

## Article

# Collaborative Conservation for Inclusive, Equitable, and Effective Systems of Protected and Conserved Areas—Insights from Brazil

Cláudio C. Maretti <sup>1,\*</sup>, Sueli Angelo Furlan <sup>1,2</sup>, Marta de Azevedo Irving <sup>3,4,5</sup>, Yasmin Xavier Guimarães Nasri <sup>3</sup>, Camila Gonçalves de Oliveira Rodrigues <sup>6</sup>, Beatriz Barros Aydos <sup>7</sup>, Rodrigo Martins dos Santos <sup>1</sup>, Erika Guimarães <sup>8</sup>, Carlos Eduardo Marinelli <sup>9</sup>, Juliana C. Fukuda <sup>10</sup>, Ângela Cruz Guirao <sup>11</sup>, Luciano Régis Cardoso <sup>12</sup>, Elizabeth Oliveira <sup>5</sup>, Edilaine A. de Moraes <sup>13</sup>, Érika Fernandes-Pinto <sup>10</sup>, Ana Celina Tiburcio <sup>14</sup>, Paula Chamy P. da Costa <sup>15</sup> and Sidnei Raimundo <sup>16,17,18</sup>

- <sup>1</sup> Department of Geography (DGEO), Faculty of Philosophy, Languages and Human Sciences (FFLCH), University of São Paulo (USP), Sao Paulo 05508-080, SP, Brazil
  - <sup>2</sup> Postgraduation Program on Physical Geography, DGEO FFLCH, University of São Paulo, São Paulo 05508-080, SP, Brazil
  - <sup>3</sup> Postgraduation Program on Communities Psychosociology and Social Ecology (EICOS), Psychology Institute, Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro 21941-617, RJ, Brazil
  - <sup>4</sup> Economics Institute, Postgraduation Program on Policies, Strategies and Development, UFRJ, Rio de Janeiro 21941-617, RJ, Brazil
  - <sup>5</sup> Brazilian College of Advanced Studies (CBAE), UFRJ, Rio de Janeiro 21941-617, RJ, Brazil
  - <sup>6</sup> Postgraduation Program on Sustainable Development Practices, Department of Administration and Tourism, Federal Rural University of Rio de Janeiro (UFRRJ), Rio de Janeiro 23890-000, RJ, Brazil
  - <sup>7</sup> Foundation for Amazon Sustainability, São Paulo 05468-901, SP, Brazil
  - <sup>8</sup> Aretê Socioambiental, Lauro de Freitas 42700-000, BA, Brazil
  - <sup>9</sup> Amazon Research National Institute (INPA), Manaus 69067-005, AM, Brazil
  - <sup>10</sup> Chico Mendes Biodiversity Conservation Institute (ICMBio), Brasília 70670-350, DF, Brazil
  - <sup>11</sup> Department of Green and Sustainable Development, Secretariat of Green, Environment and Sustainable Development, Municipality of Campinas, Campinas 13015-904, SP, Brazil
  - <sup>12</sup> Mamirauá Sustainable Development Institute (IDSM), Tefé 69553-225, AM, Brazil
  - <sup>13</sup> Department of Tourism, Institute of Human Sciences, Research Group on Community-Based Tourism, Federal University of Juiz de Fora (UFJF), Juiz de Fora 36036-900, MG, Brazil
  - <sup>14</sup> Organa Eco-Communications, São José dos Campos 12247-004, SP, Brazil
  - <sup>15</sup> Research Group on Conservation and Management of Natural Resources of Common Use (CGCommons), Nucleus for Environmental Studies and Research (NEPAM), University of Campinas (UNICAMP), Campinas 13083-970, SP, Brazil
  - <sup>16</sup> Leisure and Tourism Undergraduate Course, School of Arts, Sciences and Humanities (EACH), University of São Paulo (USP), São Paulo 05508-080, SP, Brazil
  - <sup>17</sup> UNESCO Network on Culture, Tourism and Development, University of São Paulo (USP), São Paulo 05508-080, SP, Brazil
  - <sup>18</sup> Research Group on Socioenvironmental Dynamics and Territorial Policies, University of São Paulo (USP), São Paulo 05508-080, SP, Brazil
- \* Correspondence: claudio.maretti.1958@gmail.com; Tel.: +55-(11)-9-6326-6796



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**Abstract:** Protected and conserved areas (PCAs) are increasingly recognized as essential tools for their effectiveness in conservation and the benefits they provide. However, their challenges are still significant. The concepts, legislation, and governance surrounding PCAs are the results of social contexts. Due to the evolution of scientific knowledge, human rights, and diversified demands, new approaches are necessary to fulfill their functions. To better understand the context and possibilities, a study group was established to evaluate the current research, exchange experiences, guide dialogues, and identify lessons from experiences. The core of the experiences and cases considered and the reflections developed focused on the Brazilian context. This article analyzes the collected information and reflections related to several themes associated with challenges. The results reinforce the importance of PCAs but warn about the limitations of current conservation strategies to respond to social actors' expectations, the needs of the vulnerable social groups, and evolving demands. The complexity of PCA systems is evident in view of the multiplicity of interests, potential contributions,

and possibilities for participatory arrangements. There is a need to improve management and governance conceptions to promote the reconnection between society and nature. Therefore, the concept of collaborative conservation is proposed as an instrumental approach to advance towards inclusive and effective conservation strategies.

**Keywords:** governance; complex systems; social benefits; partnership arrangements; biodiversity; nature; stakeholders; right-holders; society–nature interactions

## 1. Introduction

As an introduction to their importance, context, and evolution, protected and conserved areas (PCAs) are considered essential tools for the biodiversity conservation agenda due to their high effectiveness with respect to nature conservation and the variety of other benefits they can provide [1–8]. Historically, several factors have influenced the shaping of spatial (or area-based) nature conservation tools, especially PCAs, as most important conservation strategies. Among those factors, conditioning the concepts and evolution of PCAs, are the history of ecosystem degradation and the evolving interests associated with the material and immaterial benefits of nature conservation (for example, those related to water supply, food security, wood exploitation, hunting, protection of scenic landscapes, recreation and tourism experiences, health promotion and psychological well-being, conditions for education and research, and mystic beliefs) [7–9]. More recently, in the context of the progressive loss of biodiversity, their importance and recognition have become even more evident, especially when considering their role in the new 2030 Kunming–Montreal Global Biodiversity Framework, which is an upgrade from the 2020 Aichi Targets [6,10,11]. Additionally, being among the nature-based solutions, PCAs tend to contribute to facing the consequences of climate change emergency and their mitigation [1,8,12]. And, they should similarly be considered important tools for social well-being, including for those commitments expressed in the 2030 Agenda and its 17 Sustainable Development Goals [13–15].

The definition of protected areas by the IUCN World Commission on Protected Areas is the most internationally accepted one, which is also aligned with the Convention on Biological Diversity (CBD). IUCN's definition considers nature conservation as the main objective and includes references to the associated ecosystem services and cultural values. Brazil has a similar approach to defining PAs under national legislation (legally called unidades de conservação—UCs) (Law 9985/2000, Brazil; [16,17]).

However, PCAs are in a state of continuous transformation due to historical and social-economical-cultural contexts. Most technical and scientific documents refer to the origin of PCAs as the creation of the first national parks (NPs), considered emblematic of the modern protected area (PA) concept, while others recognize some previous efforts as part of the history of PCAs [9,18–23]. It is also important to consider, in recent decades, the change marks of "New Paradigm" (of PAs), the Indigenous and community conserved areas (ICCAs), and the other area-based effective conservation mechanisms (OECMs), for example [6,8,22–25].

The 10th Conference of the Parties (CoP) of the CBD, in 2010, was essential in establishing global goals for PAs, as the Global Biodiversity Strategic Plan promoted the expansion of PCAs, particularly to the marine realm, although the expansion also continued in the continental areas as well [6–8,26,27]. Since 2010, the concept of OECMs (or conserved areas—CAs) has become more used, particularly with the definition in the CoP-14, in 2018, to recognize areas other than PAs that contribute to biodiversity conservation, and strengthened in the CBD Kunming–Montreal Target 3 [8,10,11,25].

Nevertheless, to introduce the problem considered in this article, conflicts have been a constant issue in the creation, declaration, and management of PCAs. Solutions may not have occurred quickly enough or not gone sufficiently far. At the same time that PCAs are

demanded for new functions, their governance dynamics and management have not yet sufficiently responded to the expectations of the plurality of stakeholders around them (Decree 7747/2012, Brazil; [7,8,22,23,28–30]).

To better understand the related context and possibilities, a study group was established in Brazil to evaluate and learn from current research, experience, and dialogues. The main questions guiding that work were related to the diversity of realities of PCA management and governance (M&G) and their connections with the social diversity and its demands. To support the understanding of these demands, and beyond their importance for biodiversity and sociodiversity (or sociobiodiversity, as used in Brazil), the work here looks at the relationship with different social actors and how those relations can achieve improved effectiveness through better social support—therefore considering governance links to inclusiveness, equity, and effectiveness. The authors considered a general approach of the subject at the global level but had a main focus on the Brazilian context, searching for lessons learned with a broad interest that could open pathways for more inclusive, equitable, and effective PCAs. Furthermore, a key underlying problem of PCA governance is related to the challenges of obtaining further social support for PCAs to overcome the associated obstacles in order to achieve their management effectiveness ([10,11,22,23,28,30,31]; Decree 7747/2012, Brazil).

In this context, this article is based on the analysis and systematization of the literature and the accumulated experience of PCA management practitioners, researchers, and other social actors, such as members of Indigenous peoples and traditional and local communities, as a means of contributing to a sound definition and implementation of PCA-related strategies. In order to do that, it proposes and evaluates the contribution of the concept of collaborative collaboration across several topics related to PCAs.

## 2. Materials and Methods

### 2.1. The Intersectorial and Interdisciplinary Study Group

In terms of materials, this article is based on the work performed by the intersectorial and interdisciplinary study group established in Brazil (Grupo de Estudos sobre Conservação Colaborativa e Áreas Protegidas e Conservadas—GECCAP). This study group evaluated the current science related to concepts, results, conflicts, and perceptions about PCA M&G, as well as guided dialogues and exchanged experiences. This was conducted in a non-orthodox way to crosscut the arenas of research, management practices, and living experiences, as well as to go beyond the classical PCA management approaches and consider *de facto* realities. Working during the period from mid-2020 to mid-2023 (although still functioning), the study group has had more than 100 leading volunteers, mostly composed of researchers, experts, and practitioners. In the GECCAP, those specialists carried out bibliographical studies and document analyses, promoted workshops and other guided dialogues as a means of collective reflection. They also developed technical and academic reports and collaborative papers with the results from the studies and dialogues. Those processes allowed the study group to better understand the reality of PCA M&G, particularly from the perspectives and perceptions of diverse social groups and their demands, and identify the lessons related to their current challenges in Brazil, dealing with a series of (sub)themes in which PCAs are important [31]. Table 1 presents syntheses of the processes of information recollection and reflections promotion. (More details about the GECCAP's work are in the Supplementary Materials).

**Table 1.** Workflow of the GECCAP (study group).

Phases	Activities
Establishment	Study group establishment (100 + active participants) (After inviting management practitioners, researchers, and community members—some 200–300). Definition of subthemes and establishment of subgroups (from preliminary ideas of subthemes—more than 40).

**Table 1.** *Cont.*

Phases	Activities
Studies and workshops	Studies by subgroups: bibliographical studies; exchange of experiences; and dialogues with complementary social actors. Monthly guided interactions in the larger study group. Guided workshops (15), including: recommended bibliography offered; presentations; invited guests; and broader dialogues. Workshops recorded and synthetic written reports available. Internal workshops evaluation.
Complements	Complementary workshops and dialogues, as well as technical and academic collaborative reports and papers. Social media.
Analyses	By the leaders of thematic subgroups and coordinators of the study group.

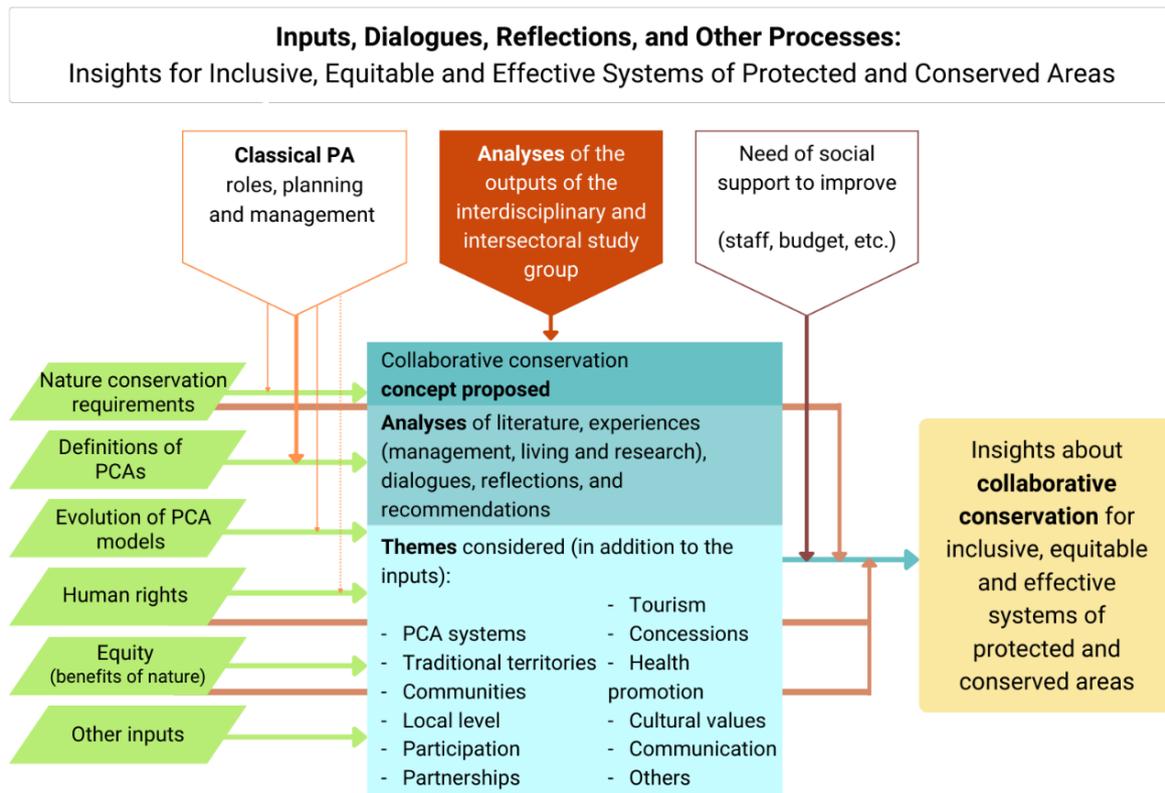
## 2.2. Some of the Terms Considered

In order to avoid the misinterpretation of some of the meanings, it is important to clarify the use of some terms and expressions in the study group and in this article. In this sense, “inclusion” is understood as going beyond the job or economic income possibilities and the offer of social services (such as education, healthcare, etc.), but recognizing rights and right-holders, with particular attention to the ones related to the territory (in land and water) and natural resources, and to participation in decision making. Complementary, “equity” is related to the reduction in social or socioeconomic differences, again based on rights, but also related to the fair distribution of benefits. PCA “effectiveness” is related to the main objective of PAs, i.e., nature and biodiversity conservation, but also considering the multiple ecosystem functions and services and the other social benefits that PCAs can provide, as well as considering different perceptions about them through culturally differentiated approaches. Therefore, effectiveness considers the results and impacts (positives or negatives) of PCA M&G in the broad set of expectations, in the current time contexts, as well as related to the PCA dependence on social support to have the needed functioning conditions (lacking in most PCAs in Brazil and many other countries [2,32–37]). Therefore, there is a direct relation between the social perceptions of PCA results and impacts, particularly through the inclusiveness and equity of M&G, and the real effectiveness of PCAs [23,30,31,38]. “Instrumental” is understood as crucial, fundamental to put in motion the process and achieving results, as considered in this case. In addition, with all respect to their self-determination and human rights, in this article, the “social actors” or “social groups”, “cultural approaches”, “rights”, “benefits”, etc., are not necessarily considered as always absolute, “immiscible” in relation to other groups, “unchangeable” throughout their history, etc., but rather defined within their social-cultural-economic, regional, and historical contexts, as well as sometimes related to the subject considered, the specific struggle, etc. PCA “management” is considered more in relation to the technical and administrative fields, while their “governance” is more related to decision making and social actors’ participation. Other concepts and definitions are presented throughout this article (and complemented in the Supplementary Materials) [23,30,31,38].

## 2.3. Focus of This Article

With the purpose of understanding the obstacles preventing PCAs being effective, inclusive, and equitable, this article considers the evolution of scientific knowledge and current diversified demands. As Figure 1 shows, the classical PA demands and inputs need to keep being considered, because part of the importance of PCAs comes from the remaining values throughout time. Nevertheless, the update is also essential—including the necessity to no longer disregard human rights or equity. Perceptions and demands were identified through the GECCAP studies and dialogues. Taking into account the fact that new approaches are necessary to fulfill current PCA functions, as well as to promote the reconnection between society well-being and nature conservation, this article proposes

the concept of collaborative conservation as an instrumental approach to advance towards inclusive, equitable, and effective conservation strategies. Therefore, the outputs from the study group were considered vis-à-vis this concept in several themes. Accordingly, a complementary literature review was conducted. The analyses are organized in topics to consider the applicability of the concept of collaborative conservation in the different aspects of the M&G of PCAs: (1) Evolution of concepts and practices of PCAs; (2) Systems of PCAs; (3) Traditional peoples and their territories; (4) Local PCAs; (5) Local governance and evaluations; (6) Tourism and partnerships; (7) Promotion of health and well-being; (8) Cultural values of nature; and (9) Strategic communication.



**Figure 1.** Analyses of the GECCAP outputs and complements by this article.

It became more evident that barriers preventing PCAs being effective are strongly tied to the perceptions of diverse social groups about the values and problems of PCAs and the consequent potential social (and therefore political and economic) support for PCAs. Consequently, in order for PCA M&G to better respond to social actors' expectations, the needs of the most vulnerable, and evolving demands, this article presents the analyses, reflections, and insights in an attempt to contribute to the pathways to update their M&G models. Following this approach, this article also offers considerations on how to better understand the complexity of PCA systems.

### 3. Results

As mentioned previously, the themes considered in this section evolved from those considered by the GECCAP (as types of cases presented in Table 2, complemented in the Supplementary Materials), as organized in the subsections below, therefore including initial recommendations from the GECCAP thematic groups, as well as advancing insights presented herein.

**Table 2.** Some PCA types, systems, cases, and initiatives considered in the analyses \*.

Types, Systems, Cases, Initiatives	Characteristics	Resulting Analyses
PCA types		
Official protected areas (PAs)	Defined by national legislation, with 12 management categories, applied at the national and subnational levels	Brazilian management categories corresponding to 6 (of 7) international ones and elements of governance types
Indigenous territories (ITs)	Defined in the Brazilian National Constitution and federal laws, recognized by fed. institutions Overlaps between PAs and de facto ITs or the inclusion of areas of importance for IPs	Recognized as rights of the IPs officially on national lands, and de facto managed by IPs; potential OECMs Cases of disrespect (yet) of IP rights and their ITs, but increasingly respected, as in the cases of overlap with PAs
Quilombola territories (QTs)	Defined in the Brazilian National Constitution and federal and subnational laws, recognized by federal and subnational institutions Overlaps between PAs and de facto QTs	Recognized as rights of the Quilombola communities (QCs), on lands to be private, de facto managed by QCs; potential OECMs Cases of disrespect (yet) of QC rights and to their QTs, but increasingly respected, as in the cases of overlap with PAs
Traditional territories of extractive communities	Defined in Brazilian national or federal laws or policies, recognized by federal and subnational institutions Possible consideration in the creation of PAs cat. VI Potential OECMs	Interesting cases of considering extractive traditional communities (TCs), either in PAs, or in areas potentially OECMs (yet to be decided by Brazil); but not including all TCs (yet?)
Territories of other traditional communities, including several cases of overlap with official PAs	General legal consideration of territorial rights of TCs	Without enough specific institutional responsibilities and policy processes (yet?); potential OECMs Cases of disrespect (yet) of TC rights and to their territories, with several conflicts within PAs, but TCs increasingly respected
PCA systems and jurisdictions		
PA national systems	Organized nationally, with powers at the national level or similar subnational responsibilities, complementary subnational systems Similar or different categories or governance types in national and subnational levels One or more responsible institutions	Only in a few cases are there similar responsibilities between the national and subnational levels (Brazil) Some approaches to ecological representation, connectivity, and governance types are considered (all cases considered) Mostly, there is functional integration (e.g., personnel, tourism, research) when within the same institution, but usually not across institutions (all cases considered)
PA subnational systems	Supported by Brazilian national legislation Cases of municipal systems being more or less integrated, functional, etc. Private reserves officially recognized by the local government: officially considered to be equivalent to cat. IV, but similar to private and small cat. II	Important Brazilian example of local PCA systems within national legislation (not usually found elsewhere) Important for human well-being; with potential to be more equitable systems Interesting case of local complementary initiative: promotion and subsidies
Local PCAs	Cases of partnership w/ civil society for co-managing local PCAs Cases of partnership with local governments for co-managing PCAs related to other levels Other local PCA cases	Smaller PAs Potential solutions to be closer to people (interested social actors) Important for human well-being; with potential to be more equitable PCAs Brazilian municipal PAs are underreported to the national registry (CNUC)
PCA cases and themes		
To understand the effectiveness of local governance committees	Concrete experiences of local governance committee members Importance for local communities	Local PA governance committees are very important to local participation, especially that of communities Important effectiveness gaps, including within the committees, but mostly considered by the management teams and PAs institutions

Table 2. Cont.

Types, Systems, Cases, Initiatives	Characteristics	Resulting Analyses
To understand the reality of community-based tourism	Cases of official PAs related to categories of sustainable use reserves, such as cat. VI and V Perspectives from representatives of the communities involved	Most cases are too recent, although there are successful ones so far More important support from PCA institutions and stronger marketing/commerce networks of community-based initiatives would be welcome
To understand possibilities of partnerships	Cases of official partnerships with civil society organizations, in different governmental levels Examples of partnerships with civil society, but important role of local communities throughout their history	Many other cases of unofficial collaboration with other governmental institutions, other governmental levels, civil society, communities, companies, etc. Partnerships with civil society organizations tend to be more balanced than the ones with companies and communities
Under concessions	Cases of concessions for tourism-related services are growing steeply in Brazil in recent years (from a few federal cases until some 10 years ago) There are learning processes improving the cases, but not all of them	Several administrations (governmental executive mandates) of the levels consider concessions as means to reduce expenses or overcome funding and staff shortages There is a need to develop the better capacities of the PCA institutions to have productive partnerships and concessions
For cultural values	One example of themes incorporated in the expectations of PCA in recent times Considered very important for IPs and TCs	Initial considerations by PCA institutions to incorporate in their M&G Increasingly considered for the mainstream society In some cases, cultural and social values recognized not only by the nature conserved, but about the PCAs themselves
For strategic communications	Usually, the theme is not considered de facto (even when considered in the planning) in the PCA M&G	Fundamental for mainstreaming PCA and their roles in society; indispensable for good PCA governance and participatory management
Initiatives or institutions		
For health and well-being promotion	Another example of themes incorporated in the expectations of PCA in recent times	Theme in initial development, not yet incorporated by PCA institutions Particularly important in urban and peri-urban areas Important potential to mobilize and engage with mainstream society

\* Supplementary Materials include text and tables with more detailed information about the types and cases, the characteristics and numbers of Brazilian PCAs and the relation between Brazilian management categories and internationally accepted classifications of management categories and governance types, as well as definitions and some possible numbers about Indigenous peoples and other traditional territories in Brazil.

All types of cases (of PCAs, systems, traditional territories (TTs), institutions, projects, etc.) in Table 2 come from different sources and perspectives and were considered among others, including those based on the experiences of the participants in the GECCAP-related dialogues. The descriptions and characteristics of the cases, as presented in the table, are extreme simplifications of the realities. The resulting elements presented, also simplified, are products from the thematic analyses.

### 3.1. Evolution of Concepts and Practices of Protected and Conserved Areas in the World and in Brazil

To date, the evolution of PCAs could be broken down into at least three different phases: (i) a first long period, that has not always been recognized, in which there was no defined pattern for CAs (such as game reserves, sacred sites, etc.); (ii) the NP era, starting from the end of the 19th century, with the initial focus on the protection of scenic landscapes and recreational functions, a paradigm through which the PAs were inserted into international policies with the related homogenization tendencies; and (iii) the New Paradigm (related to PAs), recognized around the 2003 Durban World Parks Congress and the 2004 CBD Programme of Work on Protected Areas (PoWPA), which considers a multiplicity of PA objectives and the diversity of governance types, among other elements [9,18,19,21,31,39–47]. A

pending question is related to what the current trends are. (For further information related to the evolution of PCAs, including several themes, see the Supplementary Materials).

There are almost no systematic studies about spatial (or area-based) conservation measures before the advent of the NPs' paradigm, either globally or in Brazil. Most sources (typically employing a biological approach, rather than a social or historical one) reproduce the creation of the first NP as the seed from which all PAs descend [21,41]. Most well-known international conventions and institutions related to PCAs were developed during the NP paradigm or under its influence [48]. Also, the rise of NPs was related to the affirmation and the evolution of nation-states and their territories, using them as national symbols, particularly in the "new Europas" [9]. In Brazilian literature, in addition to a remarkable focus on the United States' (USA) case of Yellowstone NP (established in 1872), it is also common for the Itatiaia NP (established in 1937) to be referred to as the first NP in the country. Other than that, there is not much Brazilian literature comparing the national and international contexts with respect to PCAs [41,49,50]. Some national sources, however, have recognized spatial conservation efforts either dating from before the advent of or lying outside the NP paradigm (which are not limited to the concept of TTs) [50–52]. Some aspects related to the NP paradigm have been discussed over the years, such as the focus on nature as separated from societies, the homogenization of models, and the exclusion of traditional and local communities [40–42,52–55].

Although there has been a tendency for the homogenization of concepts and definitions, it is important to stress that, since the phase of the NPs, there has always been some level of recognition of the different and complementary management objectives or characteristics of PCAs, including the diversity of management categories (cats.). In addition, each of the different national category systems has been related to the socioeconomic and environmental reality of the specific country. However, to establish a common language and to enable a global evaluation to support international and national related policies, the IUCN has been proposing and improving the international management category system, mostly based on management objectives [16,56].

Globally, Indigenous peoples and traditional and local communities, historically oppressed by most (if not all) of processes of mainstream society, including by PAs, have been claiming the conservation of nature through their traditional ways of living [23,31]. These communities have progressively been recognized as culturally differentiated social groups with their own collective rights and roles in nature conservation [40,41,52,54,55]. Considering the fact that ecosystem management and conservation are complex subjects [31,57], replete with dilemmas [58], the expansion of the diversity of rights-holders and stakeholders has been occurring as a consequence of the maturity of democracy and its institutions, motivating the creation of broader concepts that recognize a greater plurality of social actors.

Even if proposed before that, following the Durban 2003 World Parks Congress and the New Paradigm, ICCAs (initially called community conserved areas—CCAs) have received greater international recognition and have progressively been incorporated in the definitions and guidance regarding PAs. Also after the 2003 Congress, the recognition of social actors other than national governments in charge of PAs increased. Following that, the IUCN and the conservation community have recognized PA governance types, expressing the combination with management categories in a matrix [16,18,22,23,30,59–65].

If the problems of conflicts of PCAs with Indigenous peoples and traditional communities (IPTCs) and with landowners and other local development options are relatively well studied and understood [23,28,30,31], some other problems are less visible. Those include the uneven distribution of nature in cities and the inequity in terms of access to the social-economical-cultural benefits of PCAs for persons who are disabled, or of a certain age, race, and gender, among others, but particularly for persons belonging to the lower economic levels of a society. As PCAs evolved, they became part of nature-based solutions to urban problems, including in relation to facing the consequences of climate change, as well as important mechanisms in the promotion of human well-being in urban and peri-urban zones. Therefore, a number of local social groups, representing the most

vulnerable in urban and peri-urban areas, have not yet received sufficient attention from PCA M&G policies and practices [30,31,38,66,67]. (See also elements of thematic evolution of PCAs in the tables of the Supplemented Materials, as mentioned above).

According to the law of the National System of Protected Areas (Sistema Nacional de Unidades de Conservação—SNUC), the twelve Brazilian PA categories have components of conservation objectives, but also of governance types, land tenure, and governance definitions, and levels of restrictions to land occupation and the use of natural resources. In contrast with the international pattern, the Brazilian PA management categories are organized into two groups (strict preservation areas and sustainable use reserves) with several inconsistencies. Brazil also represents a relative positive exception on a global level due to the national organization of one legal PA system, which also includes the subnational responsibilities to the state and municipal levels with similar powers to the federal one in relation to the management categories and all legal implications (Law 9985/2000, Brazil; [31]). In March 2023, among the 2659 PAs registered in the national database (with a total area of more than 2.5 million square kilometers—sq. km), 1004 were registered at the federal (fed.) level, 1141 were registered at the state (st.) level, and 514 were registered at the municipal (mun.) level (with a clear under-notification of the private reserves of all levels and of municipal PAs of all categories) [68–71]. (For more information about the Brazilian PA System, see the Supplementary Materials).

Even though there are not many mentions of the New Paradigm in the Brazilian literature, there are a large number of papers, reports, and books on PA-related conflicts, mostly related to IPTCs and the NP paradigm (Decree 7747/2012, Brazil; [23,28,30,41,52]). Several decades ago, such conflicts led to IPTCs being ignored or relocated. After some time, management and policies would also come to consider “degazetted” PAs, redesign limits, and/or changes in their management categories. In parallel, as a result of the struggles undertaken by social movements, growing recognition of IPTCs has been achieved in the form of a number of policies in Brazil, also aiming to strengthen the management of their territories (Decrees 6040/2007; 9334/2018, Brazil; [28,30,72–75]). Therefore, more recently, there has been a tendency in Brazil for policies, legal advice, and system management to accept these management practices, better recognizing the rights of IPTCs, including the management and conservation practices of their territories, and harmonizing with official efforts towards nature conservation [23,52,72–76]. In that sense, in Brazil, in some cases, paths have been opened for reconciliation, where there has been interest in maintaining PAs while fully respecting the rights of IPTCs, as well as ongoing processes [23,52,72–75].

In both the international and Brazilian contexts, PAs have usually had objectives related to biodiversity conservation per se, nature-based leisure, or recreation and tourism, the promotion of scientific research and educational activities, and in some cases, also the sustainable use of natural resources by local and traditional communities (Law 9985/2000, Brazil; [30]). However, a clear recognition of cultural values, as well as the importance of health promotion, among other approaches, only started some decades ago in conservation strategies at the global level. In the case of Brazil, this broadening scope began a bit later than international processes. In both cases, the focus was initially more related to traditional peoples and territories, only more recently starting to address mainstream society [53,63–65,77–83].

In terms of more recent global evolution, the Aichi Target 11 was internationally provocative with respect to national decisions, stimulating a clear increase in the total amount of area protected [11]. However, there has been an excessive focus on the quantitative element of coverage, with not enough attention being paid to the qualitative aspects of PCAs (such as their ecological representation [84], their connectivity, and integration within their regions), particularly without considering the functionality of PCA systems and equity as elements of qualification in the target [28,30].

Target 3 of the recent Kunming–Montreal Global Biodiversity Framework maintained a broader perspective of spatial (or area-based) conservation strategies and the qualities expected of the PCA systems and expanding the target to 30% of all ecosystems [10].

This therefore strengthens the possibility of recognizing ICCAs, together with other PCA governance types. However, these are also not simple processes. According to Berkes (2007, p. 15193 [60]), “community-based conservation needs to be extended so that it includes natural resources or biodiversity protection by, for, and with the local community, taking into account drivers, institutional linkages at the local level, and multiple levels of organization that impact and shape institutions at the local level”.

Meanwhile, there is still some ambiguity surrounding the wording of protected and conserved areas, as there are always going to be disparities, or sometimes even contradictions, particularly with the evolution of concepts or their definitions. For example, in light of the recent OECM approach, the expression “conserved areas” has reappeared. Therefore, some of the areas that were already or in the process of being considered PAs may now be regarded as OECMs. As a result, some definitions of spatial conservation mechanisms may need to be reassessed. Following the PoWPA, in Brazil, a broader concept of “áreas protegidas” is accepted in a policy definition (including PAs and Indigenous and Quilombola territories, as well as ecological connectivity by other spatial conservation mechanisms) (Decree 5758/2006, Brazil; [85]). Since OECMs as such have not yet been officially considered in Brazil, these recent global reforms will likely have new ramifications for the country [23,86].

A preliminary approach to OECMs was started with the 2013 Brazilian Aichi Targets, but this was not completely consistent with the later CBD definition in 2018 (Resolution CONABIO 6/2013, Brazil). OECMs in Brazil could be particularly relevant to traditional territories and other areas characterized by the sustainable use of natural resources by traditional or local communities, areas in which ecosystem services are maintained (such as in the cases of water basin conservation, urban forest protection, etc.), spaces for recreational purposes (particularly in cities), historical and cultural landscapes, military areas, and reserves associated with university or research institutes, among other possibilities [86].

As PCAs continue to evolve, one important qualification of conservation, i.e., equitable governance (included in both the Aichi Target 11 and Kunming–Montreal Target 3, as well as in the good governance guidelines), has been overlooked throughout the years [30], and must be considered a priority from now on. In Brazil, it is only recently that broader social benefits and cultural values have been more thoroughly considered in the context of PCA M&G, such as with respect to the interconnections between PCAs and religions, health and well-being, sacred sites, and other values, as well as the possibilities of promoting partnerships, voluntary work, etc. [28,31,87–91]. Today, the importance of recognizing the multiple values of conservation and the multiple contributions made by social groups to conservation is beginning to be noted, whilst the guidelines have an eye towards more open and participatory PCAs, with an inclusive M&G [31].

### 3.2. Systems of Protected and Conserved Areas

Despite the evolution of PCA mentioned above, the usual approach still considers each PCA one-by-one or based on non-functional sets of PCAs. Adequate considerations of systems of PCAs are mostly absent in mainstream studies and guidelines—despite the fact that both Aichi 11 and Kunming–Montreal 3 stipulate targets and qualifications regarding systems of PAs and OECMs [31,38,61,66,84,92–95].

If each PCA is to deliver important results in terms of nature conservation and associated services and values, the systems of PCAs should deliver integrated results and at a much larger scale. Each PCA system should be considered as a complex and integrated whole that is interactive (internally and externally), dynamic and evolving, with positive results. The consideration of PCA systems should include the following elements: (i) the assemblage of individual PCAs, each with its own roles, M&G; (ii) the diversity of kinds and categories, with a diversity of objectives and other characteristics, considering the ecological, social, and functional relationships among them; (iii) different government levels and PCA governance types; (iv) the array of activities developed in each of the PCAs and their programs, also integrated at the system level (for instance, related to tourism,

research, education, fire control, patrol, leisure, culture, health promotion, etc.); (v) the relationships with stakeholders and the possibilities for their participation in each PCA and in the whole system; (vi) the support and guiding legislation (for the creation, and the M&G of PCAs); and (vii) the institutions responsible for the M&G of PCAs and systems, including the provision of adequate staff, budget, and internal administrative procedures, as well as policies and practices related to PCA support and partnerships.

Therefore, relational approaches should address the complementarity (of individual PCAs, of types and categories, of functions and activities, etc.), the relationship with a diversity of social groups, participatory good governance, the relationship among different levels of government and institutions, as well as with other sectors, etc., and system functioning (human resources and associated careers, systematic capacity building, economic resources, partnership policies, and practices, etc.). As larger governmental structures and processes, the systems should be embedded in policies with stable and long-term strategic objectives, and a set of main guidelines and structures, although specific targets and some detailed guidelines should be determined on the basis of shorter-term temporal delivery.

The complexity is evident in view of the multiplicity of interests, potential contributions, and possibilities for social participation arrangements, which come on the top of the diversity of local realities, types, and categories of PCAs. As functioning systems, the interactions should be considered both within them and in their relations with the exterior. The real complexity of the PCAs as functioning systems has usually been only peripherally approached in mainstream PCA-related studies and guidelines [31,38,61,66,84,92–95].

### 3.3. Traditional Peoples and Their Territories

Indigenous peoples and traditional communities have the rights to their territories, which constitute crucial CAs, recognized in national legislation, policies, and social movements in Brazil. The rights of Indigenous peoples (IPs)—which have the strongest legal and social recognition—and traditional black communities (*comunidades quilombolas* in Brazilian Portuguese, related to enslaved descendant communities or maroons), are mentioned in the 1988 Brazilian Constitution. Moreover, there are other social groups, which also self-identify as traditional, with rights recognized by complementary national legislation (Table 2). These mostly refer to themselves as “Indigenous peoples and traditional communities” or similar terms (which go beyond the “Indigenous peoples and local communities” (IPLCs), as typically considered in international policies) (Decrees 6040/2007; 9334/2018, Brazil; [23,31,72,75,76,96–98]).

IPTCs are social groups with distinct characteristics coming from situations with historical-cultural and territorial particularities. Although not all these groups share the same worldview, they have a common general approach inextricably linking their culture and their sense of nature, expressed in a “geo-bio-cultural (or socio-environmental) cosmovision” [31]. In other words, an ontology prevails in which all subjects (human or non-human) constitute the whole (the cosmos), not perceiving nature as external to them [99]. Therefore, some characteristics are shared by the various IPTCs: (i) the organization of collaborative work and production, with tasks and responsibilities shared within the communities; (ii) the cooperation within and across communities; (iii) the appreciation of their cultural repertoire; (iv) the oral generational transfer of knowledge; (v) socio-cultural reproduction by means, rituals, festivities, and other events; and (vi) the strong linkage to their territories, with a minimal negative impact on ecosystems [31,100]. Essentially, they see themselves as culturally distinct from mainstream society, have rights over their territories and for their own development models, and have a close relationship with their environment and nature.

In total, there could be as many as some 6 million persons belonging to traditional communities (TCs) in Brazil. Despite IPTCs’ rights to land, social organization, and cultural manifestations, they are not always recognized, which is associated with constant threats and the permanent struggle to maintain their TTs (which could easily count for more than 2 million sq. km), their way of life, and their traditions [23,31,99,100]. Additionally, there

are still reminiscences of conflicts with “preservationist” positions (which still believe that nature conservation requires areas to be fully uninhabited, usually not allowing traditional social groups to remain on their territories). For example, parts of Indigenous territories (ITs) have been contested where these overlap with PAs. Also, there are limitations to IPs’ access to their sacred sites, caves with paintings related to their mythology or to their ancestral settlements, when incorporated into PAs, among other cases wherein traditional peoples’ rights are disrespected.

In the most recently published information, in 2015, there was some level of conflict with IPTCs in 47% of PAs managed by the federal government (not considering the private reserves officially recognized as PAs), but the detected tendency was to solve existing conflicts and otherwise reduce it through the introduction of new guidelines for the creation of PAs or the application of management tools (such as management plans, etc.) (Decree 7747/2012, Brazil; [28]).

Due to the social movements, there are specific Brazilian PA management categories that were either created at the request of the traditional extractive communities or require their consent. In resistance to the occupation and deforestation of areas being used to extract resources, the rubber-tappers, under the leadership of Wilson Pinheiro, Chico Mendes, and others, created a movement that led to the proposals of extractive reserves (called *reservas extrativistas*—RESEX) and ecosystem-friendly agrarian reform settlements [101–105]. Besides the definition in the World Parks Congress in Caracas in 1992, the revised RESEX model was considered in the current definition of the category VI (in 2008) [16,31,106]. In Brazil, starting with some cases of RESEX from around the time of the death of Chico Mendes, these are now numerous, and are concentrated at the federal level in the Amazon and on the Atlantic coast. The traditional extractive communities are actively present in other category VI PAs, while being less actively present in category V PAs. It is possible that such social movements, like the rubber-tappers and other forest collectors in the Amazon and artisanal fishers on the coast, and their recognition, influenced larger processes of demand and the partial recognition of other TCs around the country [23,31,96–98,101–105]. (For complementary information on IPTCs, their territories and related PAs in Brazil, as well as evolution of themes related to PAs and PCAs, see the Supplementary Materials).

### 3.4. Local Protected and Conserved Areas

Local PCA systems are usually not considered from an international perspective, but they are becoming increasingly important to most of the global population, particularly for those who live in cities. Considering the fact that local PCAs have a more intrinsic relationship with local communities, some cases provided insights to this work, including PAs and other kinds of urban green areas under the management of municipal governments (Table 2). Some of them are cases of Brazilian municipal legal PCA systems. One case considered the local policy for a specific category. Specific municipal PCAs were also considered. Furthermore, throughout the study process, attention was given to partnerships, such as with civil society organizations for co-managing local PCAs. And also, cases of partnerships with local governments for co-managing PCAs are related to other government levels. Inputs also came from the perspectives of local communities with respect to local PCAs [30,31,38,66,67,107,108].

Some of the insights from the related studies and dialogues can be highlighted as follows. The classical model of biodiversity-based PAs exclusively focusing on biodiversity tends to favor larger and less disturbed areas that are far from urban centers; however, the nature closer to urban areas, even if smaller and with the same disturbance level, is crucial for the promotion of health and to face the climate change emergency, as well as for protecting local biodiversity. For stronger local PCAs, it is important to have official local systems, qualified and committed technical teams, and stable high-priority-level policies, but the attitude and performance of local management staff is fundamental, whereby sensitivity to the local reality and routine, as well as respect and commitment, can make PCAs more attractive to citizens. The equitable management of PCAs is not only a

matter of who uses the area (with respect to gender, age, race, disability, etc.), but how the PCAs are distributed throughout the space, considering the more vulnerable social groups. Also, possibilities of access are of great importance, as well as the conditions permitting recreation and other uses, but the effective participation of surrounding communities promotes their sense of belonging and a higher appreciation of natural areas that are essential for their effective conservation. Furthermore, fostering community protagonism with respect to PCAs, in terms of their interactions with policies and partners, promotes the self-valorization of communities, leading to their emancipation and the possibility of participating in other arenas.

Therefore, local PCAs should provide benefits to the surrounding population, promote the development and improvement of the quality of life. PCA networks influence policies in general, but could be more integrated in both senses, as the local level should be encouraged to achieve better interaction and participation. The local level also allows better conditions for institutional interaction, information sharing, and broader spatial strategies (such as water-basin committees, PCA mosaics, and intermunicipal conservation corridors), in addition to further collaboration with civil society. And, at this level, there are usually more possibilities in partnerships, including arrangements for shared management, but there is seldom a need for further support from academia and from projects that reflect the real contexts of places [31,38,66,67,107,108]. (See also elements of the evolution of themes related to PAs and PCAs in the Supplementary Materials).

In consideration of those elements, local authorities and leaders should define PCA system standards and guidelines, as well as promote the responsibilities for a broader institutional array, while maintaining a direct, clearly specialized body. They should also promote the creation of new PCAs, along with their good M&G, in consideration of the concepts of proximity (such as being able to reach green areas with a 10 min walk), progressiveness (considering, for instance, scales ranging from backyards and street trees to ecological corridors and large PAs), and complementarity (among the qualities and functions of spaces, the activities promoted, etc.) [31,38,66].

### 3.5. Local Governance and Evaluations

There are policies and management instruments related to the possibilities of participatory local governance, applicable to the three levels of government in Brazil. According to Brazilian legislation, all PAs included in the official national system are required to have a local committee involving the different sectors of society, which is intended to ensure democratic governance and support fair management. In some management categories (particularly with respect to IUCN cat. VI), the local committees have decision-making power, and the strong representation of local TCs is obligatory. Nevertheless, despite the existence of these general regulations, there are important gaps in more specific and procedural regulations. Additionally, while some PA management teams are increasingly open to considering the interests of society, others are not adequately prepared for this. Moreover, in general, there are not enough human and economic resources to support the necessary action in this regard (such as capacity building, time and material resources for meetings and their preparation, etc.).

To aggravate the situation, in recent years (2019–2022), due to changes in national politics, a regression has occurred with respect to the conditions of social participation, such as the abolition of collegiate bodies, the redefinition of rules, and a reduction in representativeness (Decree 9759/2019, Brazil; [109,110]), even if those conditions seem to be temporary. Therefore, local committees face significant obstacles in being strong public spaces for achieving inclusive and equitable local governance and contributing as collaborative settings with a positive impact on the PCA M&G. Solving some of these related issues demands conditions for effective social participation in decision making and the adoption of social processes that support collective activity, including through adequate communication, knowledge sharing, and training. On the other hand, there is enormous social potential considering how some IPTCs are organized and the interest of other social

actors in participation. Nevertheless, the successful local governance of PAs has already been achieved, albeit limited to specific cases.

Considering the functioning of local committees, insights came from the general understanding and some cases (Table 2) with respect to the local governance of PCAs, as follows. Tools should support continuous participatory, functional, and adaptive processes and should be based on strategic cyclic processes of diagnosis, planning, monitoring, evaluation, and replanning. Action plans for local PA committees should be developed within a strategic vision, as well as be oriented towards practical, current, and urgent issues. The autonomy of participatory spaces should be expanded, enabling the creation and adoption of local and specific solutions, including with respect to their functioning. The social segments represented in the local committees should also seek representation in other regional governance spaces, thus contributing to better connections and reducing social power disparities. Loci and processes should be created for debates, reflections, and learning regarding governance, both for and with social movements, in governing bodies and academic forums. The adoption of digital means of supporting the activities of committee members, not exclusively, but in combination with physical meetings, radio information sharing, etc., could not only facilitate the functioning of the specific committee, but also make possible coordination, exchange, and collective learning with other committees and the M&G of PCA systems [31].

It is important to mention that there has been an irregular but growing application of management effectiveness tools in Brazil, such as the RAPPAM and the Brazilian SAMGe [30,111,112], which in some cases have considered elements of governance. There have also been methodological proposals for the performance of assessment and strategic planning with local committees, as well as a recent report on the need to consider equity in the M&G of PAs—besides the associated workshops and other debates. Nevertheless, despite the relative increase in attention, there is no national guidance on good governance assessment to date. Nevertheless, it should be considered that, due to the limited time and economic resources available to institutions, management teams and local communities, the ideal would be the integration of PA governance assessment into the management effectiveness evaluation processes, including application at the system level. (Some information presented herein was collected and considered [30,111,112], which was based on technical reports and papers such as from ICMBio, IBAMA, WWF-Brasil, etc.).

### 3.6. *Tourism and Partnerships*

Currently, the most widely known and thoroughly discussed objective of Brazilian PAs (besides conservation) is probably tourism. Although not promoted as it should be, increased attention has been devoted to the subject, albeit mostly with respect to nature-based tourism following the perspectives of the public officers in charge. This kind of tourism has an enormous capacity to increase—estimated by some to be four times more than nowadays when only considering the “natural parks” (mostly comprising NPs and similar state-level parks), if some policy changes were adopted (based on some international benchmarks) [113].

On the other hand, since the 1990s, several initiatives related to community-based tourism (CbT) have been developed that are associated with the traditional way of life of local communities [114]. Although some local communities have participated in knowledge exchange networks, these are mostly individual initiatives in their preliminary stages, without consistent national policies, programs, and incentives, and as yet without a formal commerce network. Nevertheless, CbT in PAs has great potential in terms of its capacity for harmonizing the commitment to biodiversity conservation with the affirmation of the rights of traditional peoples and communities, as well as aiming at social inclusion related to income and opportunities redistribution and also social recognition and acceptance [114,115].

Several cases were identified in which local and TCs had already organized and were providing tourism services related to official PAs (Table 2). The planning and practice of

such tourism in and around PCAs can be of benefit not only to visitors, who appreciate the natural and esthetic richness of these areas, but also to the TCs, for whom it opens opportunities. Understanding the knowledge and practices in CbT with respect to PCAs implies a consideration of the organization of the community, strategies for valuing and protecting cultural and natural heritage (whereby community-related processes are crucial for strengthening cultural and historical values), and the relationships between the communities and the PCA managing body.

In line with this perspective, some of the challenges and demands for future paths related to CbT are important, as follows. There should be intersectoral collaboration, with a joint definition of interests and priorities, among communities, managers, and partner entities, in the context of each case, as well as from broader system and regional perspectives. The development of policies, incentives, and funding would be important to promote this activity, guaranteeing the rights of TCs. Any planning or action should respect communities' self-determination and decisions, including for clarity regarding community limits (no-go areas and activities). It would be important to have better guidance for PCA managers and institutions, the promotion of adequate infrastructures, integration with PCA environmental education processes, and specialized technical training for PCA management teams, all with the engagement of local PA committees. The specific trade and the communities could benefit from some level of standardization of CbT activities and services, including with the aim of facilitating commerce and policy implementation. There should be continuous processes in search of quality for touristic products and services (including their own food production, such as fish, shellfish, vegetables, etc.) and improved benefits with equitable distribution within communities. There is important room for improving partnerships between public, community, and private sectors. Governmental institutions, as well as related companies, and the communities themselves, should promote research, support, and training, including for working in networks, paying particular attention to youth and women, all with communities' participation and agreement [31,114].

Nevertheless, the reality on the ground has shown the existence of multiple *de facto* partnerships (i.e., either legally established, or some kind of collaboration without formal agreements) in PCA management. Whilst these are not so different from the realities of other countries, in Brazil, the guidance has been relegated to being a marginal strategy, when it is not avoided altogether. Some years ago, the Chico Mendes Institute (Brazilian federal PA institution) started an initiative for partnership policies. However, in general, PCA policies related to partnerships are still incipient in Brazil. Partnerships between the public and private spheres can bring society closer to PA management if good practices based on collaboration are applied to their definition and management and the monitoring of their results. Partnerships can be governed using a wide range of institutional arrangements, with either for-profit or not-for-profit partners. However, the transparency, empowerment of public institutions, and engagement of different sectors of society always constitute a fundamental pillar [87,88,116–118]. There have been good examples of partnerships with civil society organizations, local communities, and volunteer groups [31].

Private participation in the provision of services supporting management has been encouraged in several countries in order to improve the contribution of tourism as a biodiversity conservation strategy and as a source of revenue in the management of PAs [119–123]. In Brazil, on the basis of pioneer cases some decades ago, there has been a tendency of allowing increasing concessions to tourism support services over the last decade. This is another option for promoting visitation in PCAs across the three governmental levels, although this is concentrated at the federal and state levels. However, despite these ongoing processes, the institutional capacity of the public sector and, in some cases, the legislation and guidelines related to these partnerships, have not yet been well consolidated, especially with respect to the broader set of partnership modalities and the monitoring of the impacts of concessions in PCAs and regarding the visitor experience, as well as the institutional capacity for the management of partnerships [124–126].

### 3.7. Promotion of Health and Well-Being

The visitation of PCAs possesses multiple benefits, such as the promotion of opportunities for leisure and recreation, environmental education, etc. Nevertheless, the importance of PCAs has grown beyond their classical objectives, more recently also considering them as fundamental in promoting health and well-being, including in urban PCAs. A review in Australia pointed out that the evidence is sufficient to justify investment in PCAs as a tool for promoting health and social welfare, as well as the reconnection between urban societies and nature. Therefore, this demonstrates the relevance of PCAs for the health of the body, mind, and soul [82,83,127].

However, despite some good examples in other countries, mostly from the 1980s, and many social groups benefitting from visiting PCAs for their well-being, including children, young people, the elderly, persons with disabilities, and people recovering from illness, the connection between health and PCAs has not yet been sufficiently considered in the M&G and visitation programs of PCAs in Brazil [30]. On the other hand, in contrast to other countries, the health sector in Brazil has not yet paid attention to the benefits of nature (i.e., there are pockets of initiatives in the country, but there is insufficient attention to generate important national policies) and has not yet incorporated non-pharmaceutical recommendations. Nevertheless, this theme is progressively gaining more attention, including through several research and strategic initiatives within Brazil, as well as a series of small-scale activities offered by professionals and organizations [77,89,127,128].

In specific dialogues, a portion of the participants reported multisensory experiences, while others referred to the “ecological experience” in which an individual is able to perceive the web of life and feel a sense of belonging to it. The depth of the reconnection in the experience is a significant component of the integral health of the human being. At the information level, studies are important allies in the generation of evidence for the effectiveness and benefits of interacting with nature. These are essential for attracting the interest of health, education, environment, and ecotourism professionals, as well as in motivating opinion makers to influence policies. Another deeper level of connection, however, is that of emotion, especially when directly associated with concrete experiences. Feeling and experiencing make the practices more effective. Abstract elements, such as beauty, touching all the human senses, become significant instruments of reconnection. The experience also contributes to raise awareness about nature conservation [31].

The dialogues and reflections, together with the literature, raised some insights related to the integration of this theme into PCA management. It is imperative to recognize society’s right of access to nature and its benefits. Therefore, it is important to make PCAs more accessible and closer to society and organize space and programs related to the promotion of health and well-being, including in partnership with the health sector for guidance and research in an equitable manner. PCAs should be considered as a fundamental instrument for the promotion of health and well-being in public and private health systems. In urban and peri-urban regions, the existence of natural areas is essential, in addition to their equitable distribution throughout cities, to allow for better interaction between society and these areas [30,31,38,66,77,89,127,128]. (See also elements of the evolution of themes related to PCAs in the Supplementary Materials).

### 3.8. Cultural Values of Nature

Cultural values usually configure bonds of belonging and notions of respect and care for natural spaces among social groups. Understanding the ties that positively connect people, places, and nature has been reaffirmed as being fundamental to increasing the effectiveness of conservation strategies and to overcoming some of the existing challenges in the management of PCAs. Most guidelines on this theme present the importance of nature’s cultural value, often with a focus on traditional peoples. Nevertheless, there are also cultural values and bonds within mainstream society, for instance, related to the appreciation of landscapes and urban green areas. Additionally, if the degradation of the ecosystems is a social action, so is their conservation. Therefore, in participating in claiming,

management and/or governance, social groups also create bonds and cultural values that also relate to PCAs themselves [31,53,67,74,78–81,90,91,96–98].

Despite their social relevance, the cultural values are still little understood and have not frequently been considered in the formulation of policies, particularly with regard to nature conservation strategies. On the international level, this theme began to arouse interest in the late 1990s, when global coalitions began to promote events with this focus and to publish the first reference works [78–80,129]. Besides the growing visibility of the theme in global environmental debates, in Brazil, there has been isolated statements, but consistent work with reference to PCAs started in the 2010s and included discussions and actions occurring in the context of ICMBio [81,90,91]. The importance of the cultural values has also been highlighted in some cases (Table 2). Taking into account the socio-environmental complexity and richness of Brazil and the sectorization of policies, there are some challenges that need to be overcome in order to properly integrate these values into conservation strategies. Among them, there is the need to train public managers in the environmental sector to work in this field. In addition, *in loco* surveys should be promoted in territories that are of interest for conservation, in order to be able to adapt international guidelines to different biocultural contexts [31,53,81,90]. (See also the elements of the evolution of themes related to PAs and PCAs in the Supplementary Materials).

### 3.9. Strategic Communication

Communication is a strategic issue for nature conservation, especially when considering the interest in achieving a better relationship with society, because both degradation and conservation are social processes. For the CBD, PCAs must also be centers for the diffusion and promotion of sensibilities related to the conservation of biodiversity by means of strategies built with and for society. Nevertheless, in general, this is not usually considered to be strategically important in the M&G of PCAs. In Brazil, as most PCAs and their management institutions lack sufficient personnel and economic resources, communication usually comes at the bottom of the list of priorities ([31,130–138]; Decree 4339/2002, Brazil).

The participants, as well as the case studies and dialogues by the study group for this theme were selected, highlighting different strategies for communication: (i) communication by the management institutions of PCAs or (ii) by partner institutions, being (a) with local communities, (b) with visitors, or (c) with society in general; and (iii) by specialized media with society in general. Interesting insights were brought by the cases (Table 2). Some of the insights include the importance of dialogues across the different kinds of knowledge, including academic, technical, managerial, communitarian, and traditional knowledge, as well as across generations. This also highlighted the need to match the expectations of the target social groups through the use of different means, as well as developing an understanding of their differences, and working to build networks within and across them. Strategic communications should also include the promotion of human development (particularly locally), the reconnection with nature, and improving the comprehension of the role of strategic communication in governmental institutions, particularly in the role of PCAs [31,136–138].

In contrast to the way that this strategy has typically been conceived, in consideration of the interest in achieving a better relationship with society, and in light of the differing characteristics among different social groups, it is advocated that communication should be considered an integral part of PCA M&G, instead of being simply a side task to be performed by management staff. In this context, transdisciplinarity and specialization are very important. Particular attention should also be devoted to the discussion of experiences related to the promotion of youth capacity and participation, including in traditional extractive communities, the environmental interpretation of PCAs, strategic communications planning for PCAs, and e-media. Communication is strongly related to education, environmental education, environmental interpretation, as well as ensuring the viability if the real participation and engagement of social actors. This is especially the

case when considering communication at the strategic level, where transformational and long-term impacts are expected [31,136–138].

#### 4. Discussion

Collaborative conservation, a concept coined to consider the importance of the combined efforts of managers, communities, scientists, entrepreneurs, and other social groups in PCA M&G, is proposed here as a way to achieve the needed equitable, inclusive, and effective PCA systems. In fact, the broad debate and collective reflections over the collected management systems, lived and research experiences, dialogues, and cases, in different (sub)themes involving the complexity of these systems, offered insights on innovative ways of overcoming difficulties to that objective.

Considering the evolution of PCAs, it is possible to confirm that some level of standardization in the definitions of spatial conservation tools and strategies has been beneficial for the design and implementation of international policies. Nevertheless, some level of differentiation, or even individuality in some cases, in the processes is crucial in order to be able to adapt to local contexts and demands. Furthermore, in many cases, this can be achieved by adequately considering the diversity of PA management categories, OECMs, and PCA governance types. Moreover, the consideration of the large array of relationships in the elements of PCA systems could promote a synergistic complex with beneficial outcomes for the PCAs, thus potentially having a greater positive impact on nature conservation and societies' well-being.

Globally, some experts may disregard the importance of certain management categories of PAs (as V and VI) (e.g., [139,140]), supposing a weakness of enforcement that undermines conservation efforts. They probably are more difficult to manage, but those approaches do not bring the whole picture. Similar concerns are now arising when considering the potential of OECMs for complementing PAs [25]. Indeed, there are concrete risks arising from the activities allowed in those areas that can have negative ecological and social impacts, necessitating a cautious approach [141]. However, this caution should be applied to all management categories and types of PCAs. Furthermore, regardless of the category, the effectiveness of PCA management is related to its ability to contain threats and enact actions that support the fulfillment of the objectives. Recognizing the complexities of the contexts, which are historically constructed and result in the legal or self-determined recognition of PCAs, the management of these areas imposes the need to articulate the social actors that relate to these territories (e.g., [142,143]). In this way, the concept of collaborative conservation highlights the ethical and practical issues of articulating these actors around common objectives, despite the difficulties and dissonances between them.

Additionally, a number of studies do not sufficiently discuss, in an integrated way, other key questions related to PCAs, such as land tenure, size, staff number and quality, budget levels, and ongoing and predicted projects, among other issues, which are strongly related to their effectiveness in terms of results and impacts (as, for instance, some elements presented in [6,61,94,143]). Moreover, the role of local communities in resisting their replacement by activities causing greater degradation at the hands of other social actors is also not always considered (as in, for instance [23,31,52,94,96–98,144–147]). The gaps in knowledge related to the M&G of PCAs can be remedied by bringing the various social sectors to prioritize research topics and subjects in the production of new perspectives for these areas, in adaptive and social-ecological approaches to PCA M&G (as in, for instance [143,148,149]). Therefore, expanding the themes of studies dedicated to PCAs, through new and non-orthodox ways of producing knowledge (such as transdisciplinarity and other epistemologies), and considering the concept of collaborative conservation has resulted in elucidations—namely the insights discussed herein.

In a different but similar trend, several technical and scientific documents have demonstrated the importance of no-take zones within marine PA systems [150]. And, unfortunately, in a global context, this has not been consistently considered due to the inadequate inclusion of different regulations in marine PAs. In fact, the importance of these no-take

areas is proven to be important for marine biodiversity and for fisheries' production. And, this understanding is not shared among various actors, both public and private, who have short-term interests. Nevertheless, PCA studies have rather tended not to consider systems' approaches, generally not taking into account, for instance, the potential benefits of relationships among different PA management categories, governance types, and OECMs [2,14,31,38,66,86,94,142,151–153]. Collaborative conservation encourages a shared vision with a view to medium- and long-term goals and, therefore, contributes to the establishment of these no-take areas, in combination with other categories and types, by enabling the dialogue and understanding of the future consequences of current actions. More importantly, the results should be a large array of benefits within integrated PCA systems. There are some studies focusing on some of the crucial issues in PCA M&G—for instance, the role of staff and budget levels, design, governance arrangements, social participation dynamics, the commitment to the distribution of local benefits, and law enforcement, among others (such as, for instance, some elements presented in [6,15,32–36]). However, the whole picture (i.e., the system of PCAs), including the multiple relationships among them (the management categories, governance types, OECMs, etc.), are usually not sufficiently considered. This overview demonstrates a relative lack of understanding, use, and research regarding the integrated functioning of PCA systems, with the potential combination of categories, types, and tools [31,38,66,84,86,94,142,151–153]. The collaborative conservation at the system level can be more challenging due to the spatial dispersion of the individual PCAs and the need to articulate actors who have a diffuse complexity of interests, and because it is more influenced by political interests from high echelons and entire sectors of the economy. However, it is through system-level collaboration that a more effective policy can be built and implemented, attracting broad sectors of society and being able to generate identities with these areas and social support for them.

It also needs to be considered that all concepts and their definitions are always evolving [9,18,19,31,142,148,149]. PA management categories should be considered as complementary to one another, and the whole field of possibilities should be taken into account; governance types are linked to rights-holders [16,22,23,56]; and OECMs should be more flexible than PAs in order to be able to adapt to local realities in all their complexity in terms of socioeconomic and environmental contexts (e.g., [86]). A credible science of PCA systems should take better consideration of the complexity of PCA M&G dynamics, their interactions, and their historical, national, and local contexts, which is not yet commonly undertaken.

Despite becoming progressively better considered, IPTCs still have a long way to go before they are fully recognized and their rights are fully respected by the whole society, especially in relation to the right to their territories, in terms of recognition, delimitation, and support. Additionally, conservation experts have not yet dedicated enough effort to understanding IPTCs' culturally differentiated values regarding what is important to protect [23,30,31]. According to the ICCA Consortium, the inclusion must be seen from the perspective of the IPs and interested local communities, who must decide whether and when to include others, as actors supporting their conservation actions [54]. But there are advances in the recognition of their rights and harmonization with nature conservation in regulations and policies [154–156]. Some different kinds of Brazilian PCAs have been created in order to facilitate the permanence of IPTCs in their original territories and the continuity of traditional practices related to the sustainable use of the environment. In general, however, barriers persist for more collaborative strategies and the improvement in democratic processes, such as through the effective participation of communities in the management of their territories, the better recognition of their representative organizations, more comprehensive and detailed regulations, for instance, with respect to conflict resolution, sensitive listening and open dialogues, and the differentiated training of PCA staff regarding the socio-environmental agenda [23,30,31]. It is important to recall that the recent Kunming–Montreal Global Biodiversity Framework includes, in Target 3, the recognition of “indigenous and traditional territories”, potentially opening up possibilities regarding what

in Brazil can be considered non-Indigenous TTs. Keeping an open focus with respect to this debate could create considerable opportunities to implement complementary conservation strategies [10,86].

Another front of inclusiveness, which is also key to the update of PCA models, is equity in the PCA M&G. Although internationally there have been concerns regarding equity at least since the preparatory discussions for the global adoption of the CBD, which shaped its objectives, only more recently has the equitable governance of PCAs begun to be considered at the global level, initially as a result of the Durban World Parks Congress, subsequently the Aichi Targets, and more recently confirmed in the Kunming–Montreal Global Biodiversity Framework [10,11,30,64,157–161]. Nevertheless, a stronger debate more explicitly surrounding the equitable governance of PCAs remains in its early steps. And this theme needs to be considered as part of a broader approach, including the rights of local and/or more vulnerable communities in urban or peri-urban areas and the socio-cultural value of PCAs for society as a whole, as well as considering the governance of PCA systems and other arrangements [30,38,66]. Accordingly, the concept of collaborative conservation supports equitable governance efforts by emphasizing the complexity of actors related to PCAs. Nevertheless, in some cases, this should be seen in a differentiated way, where certain social groups have territorial rights while others dispute interests. Therefore, in most cases, combination and synergies can be positive for equity and effectiveness, but sometimes it needs to be considered that certain divergencies could be negative for nature conservation and social well-being.

In another key front for the subject of this article, partnerships are potentially important contributors to the institutions responsible for delivering results, in a fair manner, considering the expectations and objectives of individual PCAs and their systems [116,117]. Nevertheless, there is usually an absence of consistent and broad policies in this respect. In contrast to this trend, concessions have become increasingly common in recent years, supposedly as a major prerequisite for the maintenance of PAs [118]. Therefore, shedding light through the concept of collaborative conservation, it is important to understand the context that influences partnerships with the private sector for public administration. The budget deficit of socio-environmental institutions has historically been important in Brazil, particularly with respect to those responsible for PCAs. This situation deteriorated between 2019 and 2022, when inadequate governmental development perspectives resulted in the undermining of conservation-related policies, including private and market mechanisms gaining greater influence [37]. This reflected the main tensions permeating public–private partnerships and the promotion of good services for society, such as those related to the conservation of biodiversity, equitable access to PCAs, different interests, social rights, and socioeconomic diversity, among others, leading to the better consideration of other partnership models [114,117,118,162–164]. The movements resisting concessions in PCAs have highlighted elements which, at least in the case of some key ones, need more attention, such as respecting local and TCs' rights and going through adequate free, prior, and informed consent (FPIC) processes; integration into the regional cultural context and the promotion of endogenous regional sustainable development; and the need for strengthening the institutions of PAs, including human resources and capacity building, among others.

Going further, some authors understand partnerships, particularly between public and private spheres, such as adding new aspects into M&G, requiring a transition in terms of arrangements, considering greater complexity, and demanding new models of governance [165]. These new models should also be able to be applied, not only in the context of these specific kinds of partnerships, but also in the case of the whole approach presented here. In this sense, as the concept of collaborative conservation contributes to stress, partnerships must encompass important aspects in order to ensure the adequate performance levels of all of parties involved, which could include a balanced arrangement of physical, financial, and human resources; a clear definition of roles; and transparency in the planning and operation of approved activities; among other things [163,166]. Thus, social control should permeate throughout the different stages of a partnership, including

during the initial planning and modeling phase, during implementation, and, finally, during the monitoring and follow-up of the results of these partnerships for the benefit of society and biodiversity conservation [166]. In that sense, good partnerships can make an important contribution to the functions and objectives of PCAs, as well as sometimes serving as a mechanism for approaching certain social actors. Therefore, it is fundamental to ensure that PCA institutions possess a suitable institutional capacity to be able to deal with them.

Along the same lines, it is crucial to also recognize the importance of local PCA management committees as a mechanism for enabling the representation of local social actors in the governance of PCAs, as well as the potential for their participation in PCA management and the possibility of a shared distribution of PCA benefits and costs. Nevertheless, there are limits and weaknesses in the mechanisms usually employed when considering historical and current conditions [167–170]. Local PCA governance still typically does not function systematically or autonomously, but rather depends on demands from senior management. Instead, collaborative conservation proposes that governance should be organized into strategic processes on the basis of evidence, in a manner that is interdependent with PA management. Therefore, when considering the local context, being participatory, and adopting adaptive and functional procedures based on good information, produced knowledge, and dialogues, in a collaborative way, governance can be effective. Promoting such local governance structures has resulted in better results in terms of effectiveness in PAs in the Brazilian Amazon. The concept of collaborative conservation supports the idea that inclusive and equitable processes and structures of local governance require more contemporary approaches and corresponding structures, processes, and conditions, based on an understanding of complex socio-ecological systems [148,151].

In addition to the benefits usually considered, the social importance of nature and access and interaction with natural spaces are also highlighted in this article in recognition of cultural values and for the promotion of human health and well-being. PCAs represent one of the main tools in this regard. Therefore, on the one hand, the processes of PCA M&G must take in account their social importance and the benefits arising from visitation in the promotion of health and well-being. In parallel with the improvement of PCA M&G, the health sector should seek to build a body of scientific evidence that can contribute to expanding the understanding of the impacts of experiences in PCAs on the promotion of physical, mental, spiritual, and social health. Those sectors should collaborate with the aim of better guiding the implementation of possible measures in the management of these areas in order to take full advantage of the potential benefits on all sides. Indeed, these efforts are essential in lending more social and political support to PAs, as the further recognition of social, cultural, and health values will promote the better appreciation of PCAs among society—a crucial element in the concept of collaborative conservation [77,81,127].

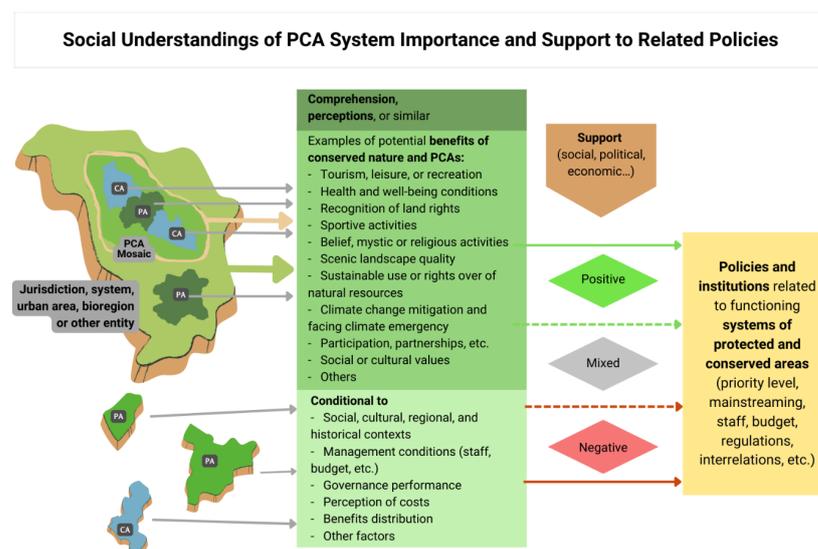
In the same sense, local PCAs should be able to respond to such new approaches, including as a result of being geographically close to the human populations. Often, they may be the only possibility by which citizens are able to come into contact with natural areas, especially in the case of more vulnerable groups. This close relationship is crucial for promoting health and well-being, as well as facing the consequences of climate change. It is essential to have green and blue areas that can be easily accessed for everyday use, as well as larger areas providing fundamental ecosystem services. In the case of local PCA systems, some important concepts include complementarity, proximity, progressiveness, social participation, and equity [30,38,66]. Considering the fact that local PCAs also tend to be the most vulnerable and fragmented, and are typically smaller in size, individual areas alone are generally not able to fulfill the desired ecological and social functions. Therefore, at the subnational level, perhaps more than at any other, integration among areas of different kinds (PAs, urban parks, squares, protected wetlands, and green corridors, among others) and the implementation of integrated functioning systems are necessary [30,38,66]. Again, this highlights the positive consequences of widely adopting the perspectives brought in by the concept of collaborative conservation.

Complementing in a fundamental way all the aforementioned (sub)themes, there has been an important evolution in terms of shifting strategic communication regarding conservation, from a technical (not uncommonly technocratic) approach, towards economic and emotional ones, which include aspects of admiration, hope, and a sense of belonging. However, the most important transformational change needed to achieve the better conservation of human life and nature is the engagement of social actors, which can only be achieved with the reconnection of society with nature (which is better if collective, in social terms). This means going beyond information, and enabling emotional attachment and promoting action, in order to achieve both reconnection and behavioral change [171]. All this is only possible by means of good, equitable, participatory, and inclusive M&G [31].

Therefore, clustering the discussions, the promotion of social participation through different types of agreements, partnerships, and means, formal and informal, increases the engagement of communities and other social actors and their care for nature. Equity is a must, both in terms of access to PCAs and in terms of the distribution of benefits generated by them. Interactions between those responsible for PCA M&G and those representing the interests of social actors are absolutely necessary, especially regarding the resolution of conflicting issues and benefit sharing related to ecological conservation. Their integration in a collaborative manner is the best way to achieve this.

Throughout the discussion above, PCAs and their systems are considered within their social, cultural and economic, regional, national or local, and historical contexts. As PCAs need to consider their specific conditions and policies need to be considered at an adequate scale in order to enable PCA systems to be fully functional, in the end, everything depends, to a certain extent, on the importance of social comprehension and other perceptions regarding the potential benefits of such complex systems, in order to enable the social (and political and economic) support for the necessary strengthening of those PCA systems conditions and for societies to take fully advantage of them.

Figure 2 shows a synthesis of these discussions, considering the importance of PCAs, particularly when in mosaics, networks, or, optimally, in integrated PCA systems under a certain jurisdiction. The comprehension and perceptions of that importance are made possible through their benefits (such as possibilities of tourism, sport activities, benefits to health, and well-being and from facing the climate emergency, supporting the recognition of land rights, the protection of landscape, cultural values, etc.). Those understandings are dependent on contexts, management conditions, governance performance, distribution of benefits, etc. (i.e., also human rights, equity, inclusiveness). Those perceptions define the social, political, and economic support (positive, negative, or mixed) for the PCA systems being able to deliver their functions (i.e., their effectiveness).



**Figure 2.** Social understandings and support to PCA systems.

## 5. Conclusions

This article's analyses show the assumptions, foundations, and insights that must be considered to overcome the difficulties and challenges, in addition to bringing practical and innovative proposals, to move forward in order to achieve equitable, inclusive, and effective PCA systems. As the focus of the GECCAP was concentrated in Brazil, these analyses consider the international scene, and although the conclusions here presented are directly applied to Brazilian PCA M&G, the authors propose that the concept presented below and the following recommendations are considered as possibly valid in other regional, national, and local contexts.

The results presented throughout this article show that PCAs are part of complex systems and are very important, not only to ensure the maintenance of ecosystem services and biodiversity, but for the promotion of a good quality of social life as well as a multiplicity of society–nature connections for a broad array of social actors. The concepts and practice of PCA M&G are constantly evolving and should be considered as socio-cultural constructs, embedded in their historical and regional and socio-economic contexts. In recent decades, better approaches have been developed with respect to rights recognition, the inclusion of social actors, good governance, inclusiveness, and equity. PCAs and their systems have progressively been incorporating new functions, such as facing the consequences of climate change. Additionally, there is increasing recognition of other benefits, such as those related to the promotion of human health and well-being and the consideration of cultural values. But these are not enough to meet current and future needs (Figure 2).

Even when considering the NP paradigm as the beginning of the modern PA concept, it is imperative to pay more attention to what occurred before its inception, and what was occurring in parallel to or outside this model. With respect to broader spatial conservation strategies, there is currently a need for the best possible integrated approach, with a good understanding of the differences and the maximum consideration for their complementarities, taking particular note of the New Paradigm (of PAs), ICCAs, local PCAs, and now OECMs.

PCAs must receive further and better economic, political, and, above all, social support, taking into consideration the multiplicity of partnership models with diverse stakeholders in multiple arrangement models. For that, the greater recognition, understanding, and participation of IPTCs in activities related to nature conservation, especially with respect to their interaction with PCAs, can help researchers, as well as governmental and non-governmental agents, to apprehend and develop new, more collaborative solutions.

Also, the science related to PCAs must evolve in order to understand the new paradigms and the complexity of M&G of PCAs and their systems. In this sense, through scientific and technical analyses, reports, and guidelines, PCA systems should be considered as integrated functioning systems consisting of complex, integrated, and functioning structures and processes.

The strategies promoting the reconnection between nature and society (and opening possibilities for reconnection with other human beings and social groups) is key to increasing awareness about the importance of nature and could potentially trigger actions related to its conservation and the better use of natural resources. However, these aspects need to be considered in social networks in order to make real the necessary collective societal change. The sense of community needs to be built in connection with the PCAs and the benefits arising from conserved nature. Related processes should include dialogue among different types of knowledge. The decolonization of thought and speech, including taking a strong position against all discrimination, such as that related to gender, race, age, disability, and others, is a must.

Considering the results, the discussions, and the concluding remarks above, it is clear that the experiences, dialogues, studies, reflections, and insights compiled herein explored the contexts and evolution of different kinds, models, and possibilities of PCAs. And, additionally, these showed the importance of considering integrated PCA functioning systems. Also, the relationships between PCAs and a diversity of conditions and social

groups' interests were explored in some depth. The main rationale advocated in this approach has considered the real or practical effectiveness of nature conservation as being strongly dependent on social, economic, political, and cultural support. In this sense, good results can only be achieved through engagement with society in all its diversity. This is only possible when PCA systems respond to the diverse interests of social groups inclusively and equitably.

Based upon this, the concept of collaborative conservation, as instrumental for the promotion of more equitable, inclusive, and effective PCA systems, can be understood as being a combination of elements, including: (i) the recognition of the strong diversification of the interests of social actors in nature conservation (going beyond classical PCA management program approaches, such as those related to visitation, academic biodiversity research, enforcement, patrolling, administration, etc., including, for instance, cultural values, health benefits, and resilience facing the climate emergency); (ii) the comprehension that PCA management includes multiple de facto partnership arrangements (official or not) with different types of organizations and social actors (rather than monolithic management on the part of a single governmental institution or other, a similar governance type); and (iii) the need to update and renew M&G approaches on the basis of adequate concepts and priorities, better responding to the diverse interests of social groups, not only with the aim of achieving more democratic systems, but also in order to promote further social engagement with respect to their support by means of more inclusive and effective PCA systems. Those elements of collaborative conservation need to be combined with a renewed approach to PCA M&G concepts and practices and the understanding of the complexity of functional PCA systems, through the comprehension and perceptions by social groups through the potential benefits of PCAs and nature conserved.

Evidence concerning the contribution of the concept of collaborative conservation in making the M&G of individual and systems of PCAs M&G more equitable, inclusive, and effective was presented in this work. Nevertheless, this is the beginning of an improved understanding of the revised conceptualization of these systems. Therefore, further consideration, applications, reflections, and research about the concept of collaborative conservation should promote the needed renovation in the concepts related to PCAs and their systems.

**Supplementary Materials:** The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su152416609/s1>: Data and information complements related to the: (1) Brazilian PCA-related context, concepts, and practices; (2) Evolution of the international institutional context related to protected areas; and (3) The study processes related to the results presented in the article.

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