



Article

The Acceptability of Land Pools for the Sustainable Revalorisation of Wetland Meadows in the Spreewald Region, Germany

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Abstract: To successfully implement sustainability innovations, it is crucial to gain knowledge about their acceptability by potential users. This paper addresses the acceptability of land pools for the sustainable revalorization of wetland meadows using two case studies in a cultural landscape (CL) in Germany. The aim of this study is to analyse factors that influence the decisions of landowners and farmers towards these land pools. Therefore, we developed a sociologically driven framework of acceptability. We applied structured qualitative text analysis for analysing qualitative interviews. The results show that acceptability differs between the two case study areas and between interviewees. The value-based appreciation of the CL is high, but does not lead "per se" to a positive acceptance of the land pools. Reasons for this are the lack of shared values and the existence of diverging opinions about the objectives of land pools. Additional important factors are previous experiences, level of participation, and trust in actors or institutions. A recommendation is that discussion of values of nature supports the identification of shared values. A clear description of the problem and embedding the concept in a systematic strategy for regional development could enhance acceptability. For the success of similar sustainability innovations, it is essential to design a fair innovation process (transparent communication and active actors' involvement). A theoretical-conceptual conclusion is that the acceptability framework supports qualitative, in-depth and actor-centred analyses focussing on linkages between values and arguments on different levels. The framework also reveals diverse and previously unknown factors.

Keywords: attitudes; acceptance; societal relations to nature; biodiversity banking; peatland management; sustainability innovation; procedural justice; social-ecological interactions

1. Introduction

Today, extensively used wetlands of high nature value are under increasing threat of falling out of use for both economic and cultivation-related reasons. The decrease in the current use of wetlands and flooded meadows is evident for many European cultural landscapes (CL) (e.g., [1,2]). This land abandonment in cultural landscapes can dramatically reduce the functioning of the ecosystems, biodiversity, and cultural values [1,3]. To mitigate such losses, innovative solutions for reusing threated wetlands are needed.

One example of land abandonment is the issue of marginal wetland meadows in the Spreewald region (Germany). These marginal wetlands—in the sense of fragmentized and small-scale wetland meadows—are a typical element of the CL in this region, in addition to the ramified network of water

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channels, floodplain forests, small-spatial wood structures and arable lands. The CL has grown over the course of centuries as a result of human agricultural production and livelihoods. Regional stakeholders of the Spreewald region are aiming for the continual use of marginal wetlands in an effort to preserve biodiversity and spatial differentiation as typical characteristics of this CL, the latter with the goal of providing an attractive landscape for tourism. Therefore, innovative solutions for the sustainable valorisation of wetlands are under development using a transdisciplinary innovation process. One possible solution consists of financing the wetlands' development and maintenance measures through a legal biodiversity offset banking instrument—so-called land pools [4]. In German, these land pools are known as "Flächen- und Maßnahmenpools". Although land pools are not a very new idea in general, they are new in this region and subject to region-specific site and instructional conditions. In Germany, land pooling has been embodied in the national law (German Federal Building Code) since the end of the 1990s. However, the federal state of Brandenburg, in which in the Spreewald region is located, enacted land pools in its Nature Protection Law (BbgNatSchG § 14) in 2004 and published a state-related regulation to concretise the law into specific handling instructions in 2009. Since then, there have been some examples of land pools in Brandenburg, but there are no examples in the Spreewald region. Due to this novelty effect, land pools can be seen as an innovative part of the previously mentioned systematic strategy.

The concept of land pools refers to a public and mainly non-commercial type of biodiversity banking. It is the main pillar of public offset instruments in Germany [4,5]. Land pools bundle potential vulnerable land plots and allocate them for landscape development and maintenance measures. These are compensation measures for impacts on nature and on the landscape (according to the German Impact Mitigation Regulation: §§ 14–18 BNatSchG, § 14 BbgNatSchG and the German Federal Building Code: spatial and temporal flexibilisation of compensation measures §§1a Abs. 3, 9 Abs. 1a, 135a Abs. 2, 200a BauGB). The official recognition and certification process of land pools is an administrative procedure; it is legally binding and should lead to long-term financing of maintenance and development measures for nature conservation. In accordance with national law (BauGB § 5 Abs. 2/10), it is recommended to include land pools in land-use plans and to develop a management plan [6]. For landowners, a land pool implies restricted property rights concerning land use, which is recorded in the land register. Other states have established similar banking instruments to compensate for impact on nature; examples include wetland mitigation banks in the United States of America [7] and a biodiversity offset supply scheme in France [4]. Each of these different banking instruments is based on specific laws and on institutional, financial, and instrumental settings.

There are some publications on biodiversity offsets and mitigation and conservation banking [4,8] but only very few international publications that deal specifically with land pools. The most prominent one is by [4], who categorise different types of biodiversity banking using an international comparative analysis. Nevertheless, there are a multitude of German publications [5,7,9]; these deal mainly with the institutional setting of land pools and their contribution to spatial planning but not with their acceptability by local actors. With the present article, we contribute to filling this research gap.

From a practice-oriented perspective, more knowledge about the acceptability of land pools is needed because acceptability elucidates the potential of implementing land pools: An acceptability analysis reveals if and why landowners and land users accept or reject land pools. Landowners and users are core actors in the regional development process of land pools. Without considering this acceptability issue, sustainability innovation projects can completely fail in the event that the affected actors reject the underlying idea. Hence, such projects cannot be successfully implemented if their acceptability is not considered first. Furthermore, by attending to acceptability, potential land use conflicts could be avoided. The aim of this paper is to analyse landowners' and farmers' attitudes towards acceptability issues of land pools in two case study areas (CS1 and CS2) of the Spreewald region. From a practice-oriented perspective, we address the following research questions:

(RQ1) Which factors (in terms of arguments and values) influence their acceptability decisions and what are the linkages between them?

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(RQ2) To what degree do landowners and farmers accept land pools?

To conduct this analysis, an additional conceptual research question had to be considered:

(RQ3) How should a framework be conceptualized in order to include the most important characteristics of acceptability?

In addition to RQ1 and RQ2, we formulated the following ex-ante hypotheses on the basis of the explorative interviews (cf. Section 3.2.1).

- (H1) The investigation and examination of values of nature and CL are crucial for studying the acceptability of land-use-related innovations. This assumption is in line with environmental ethics, which states that nature conservation argumentations are based on various value dimensions such as instrumental, eudemonistic, and intrinsic values (cf. [10]). (The eudemonistic values are attributed to the basic condition for the quality of human lives).
- (H2) The design of the innovation processes positively or negatively influences acceptability decisions.
- (H3) Acceptability decisions depend on perceptions of the development of the landscape during recent decades.

These ex-ante hypotheses can be understood as basic assumption statements that make previous knowledge explicit. This technique is recommended for qualitative research [11].

2. The Development of an Own Theoretical-Conceptual Framework

To address RQ3, we considered an in-depth literature review of existing studies dealing with acceptability or acceptance in the field of land use [12]. This review shows that the theoretical-conceptual basis of acceptance is on the one hand still weak, and on the other hand inconsistent in the use of terms. To bring more clarification, we distinguish between acceptance and acceptability as recommended by [12,13]. Therefore, we understand acceptance as one of several possible results of a judgement process, specifically as a positive result in the sense of non-rejection. In contrast, acceptability is a complex theoretical concept that looks at the process by which judgements are formed and decisions are made.

To fill the above-mentioned gap and provide a consistent theoretical-conceptual framework, we provide a detailed definition of acceptability and develop a framework that reflects its various characteristics and structuring elements. Both the definition and framework were developed from a mainly sociological perspective [14], which includes theoretical elements developed in landscape planning [15], environmental science [16], and technology assessment [17] (cf. Figure 1).

Referring to Figure 1, in our understanding, acceptability (as a theoretical concept) encompasses (a) actor-based and dynamic decision processes that are supported by value-based arguments and formed in intrapersonal and intersubjective judgement processes. These decisions—so-called acceptability decisions—are (b) the products of the interaction between the acceptability actor, the specific acceptability object, other actors, and the context. There are (c) several possible degrees of acceptability decisions (from opposition and rejection to high acceptance and engagement) on different possible (d) acceptability levels (attitude level, action level, or utilisation level).

- (a) The complex acceptability decisions, made by the acceptability actors, can vary over time instead of being static once articulated.
- (b) Furthermore, acceptability implies actors' active examination of the acceptability object within its context and their interactions with other actors to make a decision using rational insight and value-based internal conviction [14]. These multiple relations, described by the German sociologist Doris Lucke, are cited by some other scientific publications (e.g., [18–20]). Similar to this understanding, the processes of interactions between technology (acceptability object) and social actors on different spatial scales are underlined by [13,16].

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(c) The term "degrees of acceptability decisions" describes possible positions on a quality axis [15,21], ranging from negative acceptance grades to positive acceptance grades. The acceptability decisions can express, for instance, opposition, rejection, low acceptance, tolerance, indifference, conditional acceptance, high acceptance, and engagement (proactive support) [22,23].

(d) According to [14,16,19,24], acceptability is not only about attitudes. Therefore, we distinguish among attitude level, action level, and utilisation level (cf. [17]). At the non-proactive level of attitudes, the subject offers an internal judgement before acting. At the next level, the subject alters his judgement into an action that is the expression of his attitudes. The utilisation level refers to assessing the long-term use of an innovation.

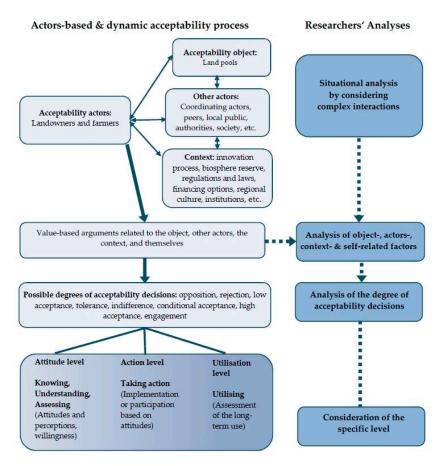


Figure 1. Conceptual framework of acceptability with adaptations to the case study land pool (own design in accordance with [14–17]). Left side: In the actor-based and dynamic acceptability process, the acceptability actors reflect on the acceptability object, the arguments of other involved actors, and the context. These interactions are the foundation for value-based arguments that lead to the actors' acceptability decision. These acceptability decisions can be assigned to a particular degree (from opposition to engagement) and can be made on a certain level (attitude, action, or utilisation level). Right side: Researchers should take into account this complexity with all mentioned components when analysing acceptability. This includes the analysis of the specific situation by considering the complex interactions, the analysis of factors (based on the stated arguments of the acceptability actor, the analysis of the particular acceptability degree, and the reflection of the level on which decisions are made.

Using our acceptability framework (Figure 1), it is possible to conceptually frame and structure complex acceptability phenomena. Furthermore, our framework advocates an open analysis, because the factors or arguments that influence acceptability decisions are not determined ahead of time. This feature corresponds to the paradigm of qualitative research. Thus, interviewees are free to argue without being limited by a rigid corset of items. All mentioned arguments can be considered in later

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analyses. This approach is mainly suitable for explorative studies in which not all factors were known previously [25].

The analysis was conducted on the attitude level, which encompasses the acceptability decisions and their different degrees as preconditions for later action [14]. At the same time, the analysis shows indications on the action level. This is especially the case for the land pool CS1.

3. Case Study Areas, Materials, and Methods

3.1. Case Study Areas and the Process for Establishing Land Pools

At the beginning of our research project in 2015, two land pools (CS1 and CS2) were in the planning stage, and these served as case study areas for this acceptability study (Figure 2). The Spreewald Foundation—a non-profit foundation dedicated to the cultural landscape of the Spreewald region—acts as initiator and coordinator, and as potential manager of the land pools. In the establishment phase and functioning process of land pools, this foundation maintains relations with different actors, as depicted in Figure 3. The pool manager concludes contracts with the investor (polluter), the authorities, the landowners, the executing company (e.g., a local farmer), and the planning office in order to offer the provision of land and to plan, coordinate, document, and monitor maintenance measures.

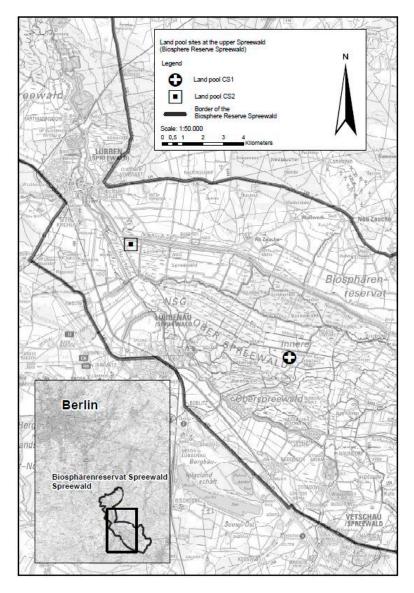


Figure 2. The location of the case study areas.

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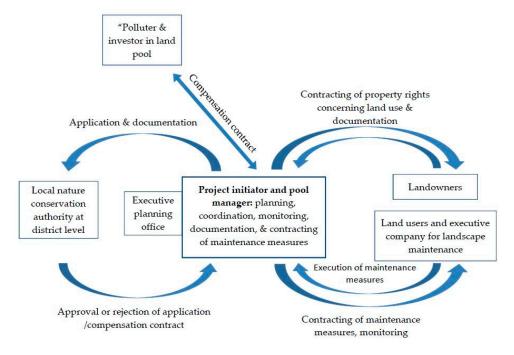


Figure 3. Functioning and requirements of establishing land pools in the Spreewald region (own design, in accordance with Stiftung Rheinische Kulturlandschaft 2017) (http://www.rheinische-kulturlandschaft. de/wp-content/uploads/2016/12/Grafik-Massnahmentraeger.jpg).

CS1 and CS2 are located in the biosphere reserve "Spreewald" (Germany) and are part of zone II, which is known as a buffer zone (or maintenance zone). At the same time, the case study areas are nature conservation sites and Habitats Directive Sites of Community Importance (Flora Fauna Habitat areas), with established use and cultivation restrictions [26]. Thus, landowners and users have restricted possibilities to act with regard to their land plots.

The CS1 encompasses an area of approximately 160 ha, of which 70 ha are wet meadows and the remaining ha are forest and woodland biotopes. The former hay meadows are currently only sporadically and partly used. Since the 1950s, more than half of that area has been recaptured by Sambucus nigra and Fraxinus excelsior, mostly by reforestation and much less by succession. The larger part of the remaining meadow land of that area is not in use anymore due to unfavourable hydrological conditions. There has been a loss of biodiversity due to natural succession, primarily of Carex acuta L., Carex acutiformis Erh., Phragmites australis, Salix cinerea, and Alnus glutinosa (E-01). Through the intended re-use of those meadows by mowing, further succession to forest biotopes can be avoided and the former habitat types protected by the European Habitats Directive can be revitalized (SP1). In CS1, all landowners are private, and each of the 15 landowners owns only small plots. In 2014, on behalf of the initiator of the land pool concept, bilateral ad-hoc communication meetings between a regional consultant and each landowner took place. During these meetings, the overall conditions for lease and usage agreements were discussed with each landowner. A planned and mutual participation process—in the form of joint meetings with open discussions—was not conducted at the beginning. After these bilateral meetings, two public communication meetings were held to present the land pool concept and discuss co-operation conditions.

The CS2 has an area of 60 ha and is dominated by open landscape in the form of wetland meadows. Similar to land pool CS1, it is characterized by the existence of protected biotopes, including a natural occurrence of rare brown moss fen patches (*Amblystegiaceae*) and threatened species such as *Hierochloe odorata*. However, increasing natural succession and seasonal water logging can be observed. Various small channels cross this area. Some plots are still used by a local farming company. With seven private landowners, two foundations, two administrative entities, and a farming company, the property structure in CS2 is more heterogeneous than in CS1. In total, there are twelve landowners in

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this case study area. To present the land pool concept and to openly discuss the aims of development in the local area, a joint workshop with landowners and farmers was conducted at the end of 2015. Additionally, the coordinating institution offered to visit the land plots. Landowners do not use their plots themselves for agricultural production. Some did not even know the condition of their properties at the time. Five landowners accepted this offer and participated in a joint "field visit" in spring 2016.

For both land pools, maintenance and development measures were planned and described in a management plan. The two areas can be differentiated by location and the composition of dominating habitat types within the area. CS2 is situated near the town of Lübben and at the border of the flood plain area of the river Spree. Land pool CS1 is located at the very centre of the flood plain area, near a small village.

3.2. Methods

3.2.1. Data Collection Method and Empirical Material

The research object (the acceptability of land pools for marginal wetlands) is a contemporary complex phenomenon in a real-life context, and thus some aspects of it are still unknown. Adequately addressing this initial condition, we chose a qualitative and circular research approach [25,27]) with an embedded case design [28]). The research design consists of a situational and in-depth analysis using different types of qualitative interviews (Table A1). In 2015, explorative interviews [29] with 6 regional experts [30] were conducted to capture the recent situation in the region. This situational analysis (cf. [31]) included the framing of the problem, the discussed solution strategies, and initial acceptability-related statements. With the support of the explorative interviews, we redefined the practice-oriented research questions (RQ1 and RQ2), formulated the hypotheses (H1–H3), and described the case study areas, the constellation of the actors, and the process for establishing the land pools (Section 3.1). Furthermore, these interviews served to contextualise the results of in-depth analysis concerning the acceptability seen by landowners and farmers.

To conduct the in-depth analysis, we applied the method of qualitative and problem-centred interviews [32]. By using this method, we gained a profound insight into the rich acceptability issue, revealed linkages between argumentations and values, and found causalities within the heterogeneity of acceptability patterns (cf. [25]). From 2015 to 2017, we conducted problem-centred interviews with 13 farmers and landowners in the two case study areas (CS1 and CS2). The interview participants included one representative of a nature conservation organization (who is also a regional expert), four private landowners out of 15 with land plots in CS1 (including one group interview), and nine private landowners out of twelve with land plots in CS2. Two of the latter group were also farmers (one farmer and one hunter). This qualitative research method was also necessary because of the structure of landownership (small number of analytical units) and because of the specifics of field access (only direct contact with people enabled their willingness to participate).

The interview guideline was based on the analytical framework as described in Section 2. It contained questions concerning the interviewee's relation to their land property and to the CL, concerning attitudes towards the maintenance of the CL and the acceptability of land pools, and concerning alternative solutions for marginalized wetlands. The interviews lasted between 30 minutes and one-and-a-half hours. To meet the requirements of transparency and reliability in qualitative case studies [28], we produced interview notes, which included the personal impression and circumstances of the interview situation, as well as additional information beyond the recorded interview itself. The audio-recorded interviews were transcribed. Afterwards, the transcripts were sent to interviewees, thus providing them with copies with which to confirm the interview content. This procedure follows the ethical standards of qualitative social science [33,34].

As additional material, we used the minutes of a stakeholder participation workshop related to the CS2 land pool, feedback from participants in the workshop (in the form of short questionnaire results), and an opinion statement of a local interest group regarding the recent developments in CS2. Sustainability **2019**, 11, 4056 8 of 18

3.2.2. Analytical Method

To analyse the problem-centred interviews, we applied the method of Qualitative Text Analysis (a variant of Qualitative Content Analysis) described in [35]; we also considered the approaches of other authors who describe Qualitative Content Analysis, such as [36,37]. Qualitative Content Analysis follows the following principles: (1) embedding the analysis in a model of communication (including the objective and the formation settings), (2) applying a rule-based and step-wise procedure scheme, (3) coding and analysing the text on the basis of categories, and (4) ensuring transparency, validity, and reliability [35,37]. Kuckartz [35] highlights the importance of feedback loops between each step of analysis by iteratively refining the research question and the categories. Guided by this approach, our method of analysis follows a circular procedure, which is consistent with our circular research approach.

Recognizing that there are diverse types of Qualitative Content Analysis [35,36], we mainly applied the structured type to conduct an interpretive thematic analysis. In this type, the use of thematic categories is common. We combined this type of category with an evaluating category that served to define the degree of acceptability decisions. By applying a mix of deductive and inductive categories, the main categories are based on the analytical framework (e.g., object-, actors-, context-, and self-related factors, acceptability degrees), whereas most sub-categories were developed out of the interview material (e.g., trust in coordinating actors, procedural justice, prior experiences, etc.). Afterwards, we used the inductively derived categories to rethink and adjust our analytical framework (cf. [36,38]). As recommended by Kuckarz and Schreier [35,36], we worked with category definitions, example codings for each category, and coding guidelines. The coding process and the analysis of the material were software-supported using MaxQDA 10 (verbi GmbH). The main messages of the codings are summarized as short texts and arranged in the profile matrix. According to Kuckartz [35], the profile matrix is a fundamental instrument of qualitative text analysis that shows main results in a complex table with entries for each analytical unit and topic. This allows further analyses in two directions—thematic analyses across interviews and analyses across different topics (cf. Section 4).

4. Results

In the results section, we reveal the aggregated results of our interview analyses.

Section 4.1 is dedicated to RQ1. In this part, we describe the different factors which influence the acceptability of the land pools. The second subsection of the results (Section 4.2) responds to RQ2. In this part, we compare the acceptability degrees of the two case study areas—CS1 and CS2. In Section 4.3, we illustrate the linkages of different factors in detail and the line of argumentation using one interview as example. Furthermore, all results are summarised in the two profile matrices (Supplementary Materials: Tables S1 and S2). In these profile matrices, we show the results for each analysed interview and case study area in a comprehensive manner.

4.1. Factors Influencing the Acceptability of Land Pools

Regarding the research question about the factors influencing the acceptability and connectivity of factors (RQ1), the analysis revealed a complex acceptability pattern of land pools (Figure 4). Often, the argumentations about the particular topics (appreciation of CL and wetlands, attitudes toward maintenance of wetlands, etc.) were built upon each other. Therefore, these topics cannot be described in complete isolation from one another.

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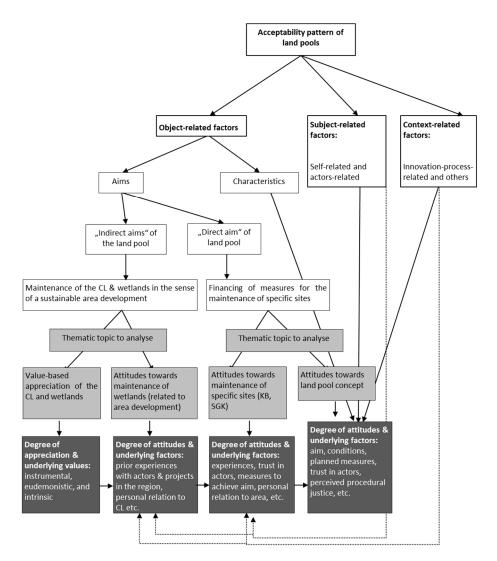


Figure 4. The analytical acceptability pattern of land pools in CS1 and CS2. The figure shows the analysed topics (middle grey boxes in the centre) and the respective outcome aspects that include the specific degrees and underlying factors (dark grey boxes at the bottom). The topics derive from deductively built factors (object-, subject-, and context-related factors) and inductively built aims (direct aim and indirect aim) and factors (e.g., perceived procedural justice). Generally, this analytical acceptability pattern is a preparatory result stage that can be used to better understand the structure of the specific results.

4.1.1. Values of the CL and Wetlands

In accordance with the framework (Figure 1) and our hypothesis 1 (H1), we paid special attention to the perceived values of the CL and the wetlands because the attitudes towards land pools depend on value-based judgements and decisions (cf. Figure 4). In general, the appreciation of the CL is high or very high, but this does not lead per se to a positive acceptance of the land pool (cf. profile matrices in Supplementary Materials). To illustrate this fact, we give examples. The initiators of the land pool use mainly biodiversity conservation arguments, but they are less shaped by eudemonistic or intrinsic values. Most interviewed landowners and users argue based on economic values, namely that the CL should be maintained for agricultural use. Additionally, they cited eudemonistic values such as the importance of regional and cultural identity, the beauty of the landscape or its recreational value (cf. quotation CS2-03 and CS2-08). In some cases, nature conservation arguments were mentioned as well. To summarize, there are no shared values among landowners, users and the initiators of the land pools per se. The degree of appreciation of the CL depends on the perceived importance of maintaining the wetlands in general.

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The wet meadows are "what really represent the Spreewald. It [the maintenance of the wetlands] is very important for us. What now happens, here in the Spreewald . . . It has grown wild, I say. It has become overgrown. I did not know the Spreewald like that in earlier times. . . . " (CS2-03)

The maintenance of the wetlands is important "because they are parts of the cultural landscape, aren't they? And certainly they were used too intensively in the past ... But I say, to leave nature to itself until there is only swampland ... That is not the Spreewald. There should be strict nature reserve zones—that is O.K. But the cultural landscape itself is more important for me: That there is a cow from time to time, or that the farmer can use its plots in a reasonable way." (CS2-08)

4.1.2. Attitudes towards the Maintenance of the Wetlands

To understand the acceptability of land pools, it is important to consider their "direct aims" and "indirect aims" (Figure 4). The "direct aim" of land pools is the financing of measures for the maintenance of specific wetlands. According to the initiators, the main "indirect aim" of establishing land pools is the maintenance of the wetlands as part of the CL and of the sustainable development of the area. Thus, the land pool concept is only one of the possible options for achieving the "indirect aim". In line with this thinking, some interviewees prefer other solutions to finance the maintenance of wetlands. As preferred solutions, they mentioned, for instance, cooperation with local tourism providers to develop voluntary financing instruments for tourists or the thermal use of landscape material by establishing decentralized heat-generating power stations.

As shown in Supplementary Materials, attitudes towards the maintenance of the wetlands and of the wetlands (CS1 and CS2) are much better than attitudes towards the land pool concept. One reason for this is the criticism of some interviewees that the focus is only on wetlands and not on the CL as a whole. They argue that wetlands are an important part of the CL, but they are only one part. Thus, other issues, such as the management of the water body and forests, are underexposed. The current water management was sometimes cited as misleading, poorly implemented, and influenced by the interests of "environmentalists". This mismanagement of water is seen as a type of "creeping land expropriation" because it leads to high groundwater levels, which consequently makes the wetlands useless and worthless for farmers (cf. quotation CS1-02). According to those concerned interviewees, this situation could be used by "environmentalists" to declare worthless wetlands as "strict nature reserve areas" for the protection of wilderness. This discussion of aims shows that the desired and necessary conditions for the area's development—in contrast to the area's current state—influenced the interview partners in their judgements of the land pools.

"... that these areas are put under water to pass them completely to nature conservation—that means zone 1, absolutely no trespassing—and that the nature conservationists just perform a creeping expropriation, from behind. They say that they cannot do anything. Guilty is that person or another one or certain circumstances. But that is not true. Our problem is that we become just expropriated—in a manner. Maybe it is so. Anyway, this feeling is there ... "(CS1-04)

Generally, the attitudes towards the maintenance of wetlands are influenced by the stated values of the CL and by prior experience with actors and projects in the region with regard to sustainable development of the area.

"Well, when there is something new, almost always they talk to us very late or only very seldom. That is just a mistake, too. They should ask us right from the beginning: Is this possible at all?" (CS1-03)

The critical view on the maintenance of case study areas is associated with the medium or strong personal connection of the interviewees to their land. Interviewees with a strong connection to the area see themselves as competent to discuss and decide about the area's development. They show lower degrees of acceptability. In contrast, the three interviewees with a weak personal connection to the area reported a high degree of decision acceptability with regard to the maintenance of the specific wetland.

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4.1.3. Attitudes towards Land Pools

The land pool concept implies interventions in the property rights on land. This issue was mentioned as an important object-related factor. A considerable number of landowners sharply criticized the fact that they have to renounce their land use rights over the course of the next 25 years or longer, recorded with an entry in the land register). For them, this requirement is a criterion to strictly reject land pools. They stated that they would never agree to such a restriction, and they feel that this would mean they would lose agency with regard to their land.

"And if a land pool deals with an entry in the land register that will be the end for me. I will not accept an entry in the land register. I'm not sure how the political situation will change in the next 25 years ... ". (CS1-03)

Beyond objective-related factors, other crucial factors are innovation process-related and actor-related arguments. Concerning the innovation process, perceived procedural justice was cited as important by the majority of interviewees. In this context, interviewees mentioned that own participation, having a voice in the process, and the possibilities of influencing the process are crucial to the success of the project. Actor-related factors are trust in actors and previous experiences with these actors. For instance, the initiators and coordinators underestimated the influence of the way they had acted during previous nature conservation projects. Furthermore, they could hardly imagine that their way of acting could be perceived as controversial by local actors or that it would probably lead to rejection of the land pools. Otherwise, prior positive experiences with the initiators of land pools resulted in high acceptance of the land pool concept, as shown by one interview.

4.2. Comparison of the Acceptability Degrees of CS1 and CS2

This subsection mainly contributes to answering the research question about expressed acceptability decisions (RQ2). The degree of acceptability decisions differs between the two case study areas. Within each area are landowners expressing high acceptance and low acceptance, in the form of conditional acceptance or rejection of the land pools. The case study without the stakeholder involvement process (CS1) was seen more critically than was the CS2 land pool establishment process, which was based on an integrated participation process. Thus, the perceived design and procedure of the innovation process are crucial to acceptability decisions. However, different roles additionally to being landowner (e.g., hunting or farming) did not reveal a different argumentation pattern.

Concerning the CS1 land pool, one private landowner sees the land pool idea very positively, while the other three landowners interviewed rate it much more negatively. The main objective-related factor for rejection is the "restriction on property rights". Distributive justice arguments were also mentioned in terms of questioning whether the selected area was the most suitable for maintaining the CL. For three interviewees, the maintenance of meadows close to the village was more important than in remote areas. These interviewees have strong personal connections in terms of deep rootedness in the village and its land use history. Consequently, the CL has a high value for their cultural and regional identity.

"Why will it [the land pool] be in the area of CS1, where there is only a little tourism? Why will it not be done around L. [the village]? There are enough [suitable] plots". (CS1-01)

Concerning the case of CS2, the degree of acceptability decisions varies from rejection to high acceptance/engagement in similar proportions. Three interviewees strongly accepted the land pools concept. One of them even stated the wish to engage in establishing the land pool, while three interviewees decided on "rejection/conditional acceptance". The degree "doubt/conditional acceptance" was expressed by two interview partners. Only one subject tended toward "conditional acceptance/high acceptance". The distributive justice arguments played only a marginal role in acceptability decisions.

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4.3. Linkages between Different Farctors—An Example Case

In this subsection, we present an example of a "single-case analysis" to describe the linkages between different factors to illustrate the line of argumentation (Figure A1). This analysis mainly contributes to RQ1. We selected this case (a landowner from CS2, interview CS2-03) for a detailed description because it reveals complex acceptability patterns and rich information. Furthermore, it includes many aspects and arguments that were mentioned by other interviewees as well. Generally, this in-depth description serves to better understand the complexity of argumentation patterns and to derive suitable acceptance enhancement measures.

In interview CS2-03, the strong appreciation of the CL was explained by a multitude of value arguments. According to the interviewee, the landscape contributes to the regional-cultural identity and local recreation. These are so-called eudemonistic values, because they are attributed to the basic condition of quality of life. The wet meadows are "what really represents the Spreewald". Thus, the maintenance of the wetlands is essential to this interview partner. The currently "overgrown" landscape "has only little to do with the Spreewald I still knew from my childhood. At that time the meadows were cut. There were some haystacks . . . ".

The argument in favour of the agricultural use of wet meadows is connected with public instrumental values of nature (important for the region, tourism, and nature conservation). The degree to which the conservation of typical wetland species is also intrinsically motivated was not clearly indicated in the interview. The previous value argumentations and the statement on own "ownership obligation" make clear that the interviewee completely agrees with the aim of maintaining wetlands. However, he does not agree with how wetlands are currently treated. The 'conditional acceptance' towards the wetlands and CS2 reflects doubts regarding the intentions and competences of some regional actors. The interviewee reported having a relatively strong connection to the CS2 area. Some previous negative experiences with the course and the outcome of a regional nature conservation project led to a lack of trust in regional actors. According to the interviewee, project coordinators focused only on species and biotope conservation and did not sufficiently include the interests and expertise of laypersons. The perception that they lacked an adequate voice caused landowners to feel they had no agency with regard to the landscape development process. Thus, the interview partner states that future innovation should be designed as a fair process. He demanded the same for the process of establishing land pools in CS2. All affected actors should be involved early and in a "real way" by having a voice and an influence on the outcome of the process. If these conditions are met, this interviewee will strongly accept the land pool concept. The efforts regarding the current process design are perceived as fair and promising, and there is partial trust in the coordinating actors. Additionally, some objective-related factors positively influence this acceptability decision: The interviewee has very positive attitudes towards the aims of re-use and maintenance of CS2 and sees the required restriction of property rights as unproblematic.

5. Discussion

As already mentioned in the introduction, internationally published studies about the acceptability of land pools do not exist, making it impossible to compare factors at this specific level. Therefore, we can only generally discuss our results in relation to studies dealing with land use issues and their acceptability. Thus, the following section focuses on the presence of various factors and their relation to other factors that determine acceptability. We pay special attention to the discussion of our ex-ante hypotheses.

Hypothesis 1. The ex-ante hypothesis "Acceptability decisions are influenced by social norms and values of nature" is supported by the study's findings. The stated values of nature have a special impact on the assessment of the overarching aim—the maintenance of wetlands (cf. [1]). They also influence opinions about the suitability of area selection and of measures to achieve the aim of wetland maintenance.

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In the acceptability and acceptance literature, the importance of values as influencing factors is mentioned. Generally, values are socially constructed and depend on socio-cultural affiliations [18]. Individual value expressions are based on socio-cultural values, which are subsequently interpreted through own experiences [39,40]. Referring to the ecosystem service debate, Kenter [39] provides a framework of shared and social values that differentiates between "shared group values" and "shared community values". The author argues that shared values between the actors of an innovation process ("shared group values") are needed to create a common basis for the success of the sustainability innovation. This can be better supported by an open discussion of actors' values instead of monetarily quantifying values, as is often done in such projects. In the present case study, the value statements show that at the time the interviews were conducted, no shared group values within the innovation process participants had previously existed. However, shared community values were identified among CS1 interviewees, for instance, in their preference for maintaining meadows close to the village rather than remote meadows. This value-based argument was shared by local residents, who were connected through their shared experiences and practices. Adding to the findings of Kenter [39], Chan et al. [41] claim the increased importance of the socio-cultural dimension of nature values in environmental policies. In particular, these authors recommend the recognition of eudemonistic values as part of relational values (understood as the mutual relation between nature and humans).

Hypothesis 2. Concerning this hypothesis, the study shows evidence that the design of innovation processes influences acceptability decisions in both directions. The case study with an integrated participation process based on the principles of transparency and actors' involvement was better accepted than the process based on individual consultation. The innovation-process-related factors, such as having a voice, early involvement of all actors, and the possibility of influencing the outcome and process, can be summarized as a superior analytical factor—so-called "procedural justice" [42]. Eswarlal et al. [43] discuss similar justice criteria for bioenergy projects: control over the project, information availability, and communication and relationships. Procedural justice is widely discussed in the literature, mainly in studies about renewable energy projects. In accordance with Aitken [44], Petrova [45] (p. 1283) emphasizes that a fair process design would lead to higher acceptance "even if an outcome is not considered fair to all participants". Procedural justice concerns are often linked to trust in actors [46,47]. Referring to "public acceptance" of wind energy projects, Walter [46] states that the characteristics of a project developer have an influence on decisions about acceptance or non-acceptance. Generally, trust—as an influencing factor—is considered in numerous publications [18,24,42,48,49].

Hypothesis 3. Our study showed that prior negative experiences of landowners negatively influenced acceptability decisions. The interviewees mentioned their experiences with a long-term nature conservation project and with the designation process of the biosphere reserve. Due to these negative experiences, the interviewees lost confidence in regional nature conservation actors. The finding that prior experiences are related to trust is supported by the literature on acceptability [50–52]. "People also need to have confidence in the institutions concerned" [53] (p. 67). In conclusion, the factor "trust" connects our H2 and H3.

By applying a qualitative research approach, the study revealed additional results beyond those related to the hypotheses. In the following, we discuss two specific points: (a) the "expropriation frame", and (b) the meaning of degrees of acceptability decisions.

a. Some interviewees connected the focus of cultural landscape protection on wetlands to water mismanagement as an instrument of expropriation. We interpret the argumentation that "water mismanagement is creeping or cold expropriation" as an "expropriation frame"). According to the concept of framing [54–57], the "expropriation frame" is an imagined and selective narrative of the reality that is grounded in individual experiences, knowledge and perceptions of those farmers and landowners. By intersubjectively constructing this frame, the farmers and landowners make sense of the complex situation as the basis of their argumentation and actions. The situation's dissemination and reproduction (as part of the framing process) allow building a

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shared narrative and an alliance against other positions. This frame is attributed to the economic and cultural value of the landscape as a counterpart to the "pure" nature conservationist, environmentalist and climate protectionist positions. The mis-management of water and the intended rise of water levels are regarded as the leading problems in the region that need to be solved. The process of framing and the use of frames are common in problematic situations between agriculture and environment in general and in wetland areas in particular [55]. The "expropriation frame" is not specific to the Spreewald region; it has also been identified in other German regions, as seen in articles in the local press and in regional public debates (e.g., [58–60]). Generally, the suspicion that land will be indirectly expropriated is connected with the sense of losing control or agency. The same emotion or reaction was triggered by the implication that land pools would restrict property rights. From a behavioural perspective in psychology, both reaction processes can be explained by Brehm's theory of Psychological Reactance (cf. [53]), which states that the elimination or limitation of choices often causes opposition or non-acceptance.

b. The analysis showed that acceptability decisions can vary over time and are thus influenced by various conditions (e.g., process conditions and objective-related conditions, such as the form of contracts or the set of maintenance measures). Sometimes, one single distinctive degree of acceptability could not be identified. In some cases, the degree of "conditional acceptance" was related to "high acceptance". In other cases, it was related to "rejection", meaning that these interviewees reached a temporary decision on the level of attitudes. At the same time, they stated that a future decision about taking action would depend on whether their suggested conditions were to be adopted or not. This attitude is also related to the interviewees' expectations regarding the initiator of land pools.

Hitzeroth and Megerle [18] discuss a similar point. They [18] (p. 577) argue that degrees of "conditional acceptance" and "indecisiveness" are strongly connected to personal expectations and attached conditions. These degrees can be very critical and unstable. They are called "turnaround moments" [18] (p. 578) in the acceptability process because, without positive intervention, such acceptability degrees potentially shift into non-acceptance or opposition. Thus, these unstable degrees belong to the "range of risks" [18] (p. 578)). Generally, the form and meaning of degrees of acceptability decisions are not extensively discussed, and they are therefore a relatively new topic.

6. Conclusions

The results of this acceptability study allow us to draw conclusions on two levels—at the level of the case study and the level of the conceptual framework. The case study level showed that the discussion and disclosure of the values of all involved actors supports the identification of shared values and the mutual understanding of the value arguments. The importance of wetland maintenance is still not clearly understood or rated as important by affected actors. A clear description of the complex problem—using maps and embedding the concept of land pools in a systematic strategy for regional development—could enhance acceptance. Furthermore, to support the success of land pools, it might be beneficial to restore trust through transparent and open communication as well through early and active involvement of all affected actors in terms of a fair design of the innovation process. For those activities, additional resources are necessary. If possible, the land pool concept as official requirement should be modified in accordance with local and official framing conditions. For the case study presented here, that requires changing current contracts about restricted property rights into softer solutions. With landowners who tended to reject land pools due to property rights, toleration agreements can be made.

The conclusion regarding the conceptual framework corresponds to the research question concerning the conceptualisation of acceptability (RQ3). The framework was helpful for structuring the presented acceptability phenomenon, and it supports an in-depth analysis that includes the linkages between values and arguments on different levels. Additionally, it revealed a broad range of arguments and factors that would not have been identified with previously fixed factors, as are commonly used in

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standardized surveys. Our case study showed that when analysing acceptability, the consideration of all types of actors is important (focus on interaction) and that process-related factors should be underlined as crucial in the dimension of the acceptance context. In the design of further acceptability studies, it might be helpful to understand that sometimes the degree of acceptability decisions cannot be clearly classified by one distinctive degree and can change over time depending on future events in the innovation process. To refine the acceptability model, further research in terms of additional studies is required; such research could apply our framework to other contexts.

Supplementary Materials: The following are available online at http://www.mdpi.com/2071-1050/11/15/4056/s1, Table S1: Profile matrix of CS1., Table S2: Profile matrix of CS2.

Author Contributions: Conceptualization, M.B.; methodology, M.B. and R.S.; validation, N.H. and R.S.; formal analysis, M.B.; investigation, M.B. and N.H.; resources, M.B.; data curation, M.B.; writing—original draft preparation, M.B.; writing—review and editing, N.H. and R.S.; visualization, M.B. and N.H.; supervision, R.S.; project administration, R.S.; funding acquisition, R.S.

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Appendix A

Table A1. Conducted interviews and analytical units.

| No. of Analytical Unit | Type of Actor/Interview Code No. | Function/Area Context | Type of Interview |
|------------------------|---|---|---|
| 1 | Initiator of land pools (nature conservation administration & member of non-profit foundation) (<i>E-01</i>) | Regional expert; without link to a specific area | explorative |
| 2 | Regional actor in private nature conversation (E-02) | Regional expert; link to CS2 and other areas | explorative |
| 3 | Representative of regional administration of nature conservation (<i>E-03</i>) | Regional expert; without link to a specific area | explorative |
| 4 | Administrator of regional nature conservation measures (<i>local water authority</i>) & representative of official landowner (<i>E</i> -04 = <i>CS2</i> -09) | Regional expert; link to CS2 and to other areas | explorative and problem-centred (identical to No. 19) |
| 5 | Agricultural consultant, Partner in the innovation process (E-05) | Regional expert; acquiring land plots for land pools, without link to a specific area | explorative |
| 6 | Representative of the regional farmers' association (<i>E-06</i>) | Regional expert; without link to a specific area | explorative |
| 7 | Private landowner (CS1-01) | Link to CS1 | problem-centred |
| 8 | Private landowner (CS1-02) | Link to CS1 | problem-centred |
| 9 | Private landowner (CS1-03) | Link to CS1 | problem-centred |
| 10 | Private landowner (CS1-04) | Link to CS1 and other areas | problem-centred |
| 11 | Private landowner (CS2-01) | Link to CS2; actor in nature conservation | problem-centred |
| 12 | Private landowner (CS2-02) | Link to CS2 | problem-centred |
| 13 | Private landowner (CS2-03) | Link to CS2 | problem-centred |
| 14 | Private landowner and farmer (CS2-04) | Link to CS2 | problem-centred |
| 15 | Private landowner (CS2-05) | Link to CS2 | problem-centred |
| 16 | Private landowner (CS2-06) | Link to CS2 | problem-centred |
| 17 | Private landowner (CS2-07) | Link to CS2 | problem-centred |
| 18 | Private landowner, land user (hunter) (CS2-08) | Link to CS2 | problem-centred |
| 19 | Representative of official landowner (CS2-09) & administrator of regional nature conservation measures (local water authority) | Regional expert, Link to CS2 and to other areas | explorative and problem-centred (identical to No. 4) |

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Appendix B

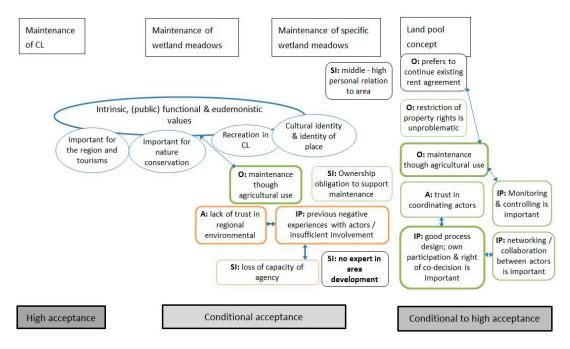


Figure A1. The visualization of an acceptability pattern of one interview (CS2-03).

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