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## Farmer collectives for more effective agri-environmental schemes? An assessment framework based on the concept of 'professionalization'

L. Dik <sup>a</sup>, H. A. C. Runhaar <sup>a,b</sup> and C. J. A. M. Termeer <sup>c</sup>

<sup>a</sup>Forest and Nature Conservation Policy Group, Wageningen University and Research, Wageningen, The Netherlands;

<sup>b</sup>Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, The Netherlands; <sup>c</sup>Public Administration and Policy Group, Wageningen University and Research, Wageningen, The Netherlands

### ABSTRACT

Agri-environmental schemes (AESs) have been implemented in many countries in Europe. However, there is mixed evidence about their effectiveness. Several studies in different countries suggest that AESs are more effective when designed at landscape level and implemented by groups of collaborating farmers ('farmer collectives'). The EU Common Agricultural Policy (CAP) has enabled groups of farmers to be applicants for and final beneficiaries of AESs subsidies for the period 2015–2020, but it is unclear what is needed for farmer collectives engaged in AESs to contribute to more agrobiodiversity. In this paper, the lens of 'professionalization' is used to conceptualize and operationalize the performance of farmer collectives. We have developed an assessment framework that facilitates the characterization and development of the degree of professionalization of farmer collectives. The ultimate aim is achieving ecological effectiveness of AESs by professionalization of the farmer collectives. The framework distinguishes three categories of professionalization: organizational, occupational and systemic, and provides a new lens for research on AESs. It can also be used by practitioners involved in AESs to provide insight into, and reflect upon, the performance of farmer collectives.

### KEYWORDS



Governance;  
agrobiodiversity; EU  
Common Agricultural Policy;  
effectiveness

### Introduction

Agri-environmental schemes (AESs) are the main instruments employed for the conservation and enhancement of agrobiodiversity in Europe. They are designed to encourage farmers to protect and enhance biodiversity on their farmland by compensating them for implementing conservation measures such as postponing mowing in order to protect meadow birds and sowing flower-rich field margins (Runhaar et al., 2017). So far, AESs have been implemented in all twenty-eight countries in the European Union (Eurostat, 2017). Recent data (Eurostat, 2017) indicates that the agricultural area under AESs is almost 46.9 million ha, which equals 26.3% of the

agricultural area in use in the 28 countries. In the period 2007–2013, EU expenditure on AESs was nearly 20 billion EUR, equivalent to 22% of the expenditure on rural development ([https://ec.europa.eu/agriculture/envir/measures\\_en](https://ec.europa.eu/agriculture/envir/measures_en)).

However, there is mixed evidence about the effectiveness of AESs in terms of their contribution to the enhancement of agrobiodiversity (i.e. species richness and abundance in agricultural landscapes) (Batáry et al., 2015; Kleijn et al., 2001; Kleijn et al., 2011; Kleijn & Sutherland, 2003; RLI, 2013). As a consequence, much research has been conducted on how the effectiveness of AESs can be enhanced. In the literature, two distinct research perspectives are

**CONTACT** L. Dik  lyda.dik@wur.nl  Forest and Nature Conservation Policy Group, Wageningen University and Research, P.O. Box 47, 6700AA Wageningen, The Netherlands  
Research affiliation: Wageningen University and Research, The Netherlands.

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apparent: an ecological-technical perspective and a social science perspective. The first perspective is focused on achieving the best ecological conditions by optimizing conservation measures (Carvell et al., 2015; Grass et al., 2016; Melman et al., 2016; Zmihorski et al., 2016). The second research perspective deals with the human factor: for instance, how to ensure participation in AESs. Of key importance, given the voluntary nature of AESs, is farmer participation (Batáry et al., 2015; Guillem & Barnes, 2013; Runhaar et al., 2017).

This paper relates to the second perspective in AES research. A relatively new research topic being studied from this perspective is collaboration in farmer groups and between these farmer groups and governments and other organizations such as nature conservation NGOs and local volunteer organizations. Such collaboration is important to increase the effectiveness of AESs at landscape scale (Bruges, 2014; de Snoo et al., 2013; Emery & Franks, 2012; Franks, 2019; Josefsson et al., 2017; Runhaar et al., 2017; Stock et al., 2014; Termeer et al., 2013; van Dijk et al., 2015; Wolf, 2008). The importance of collaboration with farmers has also been recognized in practice. In the Netherlands, for instance, experiments have been conducted in which groups of farmers (called 'farmer collectives') have been given the responsibility of drafting management plans for AESs at landscape level, contracting farmers, and monitoring and enforcement. Based on the resulting findings, in 2014 the new EU Common Agricultural Policy (CAP) made it possible for a group of farmers to be the applicant and final beneficiary of AESs subsidies for the period 2015–2020. The Dutch government even decided that only farmer collectives could be beneficiaries of AESs for the period 2016–2022 (Runhaar et al., 2017; Westerink, Termeer, & Manhoudt, 2020). This led to 40 Dutch farmer collectives being formally established in 2015 under the new AESs regime (see Appendix A).

Farmer collectives facilitate coordination of conservation measures at landscape level, which is considered important for enhancing the ecological effectiveness of AESs (van Dijk et al., 2015; Westerink et al., 2015). These collectives can increase the engagement of farmers through local networking and collective applications, improve the quality of the applications for subsidies, stimulate learning, and improve monitoring and evaluation (Lobley et al., 2013; Westerink et al., 2017). They can act as 'boundary organizations', connecting farmers with governments and other stakeholders (Prager, 2015).

The question is whether working with voluntary farmer collectives instead of more hierarchical control in which governments contract individual farmers will lead to more effective AESs and, if so, how. What is important in the performance of farmer collectives to ensure they can contribute to more effective AESs? This is an unexplored field of research. In this paper we address the abovementioned knowledge gap, employing the lens of 'professionalization' in order to analyse the performance of farmer collectives. The concept of professionalization originates from the sociology and management disciplines and is often used to analyse and improve organizations (Haapakorpi, 2012; Weggeman, 1992) or professions like teachers, lawyers and medical doctors (Clarke & Hollingsworth, 2002; Curnow & McGonigle, 2006). It is also used to analyse and improve the development of volunteer organizations into more formal organizations: for instance, organizations related to sports associations (Dowling et al., 2014; Nagel et al., 2015).

The following question guided the research described in this paper: How can the performance of farmer collectives in the Netherlands be conceptualized and operationalized by using the lens of professionalization?

In this paper, we develop an assessment framework for the professionalization of farmer collectives. The next section presents the methods used. The Results present the conceptualization of professionalization in the theoretical framework, with three categories of professionalization derived from the literature on professionalization. Then, based on the experience of stakeholders, the theoretical framework is translated into an assessment framework which can be used to characterize the degree of professionalization of farmer collectives and to monitor progress in professionalization over time. We wrap up our conclusions and reflections in the last section.

## Methods

### *Phase 1: Development of a theoretical framework based on literature research*

The first phase entailed finding out more about the interpretation of professionalization used in the context of volunteer organizations and identifying categories and characteristics of professionalization. For this purpose, literature from various sources was studied.

Firstly, Scopus, Google Scholar and CAB abstract databases were searched for the key words and synonyms for 'farmer collectives', 'Agri-environmental schemes (AES)' and 'professionalization'. These combinations yielded only two relevant papers (Rey-Valette et al., 2016; Wolf, 2008), both dealing with the professionalization of a group of farmers and other stakeholders as a strategy to increase the resilience of the sector, by developing innovation, improving the learning and knowledge management and improving networking capacity. However, it is questionable whether these are the only categories and characteristics of professionalization and what their value is.

In order to design a theoretical framework based on more literature on professionalization, the literature study was therefore extended to English-language papers with professionalization in the title. In total, some 3900 papers in Scopus and over 6500 in Google Scholar were identified. Most of the literature about professionalization was found in the areas of sociology, business management and human resource management. In the literature two directions of professionalization can be distinguished, first the professionalization of organizations and second the professionalization of professions. The literature of organizations focuses predominantly on the professionalization of formal organizations. Another body of literature related to the professionalization of organizations focuses on volunteer organizations, such as those for charities or sports. Farmer collectives are also volunteer organizations: they originated from agricultural nature associations mainly run by volunteers (Runhaar et al., 2017).

In the third step, the literature study was limited to the professionalization of volunteer sports organizations. Such organizations are important in the development of sports in national and international context. Changes in modern sports and society have resulted in sports organizations facing different challenges: for example, differentiation of sports, the pursuit of public goals such as combating overweight of the population, paid staff being used instead of volunteers, and the challenge of obtaining government funding (Nagel et al., 2015; Shilbury & Ferkins, 2011). For these reasons, sports organizations are transitioning from volunteer to more formal organizations. The same trend is occurring in the farmer collectives. The increase in responsibilities and the pressure to deliver means that effectiveness, efficiency and legitimacy are becoming even more important, placing higher

demands on the organization comparable to those demanded of formal organizations. Because participation in the farmer collectives is voluntary, they are comparable to sports associations. Nagel et al. (2015, p. 408) note that professionalization seems to be an appropriate strategy for a volunteer sports association to become more efficient, effective and legitimate.

Much research has been conducted to conceptualize and analyse the professionalization of sports associations. A key paper for the operationalization of the concept of professionalization is that by Dowling et al. (2014), in which three categories of professionalization are distinguished: (1) organizational professionalization, (2) occupational professionalization and (3) systemic professionalization. This is a good basis for a theoretical framework because it explicitly distinguishes between three types of professionalization. Our literature study revealed that in the literature, these types of professionalization are mixed up. Organizational professionalization is related to the internal organization and is about the strategy, structure, systems and knowledge development an organization uses. Occupational professionalization refers to the transformation of occupations into professions and is about defining the qualifications of occupations and development of competences and knowledge. Systemic professionalization is about how an organization deals with external developments: how its networks, policy-making and entrepreneurial qualities are developed.

In order to work out the three distinctive categories of professionalization in more detail, it was necessary to broaden the literature search in order to be able to find a sufficient number of different characteristics.

Using the findings from this extensive literature research, the theoretical framework to operationalize the professionalization of volunteer organizations was developed.

### ***Phase 2: Development of an assessment framework based on the experience of stakeholders***

In the second phase, the theoretical framework was translated into the context of the farmer collectives, to gain insight into the degree of professionalization of Dutch farmer collectives working with AESs. In order to transform the theoretical framework into an assessment framework based on the experience of

stakeholders, three focus group sessions were organized, and two workshops were held during the annual conferences for farmer collectives and stakeholders engaged in AESs.

A focus group is 'a research technique that collects data through group interaction on a topic predetermined by the researcher' (Morgan, 1996, p. 130). The discussion in the focus group is influenced by the interaction between the participants. The views and experiences this yields are usually richer and different than those obtained in one-on-one interviews (Runhaar et al., 2016).

The participants in the focus group had different backgrounds but were all involved in the implementation of the new style AESs in the Netherlands and had knowledge about or experience with farmer collectives. In consultation with the umbrella organization BoerenNatuur, it was decided to invite representatives of the collectives that have been involved in the introduction of the AES new style. It was up to the collectives to indicate who would best represent them, a board member, someone from the executive organization or a participant (farmers). Moreover, we wanted to ensure adequate representation across the country. In consultation with BIJ12, the umbrella organization for the 12 Dutch provincial authorities, the same question was put to the provinces. Eventually, the participants of the focus group were four representatives of farmer collectives (two board members (one is also a farmer) and two employees of the executive organization, which represented three collectives and someone from BoerenNatuur), three representatives of the government (BIJ12 and two Provinces) and four scientists (Wageningen Economic Research, Wageningen Environmental Research, WUR Department of Public and Administration Policy and Department of Forest and Nature Planning). The representation of the collectives and the government was well spread throughout the country (National, Groningen, Gelderland, Brabant, Zuid-Holland and Noord-Holland). One of the representatives of the farmer collectives was unable to attend but responded to the results afterwards. Three focus group sessions were held: in November 2017, March 2018 and October 2019.

The aim of the first meeting of the focus group was to define the professionalization of farmer collectives and to check the applicability of the theoretical framework to the situation of the farmer collectives. Prior to this meeting, the participants received the first results

of the literature study and a programme. The focus group sessions began with an introduction on the goal of the research, the research questions and why the lens of professionalization of volunteer organizations was being used. Next, the focus group was asked to define in two sentences what is meant by professionalization. Then the theoretical framework was presented and discussed.

The aim of the second focus group meeting was to translate the characteristics of the three categories of professionalization into indicators for determining to what extent the farmer collectives have become more professional. Prior to the meeting, the participants had been sent a draft of the assessment framework.

The aim of the last focus group meeting was to validate the results of the assessment framework and its application in a case study. A representative of the farmers' collectives from the focus group volunteered to evaluate the applicability of the assessment framework. Prior to the last focus group session, together with the representative of the collective, the degree of professionalization of the collective in question was assessed on the basis of the assessment framework. The results were used to improve the assessment framework. The focus group members received a draft version of this paper with the results of the evaluation.

Each focus group meeting lasted about 2.5 h. Two researchers were involved: one facilitating the meeting and the second observing and making notes. In accordance with Runhaar et al. (2016), in order to avoid one or more participants dominating the discussion (one of the potential downsides of focus group meetings), the facilitator tried as much as possible to ask for input from each participant and, when making intermediate conclusions, to ask whether there was consensus. The representatives of the collectives and the provinces had important input in the discussion on the design and feasibility of the framework. The focus group meetings had advantages over one-on-one interviews because they allowed discussion of inputs from individual participants that were not mentioned by the other participants.

In addition to the three focus groups, two workshops were held, one in 2018 and the other in 2019, during the annual conference for farmers and stakeholders engaged in AESs. During these conferences, farmer collectives can network, exchange experiences and gain knowledge. At the 2018 conference workshop, the theoretical framework was presented and starting from this, three questions were posed: How

does the farmer collective interact with the external network? What are the most important characteristics of your organization? How do you deal with the development of the people within your organization? During the 2019 conference workshop, the following questions were posed: Has the farmer collective become sufficiently professional to be ready for the future? What questions should be asked to assess this? What information is available from the farmer collectives for this purpose? Participants' responses were written on Post-it® notes and discussed by the group. The findings yielded by the workshop were used to assess whether the questions and experiences of the collectives matched the developed assessment framework.

The assessment framework was constructed using a five-point Likert scale (McLeod, 2008) to express the performance of the farmer collective for professionalization: (1) very poor; (2) poor; (3) fair; (4) good; (5) excellent.

## Results

As already mentioned, the research question was: How can the performance of farmer collectives in the Netherlands be conceptualized by using the lens of professionalization? The results are presented below.

### *Theoretical framework derived from the literature*

The three categories of professionalization form the basis of the theoretical framework to characterize the degree of professionalization of farmer collectives as voluntary organizations. Figure 1 illustrates the theoretical framework.

#### *Characteristics of the category of organizational professionalization*

The category of organizational professionalization is related to the organization itself (internal) and is about the strategy, structure and systems of the organization (Dowling et al., 2014). The first characteristic of a professional organization is to have a strategic plan consisting of a clear strategy, a collective aspiration, goals and strategy (addressing the Why, Where, What and How of an organization) (Dowling et al., 2014; Ferkins et al., 2005; Runhaar, 2021; Suarez, 2011; Weggeman, 1992). This strategic plan is based on shared values of the organization's

board members, paid staff, volunteers and participants and is intended to create shared ownership (collective sense of strategy) (Ferkins et al., 2005; Shilbury & Ferkins, 2011; Weggeman, 1992). Using this strategic plan based on shared values, the board can monitor the organization's performance and ensure goals are realized, and can act in the best interest of the members (Shilbury & Ferkins, 2011; Weggeman, 1992).

The second characteristic is how the organization has structured its main process (primary process). These are all activities that contribute directly to the provision of the service, in the case of the farmers' collectives it is agricultural nature management. It is important to choose the structure which supports the strategy based on shared values and culture of the organization (Weggeman, 1992). The structure is about the relationship between board and staff (paid or voluntary), roles, internal decision-making structure and shared leadership (Dowling et al., 2014; Shilbury & Ferkins, 2011; Ferkins et al., 2005). In a volunteer organization, the board members are volunteers. The functioning of the board is an important characteristic, as it reveals how professional the organization is (Ferkins et al., 2005; Shilbury & Ferkins, 2011). Characteristics of a professional board are strategic capability, leadership shared between staff and volunteer board, board motivation to facilitate and monitor implementation, and the board knowing the difference between setting policy and implementing it (Shilbury & Ferkins, 2011). Another important part of the professionalization of a volunteer organization is the increase in paid staff. Whether an organization relies on volunteers, or paid people, or is a more hybrid organization depends on its strategy for achieving its organizational aspirations (Shilbury & Ferkins, 2011; Suarez, 2011).

The third characteristic is which systems, rules and procedures are needed to monitor and evaluate the functioning of the organization e.g. goals, time, finance, quality, people and information (Nagel et al., 2015; Weggeman, 1992). These enabling factors contribute to the organization's accountability, efficiency and effectiveness. For example, monitoring the goals of a farmer collective requires information about where, how and by whom which kind of conservation management is done. But it is also necessary to know the costs involved, the impact on agrobiodiversity and what are the opportunities and bottlenecks. This information needs to be available so that





**Figure 1.** Theoretical framework: three categories and characteristics of the professionalization of farmer collectives.

adjustments can be made or lessons learned from the choices made.

The final characteristic is about the learning culture of an organization. A professional organization has a learning culture, i.e. the lessons learned by the organization have impact on its future behaviour (Tsang, 1997). A learning organization is an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour based on new knowledge and lessons learned in the past. A learning organization pays attention to five activities: systematic problem solving; experimentation with new approaches; learning from the past and from its own experiences; learning from others; and transferring knowledge throughout the organization (Garvin, 1993; Schomers et al., 2021). A learning organization that corrects its errors and reacts fast to external changes should perform better than one which does not learn from mistakes. A learning culture is based on a collective sense of strategy and needs a learning organization that is transparent, stimulates creativity and innovation, and has open communication to facilitate the learning (Serrat, 2017; Weggeman, 1992).

### *Characteristics of the category of occupational professionalization*

The second category of professionalization is occupational professionalization, which starts when

occupations are transformed into professions, or when individuals in the organization become professionalized (Dowling et al., 2014). Curnow and McGonigle (2006) define professionalization as the process through which an occupation becomes a profession and in which professional skills are identified, developed and maintained. Occupational professionalization is also a continuous process of learning (Clarke & Hollingsworth, 2002).

The first characteristic of occupational professionalization is to identify different occupations (paid and voluntary) the organization needs, based on the organization's strategy and structure. After that, the qualifications of the different occupations are defined: for example, knowledge, skills, competences, experience and credentials (e.g. code of ethics, licence, MSc or BSc degree) (Curnow & McGonigle, 2006; Freathy et al., 2016; Gornitzka & Larsen, 2004; Parker et al., 2016; Thomas & Thomas, 2013).

The second characteristic is how to maintain and develop qualifications: how to become a professional or a better professional. Depending on the stage of professionalization of a particular occupation, there are different options for supporting the maintenance and development of the qualifications for that occupation: Which career path is defined? Which degree or diploma courses are available? Is there a learning environment or a network of expertise? Does the

profession need to be licensed or certified? (Curnow & McGonigle, 2006; Hwang & Powell, 2009; Keulen et al., 2015; Roth, 2012; Serrat, 2017; Thomas & Thomas, 2013; Wolf, 2008).

### *Characteristics of the category of systemic professionalization*

The third category of professionalization, systemic professionalization, is about how an organization manages the external developments in its immediate environment and in society. These external factors affect the organization and may require changes to be made to the organization. External factors consist of opportunities and threats to the organization. Dowling et al. (2014); and Nagel et al. (2015) define systemic professionalization as changes in the environment resulting in organizational changes: for instance, the impact of government-led programmes and initiatives around sports organizations and how an organization deals with these impacts. The consequences of these external changes are a shift from a more hierarchical organization to a network organization that needs to develop network capability and strategic capability (Nagel et al., 2015; Shilbury & Ferkins, 2011). Laasonen and Kolehmainen (2017) adopt a capability perspective to view the system structure and processes and their impact on external developments. They have identified three general interrelated capability characteristics: (1) network capability, (2) strategic policy-making capability and (3) entrepreneurial capability. These capabilities are very useful for indicating how an organization manages the external factors that influence it.

Network capability is the power to build, handle and exploit relationships (Laasonen & Kolehmainen, 2017). Collaboration in a network requires a basic level of trust (Westerink et al., 2017) and reciprocity between individuals and organizations (Laasonen & Kolehmainen, 2017). An organization with a good network is able to recognize opportunities and threats in time.

Strategic policy-making capability is the ability to implement political agenda-setting and awareness-raising actions (Laasonen & Kolehmainen, 2017). To choose the right political agenda-setting and awareness-raising actions, it is important to have a good network and to align with the organization's strategy.

Entrepreneurial capability is the capability to create opportunities for innovation, build coalitions, collaborate, exploit business opportunities and execute actions based on a mutual understanding

between a network of individuals and organizations (Laasonen & Kolehmainen, 2017).

### *An assessment framework for professionalization of farmer collectives based on the experience of stakeholders*

As described in the Methods, the theoretical framework was translated into an assessment framework to gain insight into the degree of professionalization of the farmer collectives and to monitor the progress of professionalization over time. Tables 1–3 present the final assessment framework.

#### *Organizational professionalization*

Table 1 provides the final assessment framework for characterizing the degree of organizational professionalization of the farmer collectives.

*Strategy:* A highly professional farmer collective (excellent) has a common and shared strategy that has been worked out in terms of aspiration, goals and strategy. The strategy is aimed at achieving more agrobiodiversity but also at becoming a certain type of farmer collective in order to do so. In order to become more professional, it is important to know how well the strategy for both aspirations has been worked out and what process has been followed in order to jointly develop a common and shared strategy with the different people in the farmer collective (board members, employees, participants and volunteers). This elaborated strategy provides the basis for further actions by the farmer collective. Farmer collectives can make different choices in strategies, goals and aspirations and still be professional. For example, one farmer collective in the Netherlands chose to use AES to work on meadow bird management only, while another went in search of new instruments and funding for meadow bird management and also became a project-oriented organization. Based on the strategies it has chosen, the farmer collective makes different choices in all three categories: for example, how the farmer collective is organized, what quality requirements the collective demands from employees, how the collective finances its activities, how its members use their network and what policy-making actions are undertaken. The choices made in the strategy and its implementation will influence the effectiveness of the AES.

*Structure:* A highly professional farmer collective has structured its primary process in line with its



**Table 1.** The final assessment framework for characterizing the degree of organizational professionalization of farmer collectives.

Category	Characteristics	Indicators				
		1	2	3	4	5
Organizational	Strategy	A shared strategy (i.e. aspiration, goals and strategy) of which agrobiodiversity to achieve	No strategy	One or two parts of the strategy are partly common and shared	One or two parts of the strategy are common and shared	A complete strategy are common shared
		A shared strategy (i.e. aspiration, goals and strategy) of what kind of collective one wants to be in order to realize the above	No strategy	One or two parts of the strategy are partly common and shared	A complete strategy are partly common and shared	A complete strategy are common shared
	Structure	The organization structure of the primary process of the organization follows the strategy.	No clear structure	Part of the farmer collective has partly a clear structure that does not follow the strategy	The farmer collective has a clear structure not following the strategy	Structure of the organization follows the strategy
Organizational	Enabling systems	Shared leadership	No shared leadership	Shared leadership in 25% of the activities of the farmer collective	Shared leadership in 50% of the activities of the farmer collective	Shared leadership in 75% of the activities of the farmer collective
		Segregation of duties between board and executive organization	No segregation of duties	For 25% of the board members there is a segregation of duties	For 50% of the board members there is a segregation of duties	Complete segregation of duties
		Presence and use of systems to monitor and evaluate the agrobiodiversity.	No systems to monitor and evaluate the agrobiodiversity.	Has some systems and doesn't or only partly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.	Has some systems and regularly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.	Has all systems and regularly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.
Learning	organization	Presence and use of systems to monitor and evaluate the performance of the organization	No systems to monitor and evaluate the performance of the organization	Has some systems and doesn't or only partly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.	Has some systems and regularly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.	Has all systems and regularly reflects and adjusts in light of the monitoring and evaluation of the collective's performance vis-à-vis its strategy.
		Knowledge programme	No programme for the transfer of knowledge within the organization and for learning from others	Minimal programme for the transfer of knowledge within the organization and for learning from others	Limited programme for the transfer of knowledge within the organization and for learning from others	Standard programme for the transfer of knowledge within the organization and for learning from others
		Experimentation and innovation	No experimentation and innovation	Minimum experimentation and innovation	Limited experimentation and innovation	Standard experimentation and innovation
Learning	organization	Experimentation and innovation	No experimentation and innovation	Minimum experimentation and innovation	Limited experimentation and innovation	Standard experimentation and innovation
		Experimentation and innovation	No experimentation and innovation	Minimum experimentation and innovation	Limited experimentation and innovation	Standard experimentation and innovation
		Experimentation and innovation	No experimentation and innovation	Minimum experimentation and innovation	Limited experimentation and innovation	Standard experimentation and innovation

**Table 2.** Final assessment framework for characterizing the degree of occupational professionalization of farmer collectives.

Category	Characteristics	Indicators				
		1	2	3	4	5
Occupational	Identification of qualifications	Qualifications identified for the various activities within the collective (participants, board and employees) and obtained accordingly.	No identified qualifications are available	Identified qualifications are not adequately described and difficult to obtain	Identified qualifications are not adequately described and difficult to obtain	Identified qualifications are adequately described and difficult to obtain
	Maintenance and development of qualifications	HR strategy available with follow-up interviews and the opportunity for personal development in order to maintain and develop qualifications. All participants, board members and employees participate	No HR strategy	Has a limited HR strategy. Participants, board members and employees do not participate or participate only to a limited extent	Has a limited HR strategy. Participants, board members and employees all participate	Has a clear HR strategy. Participants, board members and employees all participate

**Table 3.** Final assessment framework for characterizing the degree of systemic professionalization of farmer collectives.

Category	Characteristics	Indicators				
		1	2	3	4	5
Systemic	Network capability	Not able to build, handle and exploit relationships	Not able to build relationships based on trust	Able to build and handle relationships based on trust	Able to build, handle and exploit relationships based on trust	Able to build, handle and exploit relationships based on trust and reciprocity
	Policy-making capability	Identify opportunities and developments, active in setting the political agenda and awareness-raising, all in line with the strategy	No policy-making capability	Limited ability to identify opportunities and developments in line with the strategy	Able to identify opportunities and developments in accordance with the strategy but has limited activity in setting the political agenda and raising awareness	Able to identify opportunities and developments in accordance with the strategy and is active in setting the political agenda and raising awareness
Entrepreneurial	capability	1: Create opportunities for innovation 2: Build coalitions and collaborate 3: Exploit business financial opportunities and 4: Execute actions based on mutual understanding between a network of individuals and organizations	No entrepreneurial capabilities	Entrepreneurial capabilities in one of the four entrepreneurial capabilities	Entrepreneurial capabilities in two of the four entrepreneurial capabilities	Entrepreneurial capabilities in all four entrepreneurial capabilities

strategy about what kind of farmer collective members want it to be and to support the strategy to achieve more agrobiodiversity. Organizational structure is primarily designed for the primary process and takes account of the position and role of the board of the farmer collective, the executive organization(s) and the participants in AESs. In addition, the relationship between the board and the executive organization is important, in terms of shared leadership and segregation of duties. Most farmer collectives originate from one or more agricultural nature associations (ANVs). In some cases the ANVs have been dissolved, in other cases the ANVs still exist. In the latter case, the question is what is the ANV's role on the board of the farmer collective and in the implementation of AESs. This depends on the chosen strategy and the added value of the ANVs. Examples of added value from the ANVs are the connection with the area and the knowledge they have. The choices made about the organization structure depend on questions such as the goals of the strategy, the available budget, the quality of the board members and people in the executive organization, the ability to find board members, the relationship with the participants, etc. It is important for the organization not to be dependent on a few people, and to have continuity in the board and executive organization.

*Enabling systems:* The farmer collectives in the Netherlands have a good ICT system (e.g. the SCAN-ICT system that was developed to support the new farmer collectives) that supports their finance, administration and collects geographical information on where farmers are managing nature and who has been contracted to implement it. All farmer collectives in the Netherlands have a Quality manual that stipulates the structure of the organization, procedures, systems and rules for the implementation of AESs, e.g. including a viewing protocol and management monitoring. It is unclear how they use these systems to monitor and evaluate the functioning of the organization in light of their goals and strategy for agrobiodiversity. What are the key performance indices of the farmer collective based on its strategy? Are these enabling systems enough to monitor and evaluate the collective's strategy? How do the farmer collectives learn from the monitoring and evaluations and do they adjust goals, strategy, actions, organization based on these results (Plan, Do, Check and Adjust)?

In terms of professionalization, a farmer collective is excellent if it has all the enabling systems and, on the basis of monitoring and evaluation of performance vis-à-vis the strategy for agrobiodiversity, regularly reflects on and adjusts the organization's performance.

*Learning organization:* A very professional farmer collective is a learning organization that learns from the mistakes made and from others, offers opportunities for experimentation and transfers knowledge throughout the organization. BoerenNatuur, the national association of farmer collectives, organizes various knowledge-sharing activities such as a newsletter, a conference day, intranet and consultation between farmer collectives. In addition, the farmer collective has its own programme for learning, experimenting and innovating. Some farmer collectives take part in pilots to identify and evolve new ways of monitoring; for example, four farmer collectives in the Netherlands participated in the pilot project 'Biodiversity Monitor' of World Wildlife Fund of the Netherlands, Rabobank and Friesland Campina. Sometimes new techniques are evolved: for example, the use of drones to monitor of nests. Various farmer collectives in the Netherlands now use these drones.

### Category of occupational professionalization

Table 2 gives the final assessment framework for characterizing the degree of occupational professionalization of farmer collectives.

*Identify qualifications:* A farmer collective which performs excellent has identified the qualifications (knowledge, competences, abilities, experience and skills) needed in a farmer collective and ensured that the people (board, employees and participants) of the farmer collective have these qualifications. For example, the executive organization usually consists of one or more project managers, field coordinators and administrative assistants who are employed or hired. Applicants for these positions are checked to see whether they meet the required qualifications, such as their knowledge of ecology, ability to work in a team, their network in the area, etc. The ecological knowledge important to achieve more agrobiodiversity is provided in different ways: sometimes is a qualification for ecological expertise stipulated in a job description, or the executive organization supplies an ecologist. Another option is to have an ecological committee. Another important requirement is whether the people in the various positions have the qualifications stipulated. It is difficult to find

good board members, so it is to be expected that the requirements for these are not always achieved. In order to achieve more agrobiodiversity, it is important to set the right requirements for participation in an AES, such as location of plots, deployment of more comprehensive management packages and coherence of management. The more the collective is able to find participants who meet these requirements, the more professional the collective is.

*Maintenance and development of qualifications:* A very professional farmer collective has a clear human resource (HR) strategy in which there are follow-up interviews and the opportunity for personal development in order to maintain and further develop the quality of all its participants, board members and employees. The question that needs to be asked here is, how does someone become a better professional? Are there regular follow-up interviews with board members, employees and the participants? Topics covered during such interviews include how things are going and what is needed for further development. Does the farmer collective have a HR strategy, and what is the participation in that strategy? Professional collectives continue to develop. Examples mentioned above when discussing learning organizations are learning on the job and participating in meetings, conferences and seminars organized by BoerenNatuur. The aim is to translate the human resource programme into a personal programme for the board members, employees and participants and for everyone to participate.

### Category of systemic professionalization

Table 3 gives the final assessment framework for characterizing the degree of systemic professionalization of farmer collectives.

*Network capability:* A very professional farmer collective is able to build, handle and exploit relationships between individuals and organizations on the basis of trust and reciprocity (de Vries et al., 2019; Laasonen & Kolehmainen, 2017). The farmer collectives have different relationships to build, handle or exploit. The most important relationship is that between province and farmer collectives in AESs. The farmer collectives have a contract with the province to execute AESs. In this case they have a contractor–client relationship. The relationship with the province was built up during the drafting of the first contract and since then has been maintained through follow-up meetings and has been used on both sides to, for example, make extra money

available for extra meadow bird management, blue services and other management contracts. But there are more relationships: for example, the cooperation with other farmer collectives in the province and nationwide via the BoerenNatuur association, or with the various nature and landscape organizations. The knowledge and network of these organizations can be used to increase the extent to which the farmer collective achieves more agrobiodiversity.

*Policy-making capability:* A very professional farmer collective is able to identify opportunities and developments and is active in setting the political agenda and raising awareness, all in line with the strategy. An example of the policy-making capability is the role of BoerenNatuur in the national debate about ‘nature-inclusive farming’ involving different parties, such as the Ministry of Agriculture, Nature and Food Quality, scientists and the supply chain of food companies. BoerenNatuur plays an active role in these actions to create opportunities for the collectives in the future. A regional example is that in the north of the Netherlands, where a green deal on nature-inclusive agriculture has been concluded in which the agricultural collectives have had an important agenda-setting role.

*Entrepreneurial capability:* A very professional farmer collective has the entrepreneurial capability 1: to create opportunities for innovation, 2: build coalitions, collaborate, 3: exploit business financial opportunities and 4: execute actions based on mutual understanding between a network of individuals and organizations. In addition to implementing AESs, most agricultural collectives also work on various innovative projects that contribute to more agrobiodiversity. Sometimes they take the initiative to seize opportunities for innovation and bring parties together. In other cases, they are mainly the executing partner.

## Discussion and conclusion

This paper presents an assessment framework for characterizing the degree of professionalization of farmer collectives, to contribute to more effective AESs. Much research has been conducted on how the effectiveness of AESs can be enhanced, but it has investigated ecological aspects of nature measurement or collaboration on landscape scale (Velten et al., 2018). We also see an increasing body of literature about the governance of AES arrangements (Runhaar et al., 2017; Schomers et al., 2021;

Triste et al., 2020). But, not how the performance of a farmer collective contributes to a more effective AES. In this paper, the lens of 'professionalization' has been used to conceptualize and operationalize the performance of farmer collectives and provides an in-depth look at the governance of AES arrangements.

The research we undertook has resulted in an assessment framework for characterizing a farmer collective's degree of professionalization. The framework distinguishes three categories of professionalization: organizational professionalization, systemic professionalization and occupational professionalization. The characteristics of professionalization in the assessment framework which could have direct impact on achieving the ecological objectives of an AES are a strategy for agrobiodiversity, enabling systems to monitor and evaluate the agrobiodiversity, being a learning organization and the ecological qualifications of the AES participants and organization.

The farmer collective should be able to achieve more agrobiodiversity if

- It has a common and shared strategy for agrobiodiversity, consisting of an aspiration, goals and execution strategy (Runhaar, 2021).
- It monitors and evaluates the nature measurements and agrobiodiversity, so it can learn and do better (learning organization) (Triste et al., 2020).
- Its board members, employees and participants understand and receive ongoing training in ecology (Schomers et al., 2021).

The other characteristics of a professional farmer collective don't have direct impact on achieving more agrobiodiversity but are more supportive.

Professionalization of farmer collectives is one way to contribute to a more effective AES. But there are more aspects which could influence the effectiveness of an AES: for example, the budget available, farmers' willingness to participate, the size of the area, the type of landscape, occurrence of species etc. (Bareille et al., 2021; de Vries et al., 2019; Westerink et al., 2020)

The three categories distinguished in the assessment framework are not mutually exclusive, they are related and influence each other. Choices made in one category can influence choices in other categories. For example, when something happens in the environment of the farmer collective (the system) and the collective has a good network, it could have impact on the strategy formulated as

part of the organizational category and have a knock-on effect on the other categories. The same applies when there are new organizational developments: this could make it necessary for the farmers to acquire new qualifications, which could lead to a change in the knowledge programme and HR strategy. This assessment framework has a static character, but by using it in combination with open and in-depth questions and repeating it regularly, the links between the categories and the development over time can be analysed.

This assessment framework complements the existing quality system with which the Dutch agricultural collectives must comply in order to be eligible to be subsidized. The quality system focuses particularly on the organizational structure, the presence of enabling systems and the identification of qualifications and job descriptions. Less attention is paid to the strategy, the development and use of the support systems and the development of the people in the organization. The farmer collectives are regularly audited to see whether they still comply with the quality system. The development of the certifying process and the quality manual has been the first step in the professionalization process of farmer collectives in the Netherlands (Westerink et al., 2020). This assessment framework can also be used by Dutch farmer collectives themselves to see where they meet expectations and where improvements are required.

The assessment framework has not yet been tested in the field. When the assessment framework is used in further research on farmer collectives, it will be interesting to see what the differences are between the farmer collectives, which dilemmas they encounter, where further development is required and if there is a development curve of professionalization. The expectation is that this research and the experience in the Netherlands will lead to other countries following by changing their AESs from arrangements made with individual farmers to arrangements made with groups of farmers.

The assessment framework provides a new lens in research on AES. It can also be used by practitioners involved in AESs to reflect on the functioning of farmer collectives.

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## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Notes on contributors

**L. Dik** is a strategic advisor at the Province of Gelderland and external PhD student at Wageningen University and Research. Her PhD research focuses on the performance of farmer collectives in relation to ecological effectiveness.

**H. A. C. Runhaar** is Associate Professor of Governance of Nature and Biodiversity at Utrecht University and Visiting Professor at Wageningen University and Research. His research focuses on interventions by governments, companies and NGOs to protect or enhance nature and biodiversity, with a special interest in agriculture.

**C. J. A. M. Termeer** is Chair of the Public Administration and Policy Group at Wageningen University and Research, the Netherlands. Her research addresses the governance of wicked problems in the policy domains of sustainable agri-food systems, adaptation to climate change and vital rural areas. Previously, she worked at other universities; at the Ministry of Agriculture; and at Sioo, Centre for Organizational Change and Learning. She is also a Crown member of the Social and Economic Council of the Netherlands.

## ORCID

L. Dik  <http://orcid.org/0000-0001-9803-410X>

H. A. C. Runhaar  <http://orcid.org/0000-0001-7790-097X>

C. J. A. M. Termeer  <http://orcid.org/0000-0001-7396-1476>

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## Appendix A: The establishment of the Dutch farmer collectives

In the Netherlands in the early 1990s, interest began to grow in the governance of natural resources being carried out by farmers themselves (Termeer et al., 2013). The first agricultural nature associations were established in 1992 in protest against the government, because of farmers' criticism about how AESs were organized and about agri-environmental legislation more generally. Their main criticism concerned the top-down approach taken by government, which excluded farmers' interests and opinions (de Snoo et al., 2013; Franks & McGloin, 2007; Oerlemans, Guldemon, & Visser, 2007). In 2013, the Dutch government began an overhaul of the agri-environment schemes in the Netherlands (Dijkstra, 2013). In the new style of AES introduced by the government, the *only* final beneficiaries are professional farmer collectives, because working with farmer collectives makes the system more effective and more efficient: more effective because agricultural nature management in a given region is less fragmented and applied more integrally in areas where biodiversity gains can be expected. The aim of the new style AES is for the regional parties to jointly develop the various social objectives in their own region. The government hoped the system would be more efficient because applications would be submitted by professional collectives, which would greatly reduce the number of applications and improve their quality (Snoo, Melman, Brouwer, Weijden, & Udo de Haes, 2016; Dijkstra, 2013). In 2013, an extensive development process started in which the new farmer collectives were prepared for their new task. Finally, in 2015, forty new farmer collectives were established (see <https://www.boerennatuur.nl/collectieven/>). In this way, the farmer collective in the Netherlands developed from a self-governance arrangement in 1992 into a public-private governance arrangement in the new-style AES in 2016 (Runhaar et al., 2017).