

# Article The Wetland Contract as a Tool for Successful Wetland Governance: A Case Study of Ljubljansko Barje Nature Park, Slovenia

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Abstract: Our research focuses on implementing multilevel governance of wetlands to achieve an effective participatory process and its overall positive effects on wetland ecosystems and their protection as well as on local sustainable development. The aim of the research is to develop a methodology for establishing the Wetland Contract, a voluntary agreement to foster sustainable management and development of wetlands, to ensure greater coordination and consensus building between various stakeholders involved in management and to limit conflicts between preservation issues and economic activities in wetlands. The Wetland Contract and the integration process for establishing it in Ljubljansko barje Nature Park proved itself able to overcome conflicts between institutional and legal jurisdiction and is showing itself to be a dynamic path capable of activating a desirable relationship between various interests and supporting new forms of multi-sectoral stakeholder participation in wetland management. It has also contributed to a dialogue and shared responsibility among stakeholders.

Keywords: biodiversity; management; participation process; stakeholder



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#### 1. Introduction

The zone between land and water is represented by wetlands, which are among the most productive ecosystems in the world [1]. They are vulnerable, rich, and diverse ecosystems [2]. They provide numerous ecosystem services and important hydrological and ecological functions. However, due to their variability over time and from place to place, it is difficult to specify one single definition that would be acceptable to all stakeholders, both those engaged in research and legal matters. Despite the lack of agreement on a single and precise definition, there is substantial consensus on three criteria for defining a wetland: Hydrology, pedology, and botany [3]. The international definition of wetlands is offered by the Ramsar Convention [4]: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters."

The various functions of wetlands give them unique importance not only for plants and animals, but also for mankind. Wetlands are important habitats for numerous and various flora and fauna, for filtering, cleaning, and storing water, and for protection against flood hazards. They are also a buffer zone for wind and tidal forces, and they contain highly aesthetic recreational areas [5]. Wetlands are also important as part of cultural heritage. Their ecological functions have overshadowed this aspect of their importance, but it is now increasingly gaining greater attention. Wetlands are inextricably linked with the cultural heritage of humanity, and they are a cradle of local knowledge and tradition, religious beliefs, and aesthetic values. Effectively, the conservation of wetlands contributes to the conservation of human tradition [6].

Wetlands are often challenged by the overlap of different interests, various levels of spatial planning and authorities in charge of their preservation and management, and

limited coordination and capabilities of administrative authorities to handle their complex territorial dynamics [2]. The mutual cooperation of relevant stakeholders from different sectors and implementation of participatory processes are insufficient and severely underestimated, which has led to conflicts between various interests, mainly concerning preservation issues and economic activities.

Since the 1960s, when the importance of citizen participation in planning decisions was highlighted by Jacob [7] and Arnstein [8], participatory planning have been slowly but persistently gaining importance. The concept refers to the inclusion of the affected or interested population groups in forming joint decisions, in which the ones directly affected by a specific decision have the right to participate in the decision-making process [9]. In the current context of rapid and profound social and environmental changes, sustainability debates are increasingly focusing on the relationship between democracy, development, and innovation. Within these debates, the approach of "cocreation" is becoming a key concept at the European policy level since it involves participatory governance and bottomup innovation for development [10]. Participatory governance mechanisms have been widely promoted in the EU [11], especially in countries with previously highly centralized (more or less) totalitarian regimes and absent democratic traditions [12]. Their introduction is believed not only to motivate active citizenship but also to bring about several public policy benefits, such as increased account ability, higher government responsiveness, and better public services [13]. Despite the fact that unconventional (bottom-up) political participation in post-socialist countries is not as established and popular as in the countries with strong democratic traditions [14] like Slovenia is, the absence of the correlations between participatory planning and the mentioned characteristics indicates that certain breakthroughs are possible at the local level.

Protected area governance systems are dealing with "public goods" targeted to balance conservation and socioeconomic development. The governance models still show their roots in the traditional top-down approaches with governance and management systems [15]. The main challenge of protected areas today is to elaborate and share strategies improving efficiency and quality of governance, involving all relevant levels, public and stakeholders. Mobilizing the area's potential stimulates the local economy, knowledge development, and community interaction [16,17].

In last two decades there have been an increasing number of governance techniques in management of wetlands, weather on state, regional, or local initiatives [18] (Shipman et al., 2020). They are based on various participatory approaches, which are rooted in active commitment and collaboration of stakeholders, such as participatory rural appraisal, participatory integrated assessment approach, multi-actors engagement, a communitybased co-management approach, and others [19–22], but there is no unified model nor policy for efficient wetland governance. However, providing a comprehensive and effective governance concept, with the use of different already-established participatory techniques, is thus of crucial importance.

Therefore, this research focuses on implementing multilevel governance approach of wetlands to achieve an effective participatory process and overall effects on wetland ecosystems and their protection, as well as on local sustainable development and interlinked local systems. The research question focuses on how effective a participation of various groups of stakeholders is in searching for common goals for effective governance of wetlands. The research aims to develop a methodology for establishing the Wetland Contract, a voluntary agreement to foster the sustainable management and development of wetlands, ensure greater coordination and consensus building between the various stakeholders involved in management, and limit conflicts between preservation issues and economic activities in wetlands. It contributes to dialogue and shared responsibility among stakeholders.

The idea of the Wetland Contract is based on the methodology of River Contracts [23], which aim at effective water management based on active participation of relevant actors. This research thus seeks to develop, test, and transfer the Wetland Contract through broad participatory processes in which stakeholders such as public authorities, knowledge

providers, and stakeholders from civil society and the business world are committed to incorporating wetland preservation into their regular activities [2].

#### Study Area

The Ljubljansko barje extends along the edges of the Slovenian capital of Ljubljana, over a 150 km<sup>2</sup> area featuring a characteristic patchwork of meadows, forests with leaf litter, fields, channels, and hedges, which provide shelter to many plant and animal species. The Ljubljansko barje is also a settlement area: In 2018, as many as 20,102 people lived in this protected nature park [24]. After 150 years of human intervention in this marsh landscape, at the beginning of the 20th century, the first realizations appeared regarding the need to protect it. Efforts to protect the Ljubljansko barje intensified during the 1980s, until the marsh was protected as Ljubljansko barje Nature Park in 2008 to protect its natural values, preserve its biodiversity, and maintain and enhance its landscape diversity. Despite being protected, the park continues to face many pressures and threats that may threaten its future sustainable development. The most distinctive among these include inappropriately located infrastructure, a shrinking area of extensive meadows, the spread of monocultures, illegal dumps, and pressures on aquatic and riparian environments [25].

The pilot area (Figure 1) lies in the northeastern part of the Ljubljansko barje and covers just under 620 hectares of land in the most strictly protected area. Permanent meadows predominate (80%) and fields account for 20% [26]. The main emphasis is on the conservation of extensive wet meadows, which must not be excessively drained to avoid more intensive farm use. The network of channels, hedges, and small areas of bush and shrub habitats forms the habitat mix and diversity in an extensive agricultural landscape that creates the basis for further conservation of biodiversity [27].



Figure 1. Pilot area lies within Ljubljansko barje Nature park.

#### 2. Methods

As part of this study, steps were developed for a successful establishment of multilevel wetland management to improve the coordination between stakeholders, the local area, and the wetland itself. Ten steps were developed. They were implemented in the period from 1 July 2017 to 31 December 2019 (Figure 2). They comprise various methods and can be adapted to the characteristics of any wetland and its surrounding area.

Task name	Period 1–2017 (1.7.–31.12.)	Period 2–2018 (1.1.–30.6.)	Period 3–2018 (1.7.–31.12.)	Period 4–2019 (1.1.–30.6.)	Period 5–2019 (1.7.–31.12.)
Regulatory framework analysis					
Scientific description of the pilot area					
Stakeholder analysis					
Reaching the potential stakeholders					
Questionnaire					
Grouping the stakeholders					
Designing of the comprehensive register					
Organization of territorial labs					
Designing of the Wetland Contract					
Signing of the Wetland Contract					

Figure 2. Timetable of the steps for a successful establishment of multilevel wetland management.

#### 2.1. Regulatory Framework Analysis

This step comprises an overview and analysis of regional laws and regional and local management plans that include the protection and management of wetlands.

#### 2.2. Scientific Description of the Pilot Area

This step includes a description of the area's current state of management, its archeological, historical, architectural, ethnological, and landscape heritage, and its current state of the economy, education, and research. In addition, it includes a description of the habitat types and the plant and animal species in the pilot area, with an emphasis on the most endangered ones, a presentation of the greatest threats and hazards, and their impacts on the area, and the main reasons for establishing an effective management.

#### 2.3. Stakeholder Analysis

The stakeholder analysis includes the following steps: Identifying and contacting the relevant stakeholders, analyzing them using the "interest-influence" matrix, and defining their roles in the process (Figure 3). Stakeholders can be identified through the following [28]: Brainstorming with professionals and individuals that know the area well, reviewing literature, various initiatives and studies connected with the topic studied, interviews with representatives of various organizations, browsing websites related to the topic at hand, and fieldwork (questionnaires). After the stakeholders were identified, their roles were defined. A useful method that can be employed in this step is the Quadruple Helix approach, which is based on the idea that innovation is the result of a reciprocal process involving various stakeholders, each contributing regarding to its "institutional" function in society [29]. "The Quadruple Helix contextualizes the Triple Helix (public authorities, knowledge providers, economic activity) by adding as the fourth helix 'civil society'" [30] (p. 14). When the stakeholder identification process is finished, we obtain a complete list of groups of all the possible stakeholders.



Figure 3. Method of interest/importance-influence/power matrix [31].

#### 2.4. Reaching the Potential Stakeholders

In the next step, we have to reach the potential stakeholders. We can contact them through different social networks, which allow us to find proper stakeholders with pertinent concerns. By mapping the relationships and proper content online enable recognize innovative ways to contact stakeholders and gain confide and acquaintance. It can assist in understanding social impact, political context, and potential risks [32]. As reaching the potential stakeholders is not just a one-time procedure it could last almost until the end of the process. Potential stakeholders could step in or out at any time during the process.

#### 2.5. Questionnaire

After contacting the potential stakeholders, there is a need to obtain more information from them. Questionnaires are therefore one of the solutions to gain relevant information for more detailed analysis of potential stakeholders. We prepared an in-depth questionnaire (Appendix A) for those stakeholders who positively responded to cooperation, to obtain crucial information for further analysis. The final result of this phase is the stakeholder list with the essential information gained from the questionnaire.

#### 2.6. Grouping the Stakeholders

In the next step, the selected stakeholders for the pilot area were divided, in our case, on the basis of interest–influence matrix. This matrix on one hand expresses the interest of the stakeholders in the content studied versus their level of influence in the area [33–35]. Using this approach, it is possible to assess the stakeholders by analyzing their power and their interest (Figure 3), and they are placed in four quadrants and stakeholder groups: Key stakeholders, keep informed, meet their needs, and low priority. Their interest and influence were measured with 2 specific questions within a questionnaire (Appendix A). We measured interest with the question of whether the organization would like to be informed, consulted, or actively involved to the wetland contract process. The influence

was measured with the question of whether the organization has low, medium, or high influence in the Wetland Contract process.

#### 2.7. Designing of the Comprehensive Register

Stakeholder mapping process is concluded with the design of the comprehensive register of stakeholders. A result of this process is the stakeholder register, with a selection of those who have interest and influence regarding selected topic. It is an essential tool for developing and implementing the Wetland Contract, and it is of paramount importance to establish a successful dialog with stakeholders in an organized way [36].

#### 2.8. Organization of Territorial Labs

The stakeholders with high influence and high power are invited to join the procedure of implementing wetland governance, starting with territorial labs. The idea of the territorial labs is to present the pilot area and its characteristics and through participatory approach identify main problems, solutions, and challenges of the area. One of the crucial steps is to find the opportunities and at the same time also threats that we can be faced with. If it is possible, we can determine the role of the stakeholders. The territorial labs contribute to the comprehension of various interests included and to the assessment of the potential inclusion of the main actors. In the territorial labs, one can use different methods (such as a traditional workshop, a future workshop, world café, or roundtable) to gain as much coordination and consensus building as possible among stakeholders and decision makers, and to reduce and absorb disagreements arising between various sectors, primarily between protection and economic activities [2].

#### 2.9. Designing of Wetland Contract

Based on the results of all the preceding steps, the Wetland Contract with an appertaining action plan is designed to meet the goals related to the restoration of the environmental, social, and economic aspects of the selected wetland. The action plan consists of the measures and actions agreed by the contracting stakeholders. Implementation of the action plan based on agreed timetable, budget, and accountability. If the Action Plan is too ambitious or/and there is a lack of possible responsible institutions for coordinating the actions, the Wetland contract could be transformed into «wetland memorandum». Unlike the wetland contract, the wetland memorandum includes a truncated Action plan just with goals, measures, initiatives, and risks.

#### 2.10. Signing the Wetland Contract

In the last step, a closing conference for the Wetland Contract design process is held. Harmonized goals, measures, initiatives, and risks for the following three areas are presented alongside key challenges for the future: Management, the environment, and economic and social development.

#### 3. Results

The operation of Ljubljansko barje Nature Park is based on a multilevel legislative framework: An umbrella national legislation on the one hand, and concrete regional or local legislation on the other. The most important document referring to the pilot area studied is the Ljubljansko barje Nature Park Decree, adopted in 2008. This decree defines the area of the park, the protected areas and narrow protected areas within the park, the rules of conduct and protection regimes, the park's management and surveillance, and other practices related to the park's establishment.

The pilot area studied covers less than 620 hectares, or a total of only 5% of the nature park, but it involves a concentration of problems between stakeholders and necessary negotiations to preserve the natural environment on the one hand and extensive agricultural use of meadows on the other. Maintaining the groundwater level by suitably cleaning the drainage channels is also key to proper conservation of these meadows.

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implementation, we studied literature and relevant documents related to our theme, we have done interviews with relevant actors, and an in-depth brainstorming session with key actors [2]. The most successful method proved to be interviews and an in-depth brainstorming session as we were acquainted with a lot of "mouth to mouth" details of the potential stakeholders. The result of this phase was the stakeholder register with in-depth information. As our goal was to gain as many stakeholders within different sectors, we assigned a specific function to each stakeholder. In the next step, we reached them either through classical or online communication methods, such as post, telephone, e-mail, or social media communication. The most successful communication tool proved to be e-mail; for those who do not have an e-mail, communicating by telephone turned out to be successful as it is a two-way communication tool where the stakeholders get immediate feedback. Reaching the potential stakeholders proved to be a long-term process where some stakeholders arbitrarily excluded themselves from the process and others were included. Some of them were reached and included even at the end, at the final conference when the signing of the contract was done.

We received 53 questionnaires altogether and among them, 44 were fully completed and analyzed. A good half of the answers (56.8%) are classified as public authorities, a poor tithe (6.8%) as knowledge providers, one-fifth (20.4%) as a civil society, and one-sixth (16.0%) as a helix of economic activities.

We analyzed only the stakeholders with a higher interest or importance and higher influence or power in relation to our studied topic. The reason for including the ones with the higher interest and influence is that they are the ones with which we can focus on the challenges and can achieve positive results. This corresponded to one-third (34.0%) of stakeholders. The majority of them, two-thirds (66.7%), are public authorities, a good one-tenth (13.3%) are knowledge providers, a good one-tenth (13.3%) are civil society, and only a poor tithe (6.7%) are from the business world. As we wanted to include stakeholders that were as interested as possible and to secure the greatest possible heterogeneity among them, we additionally added those with a medium level of interest or importance and influence or power in the process; this corresponded to 27.3% of the stakeholders. Among these, half (50.0%) of them are public authorities, a poor tithe (8.4%) are knowledge providers, one-quarter (25.0%) belong to civil society, and one-sixth (16.6%) are from the business world.

Among all fully completed questionnaires, a poor two-thirds (61.4%) of stakeholders were included to the further development and implementation of the Wetland Contract, and a good one-third (38.6%) of those that completed the survey were not interested to participating in the further process. Among those that were interested in participating, a good half (59.2%) were public authorities, a good tenth (11.1%) were knowledge providers, a poor fifth (18.6%) were from civil society, and a good tenth (11.1%) were from the business world.

The outcome of the stakeholder mapping process was a list of stakeholders that were invited to territorial labs. Of interest were only those stakeholders that can be defined as "interested" and "influential." It is a key that these two groups be drawn into the process, as they are motivated to participate and thus there is a greater chance for developing a successful result and its implementation. There is also a greater chance for continuous development of the results and their durability.

After the stakeholder analysis, we prepared territorial labs. At the first territorial lab, where 41 participants from different backgrounds came together, a traditional workshop was carried out, mainly to introduce the idea of the Wetland Contract. After this, specialists in hydrology, biology, and agriculture presented their expert opinions for maintaining biodiversity and the water regime of Ljubljansko barje Nature Park.

The introductory presentations were followed by an open discussion on the issues that the stakeholders perceive in the pilot area, such as declining biodiversity, floods, initiatives to zone the Ljubljansko barje and manage its channels more economically, and so on. Channel management proved to be among the most pressing issues and therefore the main attention was then placed on finding solutions for more economical and effective channel management in the Ljubljansko barje.

At the second territorial lab, which included 27 participants, we used the world café method. The stakeholders were divided into four groups discussing different topics: Agriculture, water management, nature, and tourism. Each group was placed around their own table for 20 min, with a competent coordinator in charge of one of the mentioned topics. Each participant contributed with ideas, which were written down to the posts by the coordinator. In one hour and 20 min, each group participated at all four tables. The most pressing problems regarding agriculture and water management proved to be an inappropriate channel management, the absence of zoning, and water pollution. The main solutions suggested were appropriate channel management, suitable land zoning, and proper supervision of water pollution. The challenges involved include changes to legislation and the method for providing suitable supervision. The most pressing tourism problems proved to be the absence of tourism infrastructure, a lack of tourist products, no uniform marketing strategy in this area, and uninformed visitors. The challenges involved include a lack of funding and communication, and the absence of systematic visitor awareness raising. The most pressing problems connected to the natural environment turned out to be overgrowth, uncontrolled visits, ineffective supervision, inefficient policies, and the lack of proper channel maintenance. The solutions highlighted for this included zoning, channel and hedge maintenance using new technologies, efficient relevant policies, and improved supervision. The challenges identified included a lack of young farm successors, time-consuming coordination of different interests, and providing policy changes. The first part of the workshop was followed by presentations of findings by table or topic and the premises for seeking further ideas related to the coexistence and operations of stakeholders in the pilot area.

The third territorial lab, which 22 participants attended, was conducted as a roundtable (Figure 4). The stakeholders discussed potential goals, measures, initiatives, and risks for three different areas—governance, the environment, and economic and social development and they prepared the final version of the action plan, which is a constituent part of the Wetland Contract and the result of the overall conclusions of everyone involved in its design.



Figure 4. The third territorial lab was organized as a round table.

The fourth territorial lab, in which 12 participants met, was conducted as a roundtable. We exclusively invited the stakeholders from agricultural sectors as they express several challenges regarding the content of potential goals, measures, initiatives, and risks for three different areas: Governance, the environment, and economic and social development, with an emphasis on agricultural specifics. Most of them are also the owner of the land within a pilot area and thus the discussion about the specific impacts of the planed measures was needed. The territorial lab exclusively for the agricultural sector proved to be successful as it was focused to the specific thematic regarding agriculture and water management.

The final step of the entire process was the design of the Wetland Contract as a tool for more comprehensive participative operation in the selected area, consisting of a series of shared, specific, and detailed commitments and actions. This contract is a voluntary document that includes criteria in the areas of public utility, economic return, social value, and environmental sustainability to search for effective solutions for the enhancement and protection of wetlands, signed by various stakeholders. It does not produce obligations but rather encourages commitments. The Wetland Contract include initiators and coordinators: The Research Center of the Slovenian Academy of Sciences and Arts as a research institute that sought to use a practical example to test the methodology presented, and the Ljubljansko barje Nature Park Public Institution as the manager and coordinator of activities in the pilot area. Other stakeholders included various representatives of the public authorities, educational and research institutions, civil society, and the business world, and other stakeholders connected with the wetland seeking to meet the goals related to the restoration of its environmental, social, and economic aspects. One of the most important parts of the Wetland Contract is the Action plan, which is the result of the overall conclusions of everyone involved in its design and defines goals, measures, initiatives, and risks by the relevant strategic area (i.e., governance, environment, and economic and social development). The Action plan with four measures in the area of governance, eight measures in the area of environment, and five measures in the area of economic and social development was prepared by the experts of each field. Unfortunately, at the final stage, the Action Plan was not included in the Contract as the potential signatories were not prepared to take responsibility for their implementation and financing.

At the end, stakeholders defined seven objectives with goals, measures, initiatives, and risks, which are more obligations in principle with no defined concrete actions, which were included in Wetland Contract (Table 1).

The Wetland Contract was signed by 18 stakeholders for a period of five years, and it can be updated and/or extended before the expiry of five years. A general assembly and supervisory board were also established as part of the Wetland Contract. The general assembly is composed of all the signatories, and the supervisory board comprises representatives specializing in individual areas covered by the Wetland Contract. In terms of enforcing the Wetland Contract, all the signatories agreed to secure available or appropriate resources for active participation. The decision-making procedures are modeled on the principles of informing, consultation, and active participation in accordance with national legislation and EU regulations. The signatories respect the principle that they can prevent the wetland's environmental, social, and economic degradation and pursue the goals of sustainable development only through the participation of all public and private stakeholders. To this end and by respecting the responsibilities of every individual, they will seek to achieve the common goals set. Monitoring the results of implementing the measures specified in the action plan is also of exceptional importance. The results will be monitored by the supervisory board, which will also draw attention to any critical conditions in the area and options to implement these measures successfully. The Wetland Contract can also be signed, at any time, by other public institutions, educational and research institutions, members of civil society, representatives of the business sector, and other relevant stakeholders connected with Ljubljansko barje Nature Park.

GOALS	MEASURES	INITIATIVES	RISKS	
MANAGEMENT				
- comprehensive management of the water regime coordinated with flood protection, water protection, nature protection and agriculture	<ul> <li>control of drainage of water from secondary arrester to main dams (river) with locks;</li> <li>control of drainage of water from tertiary arrester;</li> <li>coordinated maintenance of ditches; awareness of stakeholders on the importance of adequate maintenance of the arrester;control of the use of fertilizers and preservatives on agricultural land.</li> </ul>	<ul> <li>examine the relations between the drainage regime of main, secondary and tertiary arrester;</li> <li>to establish a monitoring system for the groundwater level, which is comparable to the existing hydrological monitoring system;</li> <li>examine the relationship between ground, underground and meteoric water and how they affect the humidity of the soil surface;</li> <li>to establish a system for monitoring the movement of water levels on main and secondary arrester in relation to precipitation and maintaining the flowability of water and the ability to drain water from the land;</li> <li>establish restraint and controlled release of water from arrester;</li> <li>to include all relevant stakeholders in the process of preparing water management plans;</li> <li>to highlight nature conservation and cultural significance arresters;</li> <li>to determine the appropriate regimes for the use of fertilizers and preservatives on agricultural land;</li> <li>proper removal of sludge from sewage system drains.</li> </ul>	<ul> <li>if the primary arresters are not cleaned, there can be no effective effect on the drainage of water from the secondary and tertiary arresters;</li> <li>excessive or insufficient water retention in the system of ditches that would cause floods or excessive droughts on agricultural land;</li> <li>insufficient water retention in the system of ditches, which would lead to a reduction of groundwater and consequently endangered the existence of pile dwellings (UNESCO);</li> <li>draining the most important grassland areas (eg. abandoning tertiary ditches);</li> <li>there is no comprehensive management of the water management process;</li> <li>great efforts are needed to harmonize opinions;</li> <li>the lack of will of the stakeholders already in the forefront;</li> <li>the loss of suitable aquatic habitats for endangered species;</li> <li>excessive use of fertilizers and preservatives can lead to eutrophication of water and undesirable consequences;</li> <li>insufficient financial resources;</li> <li>blurring of sewage system drains.</li> </ul>	

**Table 1.** Defined goals, measures, initiatives, and risks according to relevant strategic areas.

GOALS	MEASURES	INITIATIVES	RISKS	
ENVIRONMENT				
- conservation or extension of permanent meadow areas threatened with habitat types or habitats of endangered species	<ul> <li>respect of the prohibition of the meadows plowing from the KPLB Regulation (also for organic farmers);</li> <li>mowing, adapted to the conservation of species and habitat types;</li> </ul>	<ul> <li>provide adequate financial compensation for the environmental service;</li> <li>review and redefine OTT, if necessary;</li> <li>to inform the landowners that they have nature conservation areas;</li> <li>regularly communicate between competent ministries, landowners, KPLB managers and ZRSVN.</li> </ul>	<ul> <li>the problem of abandonment or intensification of agricultural use on meadows;</li> <li>plowing meadows despite the ban;</li> <li>overgrowth with wood species;</li> <li>overgrowth with invasive non-native plant species.</li> </ul>	
- conservation of borders and other structural elements in the agricultural landscape	- adequate maintenance of borders and green belts (selective logging, preservation of trees, maintaining adequate width of green belts along ditches and watercourses);	- educate all relevant stakeholders about the importance and appropriate way of managing borders and other structural elements to preserve biodiversity, agricultural potential, prevent erosion and preserve the cultural landscape.	<ul> <li>removal of borders;</li> <li>loss of mosaic;</li> <li>impaired drainage;</li> </ul>	
- establishment of zoning for individual completed complexes of endangered habitat types or habitats of endangered species	<ul> <li>establishing a zoning of individual subregions where priorities are defined in cooperation with land owners and managers of the protected area and NATURA 2000 (KPLB and ZRSVN)</li> <li>with the participation of the Agricultural Advisory Service;</li> <li>the establishment of monitoring of qualifying species and habitat types;</li> </ul>	<ul> <li>identify nature conservation areas and areas of intensive agricultural use;</li> <li>include specific areas with specific content in the management plan.</li> </ul>	<ul> <li>lack of cooperation with SKZG in coordination with the needs of nature protection—inadequate agro-environmental practices;</li> <li>the vast majority of the land of the SZZG is under long-term lease contracts, where the conditions can't be easily changed before the expiry;</li> <li>lack of farmers' participation in implementing nature conservation measures (non-economy, increased workload);</li> <li>insufficient financial resources.</li> </ul>	
harmonized nature conservation and agricultural policy	- an example of good practice of coherent policies on the land of the Agricultural Land and Forests Fund (SKZG);	<ul> <li>to determine the appropriate land use on the land of the SZG in relation to certain areas of wetlands and intensive agriculture;</li> <li>introduction of appropriate land use and control with examples of good practice.</li> </ul>	- it is unlikely that the same practices will be transferred to private land.	

#### Table 1. Cont.

GOALS	MEASURES	INITIATIVES	RISKS	
prepare a strategy for agricultural development and restructuring at farm level in the park area (due to structural changes in Slovenian agriculture, there are: (1) the abandonment of farming by small and older farmers; (2) young people are not interested in the profession of farmer due to demands and large financial inputs; (3) the abandonment of areas which are difficult to cultivate and do not produce a positive economic effect)	- prepare an analysis of the development possibilities and the restructuring plan for individual agricultural holdings in cooperation with agricultural institutions and with the financial support of agricultural policy;	<ul> <li>KPLB as the initiator and (co) developer of ideas take over the responsibility for restructuring agriculture;</li> <li>establishing a network of farms for spatial diversity of agricultural activities in the park area;</li> <li>the implementation of workshops to demonstrate the possibility of restructuring farms.</li> </ul>	<ul> <li>additional work for park staff;</li> <li>additional financial resources are limited;</li> <li>lack of interest in farms to change the activity, since they are accustomed to existing processes, although they are ineffective;</li> <li>insufficient financial resources.</li> </ul>	
establish a system of direct payments for the use of agricultural land (CAP), adapted to the nature conservation objectives of the Ljubljansko barje area	- payment for the implementation of the adjusted use on agricultural land.	- calculation of amount of income on the case of individual crops and farm holdings.	<ul> <li>the inadequate economics of the measure from the point of view of farmers;</li> <li>insufficient financial resources;</li> <li>the incompatibility of the management policies at the state level and the level of the park (KPLB);</li> <li>too low inclusion in the direct payments system</li> </ul>	
ECONOMIC AND SOCIAL DEVELOPMENT				
- the effective management of sustainable tourism and the long-term financing of protection measures, in particular in the UNESCO area of pile dwellings.	<ul> <li>designing common tourism products;</li> <li>joint marketing of products;</li> <li>building of tourist infrastructure, which will provide a targeted visit;</li> </ul>	- Education and integration (as a business opportunity) of local stakeholders; - to determine the carrying capacity of the individual parts of the area;	<ul> <li>lack of knowledge about the importance of the UNESCO area;</li> <li>lack of interest in tourism;</li> <li>lack of effective management of the UNESCO area;</li> <li>non-directional tourism development, the involvement of all interested stakeholders (including private investors);</li> <li>lack of funds to build infrastructure;</li> </ul>	

Table 1. Cont.

- insufficient financial resources.

#### 4. Discussion

The design and implementation of the Wetland Contract in the Ljubljansko barje and its implementation appeared as a successful instrument for ensuring greater coordination between different levels of spatial planning and authorities in charge of their management, while limiting conflicts between preservation issues and economic activities because it promotes voluntary agreements between public institutions and private individuals, new forms of institutional cooperation, consultation and participation, and new ways of integrating the different practices of spatial and sectoral planning [37]. Its establishment is based on cooperation between all signatories to activate common measures for this area's further sustainable development. It includes an interdisciplinary approach and ensures consent by all parties and feasibility of measures.

We determined that implementing the Wetland Contract should be planned in a tailored way, exclusively for a specific pilot area, but at the same time flexible enough to adapt to new conditions. There is no standard recipe for the governance model because every territorial context poses different problems and solutions.

We must plan and be clearly aware of what we would like to attain during the participatory process of implementing the Wetland Contract and how it will be integrated into the management of the pilot area. We need to place special emphasis on communication with stakeholders, and they need to be clearly informed about the entire process. The territorial labs proved to be a very successful tool for presenting the entire process of implementing the Wetland Contract, for experts to present the challenges the pilot area faces, and, most importantly, for enabling participants to speak out and present their view of the area. The time given to the territorial labs was limited because they should not be overloaded with content, and this appeared to be a good method. Emphasis must also be placed on the equal representation and involvement of all relevant stakeholders from different sectors. All of them must have an opportunity to express their opinions and be listened to by others.

A successful approach in managing the process was seeking assistance in its technical implementation and the research premises of the topic studied. Especially important was the technical assistance in the entire stakeholder mapping process provided by the nature park's manager and research assistance in defining the aims of the wetland area and defining actions and interventions that could potentially be included in the Wetland Contract. According to the results of the interest-influence matrix analysis, the role of the relevant stakeholders from four different sectors according to the Quadruple Helix approach varies widely. They have diverse interests, and their stakes are very high. There are a limited number of stakeholders that have high power and high interest at the same time. However, at the same time there was a challenge for who to include in the process because the stakeholders are quite homogenous and do not represent all the relevant stakeholders that are crucial in the process. We decided to also include those that have medium interest and medium power; thus, those that are not the relevant ones at first glance but are unavoidable in successful management and implementation of the Wetland Contract. Through this decision we gained additional relevant stakeholders that were underrepresented earlier, especially knowledge providers, who could help with expert opinions and were available for scientific consulting, civil society members that are directly or indirectly affected by the process so that their voice could be heard and be taken into account to some extent, and members of the business community, who are often economically dependent on the processes taking place in the pilot area [2].

It is encouraging that movements toward the fundamental principles of holistic and multi-sectoral approaches to wetland management and the participation of a broad range of stakeholders are increasingly being enforced. However, in spite of the several good practices that are currently being established, this approach is still not widely used. On the whole, the innovative Wetland Contract tool and the integration process of its establishment proved to overcome conflicts between institutional and legal jurisdiction and is showing itself to be a dynamic path capable of activating a desirable relationship between various interests and supporting new forms of multi-sectoral stakeholder participation in wetland management. The added value of the Wetland Contract approach is that it does not only propose mediation, but at the same time the evaluation of alternatives and the choice between various options putting together all the possible solutions. It can be useful and effective as far as it activates participatory processes leading to a common and shared vision of the future of wetlands.

#### 5. Conclusions

A well-managed process of involving different stakeholders in the participatory process shows the meaning of this kind of work. However, questions are constantly being asked about how to motivate stakeholders to persevere in the process. The biggest challenge will be to ensure that the Contract will live on after the signing of the stakeholders, as their expectations are high, and it will not be possible to remain just a signed document without realization. Inactivity would lead to disappointment, and irreparable damage would be done to similar activities in the future. Only tangible results will convince stakeholders that it will make sense to continue to participate in the Contract implementation process.

The management of the protected area is logically selected as the coordinator of the activities. With a lack of professional staff, we are worried about whether they will be able to continue with the activities. It should be borne in mind that the Contract will necessarily need to be upgraded to an Agreement that will be a binding document. Above all, the largely prepared action plan will have to be included in the Agreement. It will be necessary to reach an agreement on which institutions (local, regional, or national) will undertake to be responsible for the implementation of individual measures. Talks with potential institutions so far indicate that this will be a really big challenge. Only if the selected institutions follow the proposed timetable and manage to provide adequate financial resources, will trust be maintained among the stakeholders who have signed the Contract or upgraded it to an Agreement. We should not ignore the fact that different types of stakeholders play different roles in the participatory process.

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# Appendix A

 Table 1. Stakeholder analysis for pilot wetland contracts.

STAKEHOLDER DESCRIPTION					
Organisation's name					
Website					
Type of stakeholder	Public body/authority	Public body/authority			
	Business Support Organisation	(i.e., chamber of commerce, etc.)			
	Private business (i.e., SME)				
	Private non-profit (i.e., NGO)	Private non-profit (i.e., NGO)			
	Training centre (i.e., school)	Training centre (i.e., school)			
	Research centre (i.e., university)	Research centre (i.e., university)			
	Other, please specify:				
Field of activity	Agriculture	Local development			
	Fisheries	Tourism			
	Navigation	Recreation			
	Energy	Culture			
	Biodiversity	Other, please specify:			
Area of activity	he Stakeholder acts at				
	local				
	regional	regional			
	national				
	international				
s	scale				
	The Pilot Area is				
	fully included				
	partially included				
	not included				
i	in the stakeholder reference area (i.e. administrative borders)				
Goals	lease specify what are the main objective	s of the organisation for the Pilot Area			
	(max 300 characters				

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#### Table 1. Cont.

GOVERNANCE EXPERIENCE				
Confidence and experience in	Please tick one box for each phrase:			
inclusive governance processes		low	medium	high
	the organisation knows what they are			
	the organisation knows how they work			
	the organisation has previous experience			
Confidence and experience in	Please tick one box for each phrase:			
Wetland Contract processes	low medium			high
	the organisation knows what they are			
	the organisation knows how they work			
	the organisation has previous experience			
RELATIONSHIP WITH THE DECISION MAKING PROCESS OF THE WETLAND CONTRACT				
Interest	What aspects of the Pilot Area management are of interest for the organisation?			
	(max 500 characters)			
Engagement	In the Wetland Contract <u>engagement</u> process the organisation wants to:			
	be informed			
	be consulted			
	be actively involved			
Influence	In the Wetland Contract process the influence of the organisation could be:			
	high			
	medium			
	low			
CONTACT PERSON				
Name and surname				
Role within the organisation				
Mandated to represent the	yes no			
organization				
e-mail				
Telephone				

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