collective in recruiting and contracting participants.	I. Identifying motivations of farmers to engage in agri-environmental management; II. Role of collective in motivating participants.	Respondents are asked about the process of getting farmers to join in ('contracting'), focusing on what motivates farmers to participate (or not) in agri-environmental management. Further attention is paid to the role of the collective in motivating farmers to join in.

3b. Role of collectives in coordinating measures and monitoring effects.	I. Coordinating measures; II. Monitoring effects of agri-environmental measures; III. Monitoring data as input for coordinating measures.	Respondents are asked about the collective's role in coordinating agri-environmental measures, as well as its approach to monitoring the effects of these measures (<i>'management monitoring'</i>) and using these results to feed back into management decisions.
4a. Role of collectives in rule- and norm setting.	I. Approach to rule setting; II. Approach to rule communication; III. Approach to voluntary norm setting.	Respondents are asked about the collective's role in setting management rules (<i>'management prescriptions'</i>), along with the approach to communicating the rules to the participants. Respondents are also asked about whether the collective sets voluntary norms, <i>going beyond</i> the rules is discussed.
4b. Role of collectives in carrying out inspections.	I. Approach to inspections; II. Interaction with inspections by state actors; III. Participating farmers' perspectives.	Respondents are asked about the collective's role in carrying out internal inspections to assess participants' compliance with set rules. Interactions between the collective's and the state inspectors are also examined.
4c. Role of collectives in carrying out enforcement and correction tasks.	I. Approach to enforcement; II. Interaction with enforcement by state actors; III. Participating farmers' perspectives.	Respondents are asked about the collective's role in carrying out enforcement tasks after non-compliance has been signaled. Interactions with the state's enforcement actions are also examined.

Appendix 3: Background variables case studies

Out of the forty agricultural collectives in the Netherlands, three were purposely approached to participate in this study, taking account of geographical diversity, size of the collaborative, agricultural context, and agri-environmental focus. The selection was briefly made as follows. Via a database provided on the website of overarching collective network organization *Boerennatuur*, a list was compiled of all collectives, along with their contact and website details. As a first step, three collectives were excluded from the selection because they did not have a website or information available online. Of the remaining 37 collectives, a mapping exercise was carried out to detail, as much as possible, the background variables detailed above. Three promising agricultural collectives were identified that were all located in different provinces, provided a mix of smaller and larger collectives, had different agricultural contexts (e.g. arable land versus meadow land) and different agri-environmental focus (e.g. protecting arable birds versus meadow birds). By selecting these three collectives, the aim was to maximize the chances of identifying different ways of dealing with the new roles and functions of the collectives in practice, as well as the interactions with public actors such as provincial governments. The three collectives were invited to participate in the study via email. After positive responses from all three collectives, they were formally selected as case studies for this study.

	PnZ	CCHW	CMO
Province	Zeeland	Zuid-Holland	Overijssel
Provincial conservation priorities	Arable birds	Meadow birds	Mixed, but mostly meadow birds
Geographical focus	Province-wide	One of 8 collectives in the province	One of 3 collectives in the province
Origin	Merging of 9 agri-environmental associations that existed pre-2016	Continuation of an agri-environmental association that existed pre-2016	Merging of 7 agri-environmental associations that existed pre-2016
Size	350 farmers	90 farmers	400 farmers
Yearly budget	2,2 million	0,6 million	1,3 million

Agricultural context	Predominantly arable land	Mix of arable and grassland	Predominantly grassland
Collective conservation priorities	Mostly arable birds	Arable birds, meadow birds, selection of non-bird species	Mostly meadow birds, but also species that live in dry landscape elements such as hedgerows.

Table 1: Main characteristics of the case studies.