

**THE PERVERSE EFFECTS OF SHARED MANAGEMENT OF A CROSS-BORDER
CONSERVATION AREA**

WILONDJIA-AS-NGOBOBO Paulin
(EDGRND-University of Antananarivo)*

RABEMANANJARA ZO Hasina
(EDGRND-University of Antananarivo)

SADIKI BYOMBUKA Onésime
(ISDR-Bukavu)

RAMAMONJISOA BRUNO
(EDGRND-University of Antananarivo)

MUBALAMA KAKIRA Léonard

(Centre for Research in Biodiversity Management and Climate Change (CRGBC)/ISDR-Bukavu)

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ABSTRACT

Cross-border cooperation is gaining momentum across Africa, giving rise to a new type of natural resource management: shared management. The importance of this type of cooperation lies in the pooling of conservation efforts. The idea of this article is to contribute to this debate by analysing the functioning of transboundary governance in the field of natural resources within a transboundary conservation area (CTA) by providing an overview of the challenges caused by the institutionalisation of transboundary cooperation in the transboundary space. It is a question of taking into account the pernicious consequences of the cross-border project on symbolic representations, but also at the level of the cross-border institutional frameworks put in place. To provide an overview of these perverse effects and their nature, the methodology used is based on the analysis of perceptions and the study of the actors' interactions. The issue of shared management in a transboundary context is addressed through seven comparative case studies: W Park, Mount Nimba, Ziama-Wonogizi-Wologizi, Outamba Kilili Pensely Soya, Télé-Lac Tumba, Tri National de la Sangha and Virunga.

Keywords: Transboundary Conservation Area; Interplay Of Actors; Perception; Shared Management.

1. INTRODUCTION

Sometimes, the sustainable management of natural resources through a concerted approach between neighbouring countries is fundamental. Therefore, sustainable management of natural resources implies the design, at the local level, of new rules of use that take into account the often divergent interests of the various categories of users of these resources. It therefore requires the elaboration of agreements and compromises, both the objectives and the means of achieving which must be co-defined by the actors involved. The design of a strategy and/or a common project is a complex task, the implementation of which requires the establishment of a process of interaction and collaboration between the actors capable of facilitating the emergence of a shared representation of the issues at stake and an agreement on the actions to be implemented (Angon, V. & Caron, A., 2009). The concerted or participatory management of natural resources has become a new referent, renewing the concept of protected areas that had prevailed since the beginning of the twentieth century (Rodary, 2001; Boisvert et al. 2004 cited in Anderies, J.M.,

Janssen, M.A., Ostrom, E., 2004.).

Despite the virtues attributed, in practice, however, it must be noted that the shared management of natural resources at the level of local cooperation remains sometimes limited. Often, the process is initiated by the central government with little or no consultation with local border stakeholders, which consequently has a lack of information. As a result, cross-border dynamics generate rivalries and create new borders within the cross-border space. Cooperation suffers from struggles between local cross-border actors and the cross-border structures that have been put in place; They do not collaborate and make cross-border a competitive field. Their possible negative effects on cooperation create a potential for conflict, the consequences of which for local relations between cross-border actors should not be underestimated. As a result, there is a lack of consultation between their stakeholders, whether at the level of protected areas or public institutions in charge of conservation.

We note with Gomez, J. that this situation means that "cooperation between actors is precarious: sometimes their sustainability is uncertain once the subsidies have come to an end, sometimes their objectives are compromised by the eruption of conflicts" (Gomez, J., 2018). While there is an agreement that enshrines cooperation, there is a glaring lack of operational rules to guide the modalities of bringing cross-border actors together and specifying the conditions of their interactions. Another limitation to cooperation is the coexistence of different political, institutional, administrative and legal systems between neighbouring countries. Despite the physical continuities that characterize border areas, at many borders, they are governed by heterogeneous planning logics. "In this place, there are divergences in law, in structures (competent authorities) and administrative cultures, but also in mentalities. The greater the differences between the legal and administrative traditions of the countries concerned, the more difficult it will be to establish a cross-border form of public participation" (Annette Guckerlberger, 2017).

From the above, it is clear that cross-border cooperation not only has positive effects on the management of natural resources, but also has many negative effects which, if not properly managed, can hinder it. For this reason, this study seeks to highlight the problems caused by cross-border cooperation in a cross-border area. Thus, this study aims to decipher the stakes of cross-border dynamics through the perceptions of cross-border actors by focusing more on the negative aspects that they drain and which have a direct and/or indirect impact both on the roles of the actors, on their responsibilities as well as on power games. The purpose of this article is not to doubt the relevance of this approach, but to prevent certain risks if the necessary precautions are not taken for its implementation.

We ask ourselves the question of "**What are the perverse effects of a shared management of natural resources and that make the appropriation of the cooperation process by cross-border actors hypothetical? "I am not sure**Faced with this situation, we hypothesize that "**the unbridled attachment to routine and the pre-eminence of political and organizational aspects over technical considerations in the management of the process explain the weak appropriation of the cross-border cooperation dynamic by local cross-border actors.**

2. MATERIALS AND METHODS

In order to get the most out of this study, we chose to base our study not on a single case but rather on the experiences of seven landscapes with a certain amount of comparative approach based on clear and convincing lessons. Given that the research focuses on collaboration within geographically dispersed landscapes (transboundary space), the landscape is undoubtedly the unit of analysis for the study. To deeply analyze transboundary dynamics, we chose seven transboundary areas as study areas: W Park (Niger, Benin, and Burkina Faso), Mount Nimba (Liberia, Guinea, and Côte d'Ivoire), Ziama-Wonogizi-Wologizi (Guinea, Burkina Faso, and Liberia), Outamba Kilili Pensely Soya (Guinea and Sierra Leone) in West Africa; and Lac Télé-Lac Tumba (DRC and Congo Brazza), the Tri National de la Sangha (CAR, Cameroon and Congo Brazza) and Virunga (DRC, Rwanda and Uganda) in Central Africa. Some of these spaces benefit from cross-border public policy experiments that have been analysed. These lands represent a diversity of territories and are distinguished by characteristics or constraints of conservation and development that are specific to them. The sample selected is 7 landscapes, mainly composed of protected areas of which fifty respondents were selected using the 10-modality Likert scale (Demeuse, M., & HENRY, G., 2004).

In order to understand the causal mechanism underlying our conclusions, it was necessary to go beyond simply identifying correlations between measures of various factors and outcomes that we consider interesting, we used institutional analysis. This allowed us to examine the motivations of the different actors in situations of interaction, to know the historical contexts of cross-border cooperation, to clarify its origins and to understand the way in which it is maintained and transformed (Greif, A., 2009).

The analysis of more direct sources, i.e. the use of field surveys and interviews, was favoured in order to answer a series of questions inherent to the subject. Several different methods are used to analyze the research data stored in an Excel file, then transferred to statistical processing software (SPSS 23.0, SmartPLS and Anaconda Navigator which hosts the Python and R languages). We also used the Jupyter Notebook application, provided by anaconda navigator, for writing and compiling the codes. In the test we are interested in, the null hypothesis is simply "the two variables being tested are independent" for the independence test and "the mean is the same for all groups" for the test of variance of the means. The current discharge threshold is 5%.

Our analysis is based on bibliographical elements and especially on the various discourses collected during our interviews with key actors in transboundary conservation areas, in particular protected area managers, experts in transboundary biodiversity management, representatives of environmental management institutions but also representatives of non-governmental organizations working in biodiversity conservation.

Inspired by the scientific and technical literature (Gomez, J., 2018, Blondel, C., 2013, Mettan, N., 2003, Opłowska, E., & Weber, P. F., 2019), we selected and proposed to respondents five factors on which they should give their opinion: 1) Professional overload of protected area managers; 2) The power struggle between **the** main actors ; 3) Cumbersome procedures (different and disconnected regulations); 4) The weakening of the power of protected area managers and 5) The emergence of several decision-making centres.

3. RESULTS

In this article, we analyse the real obstacle to shared management which, beyond the limits and constraints arising from the very functioning of cross-border areas, emanates from other major factors linked to the very existence of cross-border cooperation. It is therefore a question of highlighting the fact that cooperation in cross-border areas is not only positive because it carries with it certain negative externalities that prevent its appropriation by actors on the ground and consequently limit its real anchoring in the cross-border space.

Therefore, the study focuses on two questions: the effects of transboundary collaboration on the behaviour of key actors and their impact on the sustainable management of biodiversity.

Table 1: Prioritization of Problems Arising from Cross-Border Collaboration

Variables	Strongly agree (%)	All right (%)	Disagree (%)	Ranking
The professional overload of protected area managers	68	28	4	1
The power struggle between the main actors	46	36	18	2
Procedural burdens	40	30	30	3
Weakening the power of protected area managers	24	28	48	4
The emergence of several decision-making centres	20	30	50	5

Table 2: Results of Independence and Variance of Means Tests of Problems Arising from Cross-Border Collaboration

Variables	Independence Test with a significance level of 0.05	Test of variance of means with a significance level of 0.05
The professional overload of protected area managers	p-value = 0.0072	p-value = 0.0173
The power struggle between the main actors	p-value = 0.3754 million	p-value = 0.0063
Procedural burdens	p-value = 0.0088	p-value = 0.0082
Weakening the power of protected area managers	p-value = 0.0007	p-value = 0.0848
The emergence of several decision-making centres	p-value = 0.0102	p-value = 0.0224

In the light of these results (Table 1), it is clear that cross-border cooperation represents not only the materialization of collaboration, a real space of opportunities, but also a structure of constraints around differentials in norms, practices and representations, which in turn maintain it. It is proving to be a dynamic that strengthens resilience in the face of cross-border threats, but at the same time generates negative amenities, particularly in terms of the role of actors and power games. Indeed, the majority of respondents (68%) say that cross-border cooperation leads to the professional overload of protected area managers, a significant number of actors (46%) consider that it is a source of power conflict between the main actors.

For the actors of these ATCs, this cooperation is therefore both **an opportunity for resilience for a border territory** but also a source of additional difficulties in **terms of professional workload and decision-making centre**.

While the five problems mentioned above are real in the seven transboundary conservation areas, only the one relating to the power struggle between the main actors is of a general nature because it concerns all of them in an indiscriminate and undifferentiated way (Table 2) with regard to statistical tests ($p=0.3754$). Indeed, the tests of independence and variance of the means carried out clearly show that out of five factors, four have a dependency relationship with the respondents' landscapes: *the professional overload of protected area managers* ($p=0.0072$), *procedural burdens* ($p=0.0088$), *the weakening of the power of protected area managers* ($p=0.0007$) and *the emergence of several decision-making centres* ($p=0.0102$) The difference between the mean values was statistically significant for four variables (*the professional overload of protected area managers* ($p=0.0173$), *the power struggle between the main actors*

(p=0.0082), the procedural burdens (p=0.0082), and the emergence of several decision-making centres (p=0.0224).

Whatever their nature and scale, these problems have a negative effect on the cooperation of actors in transboundary conservation areas on both sides of the borders in that they considerably limit trade flows and significantly complicate their action. Not only do these factors affect the shared management of biodiversity, but they also reflect closed, compartmentalised developments within the transboundary process and consequently lead to a slow pace in the construction of the transboundary space. In fact, as we will see from the results of the analysis, these cross-border areas are not really homogeneous and each has its own cross-border dynamics.

The use of the data collected in the seven transboundary conservation areas gives us a snapshot of the challenges of transboundary cooperation and the conservation status of biodiversity in these areas. This photograph highlights the problems caused by the establishment of cross-border collaboration. It also highlights the factors that hinder the process of building transboundary collaboration before painting the state of biodiversity conservation.

The first result that emerges from this work is that cross-border collaboration is not only seen as a solution to the problems of border areas, but also as an event that carries the seeds of destabilization and conflict. For some actors, cross-border collaboration is therefore both an opportunity for resilience for the cross-border space but also a source of additional difficulties in terms of work organisation and responsibilities. The transformation of the transboundary space into an ecological front and the establishment of a structure for coordinating cross-border collaboration raise the question of the place of the various actors and, more broadly, of transboundary conservation areas.

Our research space is not spared from this contradictory logic: while, in general, the transboundary collaboration desired by our seven transboundary conservation areas aims to solve common problems and develop synergies based on the sustainable conservation of biodiversity, the results of the analysis show that this often results in some problems that are not possible to achieve the potential of the project. have a major impact on the cross-border construction process. Some are administrative in nature: procedural burdens (Solange VERGER, 2008), others are managerial: the emergence of several decision-making centres, the weakening of the power of protected area managers, the professional overload of protected area managers, and still others are psychological: the power conflict between the main actors. Of these, two are much more acute, to the point of hampering exchanges between cross-border actors and thus hindering cross-border dynamics. These are all obstacles to be overcome, which temper the ardour of the partners without succeeding in discouraging them, as they have been inherent in cross-border approaches since their beginnings, as Karim Dahou (Dahou. K, 2004)

In order to ensure that there is a link between the different variables under study, we carried out the correlation analysis, the results of which are contained in the table below:

Table 3: Correlation matrix between problems caused by cross-border collaboration and barriers to cross-border collaboration

	Barriers to cross-border collaboration								
	Lack of a common legislative framework and harmonised management systems	Lack of ownership of the collaborative process by protected area managers	Lack of consultation	The institutional aspect of collaboration is prioritized to the detriment of operational logic	Duplication of the transboundary strategic plan with the protected area management plan	The cohabitation of two management logics, national and transnational, which are difficult to intertwine	The low level of involvement of protected area managers in the process of implementing the transboundary strategic plan	Funding is insufficient	Lack of standard management standards and common management principles for member protected areas
Problems arising from cross-border collaboration									
The professional overload of protected area managers	0.27	0.43	0.21	0.29	0.25	0.56	0.031	0.15	-0.14
The power struggle between the main actors	-0.071	-0.01	-0.03	0.21	0.12	-0.055	0.099	0.0019	0.07
Procedural burdens	-0.092	0.029	0.24	-0.098	0.1	0.081	-0.099	0.18	-0.2
Weakening the power of protected area managers	0.0038	-0.078	-0.15	-0.045	-0.14	0.085	-0.16	-0.051	0.14
The emergence of several decision-making centres	0.03	0.18	-0.15	0.048	0.36	0.32	-0.11	0.14	-0.2

Table 4: Correlation matrix between the problems created by transboundary collaboration and the sustainable conservation of biodiversity

	Problems arising from cross-border collaboration				
	The professional overload of protected area managers	The power struggle between the main actors	Procedural burdens	Weakening the power of protected area managers	The emergence of several decision-making centres
Indicators of sustainable biodiversity conservation					
The work on shared management of biodiversity is carried out in close collaboration with conservation NGOs	0.57	0.26	0.18	0.08	-0.05
Capacity of border conservation staff is strengthened through cross-border collaboration	0.4	0.35	0.059	0.058	0.17
Mixed patrols are organised throughout the year in the landscape (permanent presence of ski patrollers in the forest)	0.27	0.23	0.08	0.013	0.27
Communities are sensitized on the importance of cross-border collaboration based on natural resources	0.19	-0.21	0.22	-0.045	0.28
Cross-border poaching trend reduced through cross-border collaboration	0.46	0.25	0.1	-0.036	0.37
Mixed biodiversity inventories are held regularly across the landscape			0.023		
The extent of natural ecosystems in our landscape has increased	0.12	0.2	0.088	0.18	0.072
The protection and management system implemented is capable of preserving the values and integrity of the landscape	0.12	0.21	0.095	0.15	0.15
A self-financing mechanism to ensure the functioning of cross-border collaborative activities is in place and functioning	0.11	0.22	0.038	0.099	0.13
Populations at conservation targets have increased	0.068	0.052	0.89	-0.2	0.28
Member States are able to bear the cost of controlling and protecting biodiversity	0.11	0.15	0.1	0.16	0.097
The population is associated with transboundary biodiversity conservation activities	0.084	-0.23	0.13	-0.21	0.39
The number and types of mixed patrols carried out are in tune with the threat to be eradicated	-0.16	-0.75	0.071	0.058	0.21

4. DISCUSSION

Our analysis identified three main perverse effects of cross-border cooperation with various characteristics based on the degree of formal evolution of governance and devolution of the managing authority. These effects represent a continuum of unintended consequences of cross-border cooperation in which institutional solutions do not present themselves in the same way in the different Member States where they are confronted with different systems of governance and management of natural resources. The context at the beginning of the actions with actors who have their interests, perceptions, logics, positioning, degree of power, which form the systems of relations and networks; and a context at the end of the actions that has actors who can be either actors-agents of the actions, or target actors, or even refractory or recalcitrant actors whose effect has not dominated, etc. (Vikanza, P. K., 2011).

4.1. The professional overload of protected area managers

Transboundary conservation area professionals highlight the complexity and workload associated with transboundary situations (Spigolon, G., & Fériel, É. 2023, Cyril B, 2013). Indeed, most transboundary conservation areas in our study area face the lack of a strong administrative structure has resulted in an overload of work (Lissillour, R. 2021). It is therefore necessary to know under what conditions the professional relations between border actors and the cooperation management structure are compatible with cross-border cooperation.

4.2. The power struggle between the main actors

Our study also revealed that CTAs are spaces where this power game is set up between actors concerned (Echavarría, R., T. (2014), each seeking to retain its competences or to obtain new ones (Vergne, O. (2021) and/or between states in competition for subsidies. Indeed, these CTAs, the organizational functioning of a network, implies a multiplication of relationships between the different actors, at different levels, and also seems to lead to a multiplication of the tensions arising from these same relationships (Lacroix, I. and St-Arnaud, 2012). Indeed, while collaboration agreements are suitable for cooperation, "the emergence of new territorial actors, belonging simultaneously to several national areas, leads to a permanent confrontation of the respective effectiveness of public action systems, under the watchful eye of public opinion" (Casteigts. M, 2003).

The establishment of a structure of collaboration pushes some cross-border actors to perceive collaboration as a "threat" and encourages them to pursue a more egocentric strategy to mark and protect their territories, and behind the appearance of cooperation and transfer of competences, states remain fundamentally sovereignist. This is especially the case when formal rules are antagonistic, i.e. when they allow irreconcilable logics to coexist and which can only be reconciled through transgressive practices. Indeed, the rules carry with them an area of uncertainty, which allows actors to play on their ambiguities. This makes these ATCs a highly prescriptive and highly regulated model of cooperation that lacks attractiveness and still suffers from certain contradictions (Yann Richard, 2021).

The differentiated expectations of national and regional actors in the transboundary space would explain the climate of tension that we observe between the protected area manager and the leaders of the transboundary collaboration management structure, questioning the role of the

former in the institutionalization of a nascent CTA. These conflicts are perhaps also indicative of the difficult articulation of different logics of governance (Masson, S. and Djigo, A., 2015 "Major transport infrastructure, cross-border cooperation and conflicts: the case of the Perpignan – Barcelona high-speed line", *South-West Europe*, 40 | 2015, 27-41.)

These clashes, far from being a pathology of the organization, constitute a positive element in the cooperative dynamic (Laura Beton, 2021). This is a very useful phenomenon because it is a process of negotiation (Thuderoz, 1996; Joffre & Tissoui, 2019), making it possible to reconcile antagonistic logics (Babeau & Chanlat, 2008) and to play on vague prescriptions (Faita Duc, 1996). On these power struggles between the actors of cross-border cooperation depend the trade-offs that determine the fragility and viability of each institutional principle and the common standards that accompany it. Thus, shared management induced by cross-border cooperation "also requires a very high level of trust between actors, which is built over time and common projects" (Jacob, L., 2016).

4.3. Cumbersome procedures (different and disconnected regulations)

At the top of the list of criticisms are the cumbersome procedures, the excessive number of meetings and the repetition of information for the actors most involved to the detriment of the progress of projects and political decision-making (Jacob, L., 2016). The management structure of cooperation, insofar as it includes a certain number of binding rules, can appear to be a factor of inertia and administrative burden, in particular through the development of a bureaucracy specific to the institution that would tend to become autonomous and detach itself from the initial aims of the institution (Solange, V., 2008). This makes it more complex to set up effective governance. Most actors felt that cross-border cooperation represented an increased workload for them, especially when it was added to their primary tasks, because this work required adapting to different methods, to a broader framework of reference (Jacob, L., 2017). Working cross-border, carrying out actions in concert, in parallel or even jointly on both sides of a border presents a significant cost that is not quantified but which most often translates into additional working time.

The shared management of the CTAs under study incorporates an important notion of multi-level governance. Indeed, they bring together actors from different institutional backgrounds around common projects, both in terms of administrative and geographical units and in terms of hierarchies and institutional competences, while involving different levels of power. This requires a great deal of coordination, both vertical and horizontal. The strategy deployed on this particular issue cannot aim to erase these differences but rather to take them into account in the implementation process (Curzi, S., Delecosse, É. & Moyse, V., 2016). In addition to the difficulty of extricating oneself from institutional paths that have already been mapped out, cross-border cooperation must face changing conjunctures that risk destabilizing existing relations of domination and, consequently, the established rules of the game. (Orchard, S., 2011).

We are not entirely sure that these four factors reflect a general reality of all transboundary conservation areas, given that its p-value reflects a relationship of dependency with respondents' landscapes. This is why it is difficult for us to conclude about their effects on the process of building cross-border collaboration. However, these factors are contingencies that highlight the

obstacle that weighs on a process that nevertheless presents itself as the most solid and visible framework for organising cooperation in these cross-border areas.

5. CONCLUSION

In the CTAs, the principle of complementarity or subsidiarity of actions in relation to those of the States constitutes the additional value induced by cross-border cooperation. Cross-border cooperation thus intends to mobilise existing capacities in States, through the exchange of good practices and an active partnership with all cross-border actors in a participatory, dynamic and complementary approach, while ensuring the operational coherence of all initiatives (Elhadj Mohammed, N. 2016) in favour of the cross-border area.

In order to overcome the limitations and obstacles identified in the CTAs, cooperation must take place within a supranational institutional framework where an authority has the competence to organise solidarity and cooperation (Paquerot. S, 2005). However, the institutionalization of cooperation can prove to be a factor of asphyxiation and administrative burden, especially when it involves the establishment of a certain number of binding rules and the development of its own bureaucracy bordering on a tendency towards autonomy.

Thus, managing biodiversity on a transboundary scale is very ambitious, due to the divergence of legal regulations, management practices and conservation cultures between territories. The challenge is to create a coherent and strategically well-planned system based on the practical needs of professionals (Gerspacher and Dupont, 2007; Jones, 2008 cited in Heusala, A. & Koistinen, J. (2018).) by giving priority to elements that allow actors to coordinate their actions and cooperate by pooling their efforts and promoting the meeting of interests. To this end, cross-border cooperation needs to innovate by reconciling national policies with the requirements of shared management, reducing red tape, and instead encouraging synergies and networks.

In an explicit allusion to the conflicts of legitimacy that can arise from the establishment of a cross-border structure, local cross-border actors believe that partnership and subsidiarity (vertical and horizontal) not only usurp their powers but they run counter to the interests of their States, notwithstanding the fact that the objectives of cross-border cooperation set out in cooperation agreements express an osmosis between policies and the ambition to create "a transnational ecological front. It must therefore be noted that, even if the shared management of natural resources proves to be an appropriate approach for transboundary biodiversity, "it does not avoid a significant number of risks relating to manipulation, power play and opportunistic behaviour, (...) on the one hand, these risks stem from the strategies of actors who can rely on community standards and instrumentalize them to the detriment of natural resources, but also from actors excluded from the benefit of the resource who adopt devastating behaviours on this resource in retaliation" (Jérôme Ballet, 2007).

The stakes of power and the attachment to routine each explain some of the factors that are at the root of the underperformance of the cross-border project, in addition to the fact that the cross-border dynamic seems to come up against the feeling of belonging and/or reference of cross-border actors to national state bodies, accompanied by a much more prompt commitment to their states than to the cross-border space itself.

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