Equality and Participation
Distribution of Outcomes in Participatory Processes for Managing Natural Resources

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Abstract
Social justice has become an intrinsic feature of sustainable development. One of the ways in which it is expected we will reach more just and sustainable societies is through stakeholder participation in natural resource management. However, entrenched inequalities among participants have generated scepticism about the potential of participation to improve social justice and, until now, the literature has not provided sufficient evidence to disentangle such contradictory views. Approaching social justice from the viewpoint of equality, this dissertation contributes to the debate by studying how the socio-political structure in which participation is embedded affects how far participation outcomes respect equality. The political regime, the distribution of power at the local level, and the characteristics of the participatory process are conceived as embodiments of such socio-political structure. The impact of these three structural factors on outcome equality is studied in biosphere reserves, areas designated by UNESCO as sites for experimenting with sustainable development strategies through stakeholder participation. Survey panel data from biosphere reserve managers and interview data with stakeholders are used in large-n, medium-n, and small-n analyses to explore to what extent, and under which circumstances, participation can lead to equal outcomes. The results suggest that, although in nondemocratic states participation has more difficulty promoting equal outcomes than in democratic states, and that although participation leads to generally unequal outcomes in unequal contexts, some participation outcomes can approach an egalitarian ideal even in these unexpected settings. The results suggest as well that inclusiveness and moderate empowerment of participants can contribute to equal outcomes. In short, participation has the potential to contribute to equality, but such potential varies across outcomes, contexts, and processes.

Keywords: equality; participation; natural resource management; stakeholder; political regime; power inequality; participation outcomes; biosphere reserve.

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EQUALITY AND PARTICIPATION

Alba Mohedano Roldán
Equality and Participation
Distribution of Outcomes in Participatory Processes for Managing Natural Resources

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Abstracts of the articles

Alba Mohedano Roldán
Submitted to: Conservation and Society (under review)

Equality has become a central concern of the research on participatory natural resource management (NRM). But discussions of the impact of inequality on NRM participation and of the impact of NRM participation on equality fail to address core questions of equality in and through participation: how can we define equality in participatory NRM processes and in their outcomes? And how can we study it empirically? Based on theories of justice and participatory democracy, this essay reflects on the conceptualisations of equality implied in the NRM literature on participation processes and on their outcomes. By analysing uses of equality in the NRM literature through the lens of theories of justice and participatory democracy, the paper aims to advance a deeper understanding of equality in this context. Moreover, it provides theoretically grounded suggestions for the empirical study of equality in NRM participatory processes and in their outcomes.

Keywords: participation; equality; natural resource management; empowered participatory governance

Paper 2. Political Regime and Learning Outcomes of Stakeholder Participation: Cross-National Study of 81 Biosphere Reserves
Alba Mohedano Roldán
Published in: Sustainability, 9 (4): 553.

Stakeholder participation in natural resource management has spread widely, even to nondemocracies, driven by expectations of beneficial outcomes such as...

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1 In the title, abstract, and methodology section of the paper it is stated that the n of the study is 81, with 26 biosphere reserves in nondemocracies, and 35 countries. The n in the study when controls are applied is 107, with 31 biosphere reserves in nondemocracies, and 42 countries. Without controls the n is 110, with 32 biosphere reserves in nondemocracies, and 44 countries.
as multidirectional learning. However, can we expect participation to be equally effective in achieving multidirectional learning in democracies and nondemocracies? Unsurprisingly, previous studies indicate the relevance of power distribution for learning. Higher levels of repression and accumulation of political capital in nondemocracies should limit the distribution of power across stakeholders. Yet, the relationship between political regime, participation, and learning has rarely been studied empirically. I address this gap by analysing multidirectional learning in stakeholder participation in 81 Man and the Biosphere reserves across 35 countries using ordinary least squares regression, Firth logistic regression, and heat maps. The results suggest that the amount of stakeholders sharing knowledge and learning is similar in both regimes. However, a closer analysis reveals differences in the impact different stakeholders have on the learning process. More concretely, local actors share knowledge more often and have a greater impact on stakeholders’ learning in democracies, while state actors display similar behavior across regimes in terms of learning and sharing knowledge. Thus, although there are notable similarities across regimes, multidirectional learning through stakeholder participation is influenced by the political context.

**Keywords:** biosphere reserve; political regime; learning; participation; stakeholder; natural resource management

**Paper 3. How Power and Participation Impact Outcome Equality of Management with Stakeholders: The Distribution of Status, Costs, and Benefits in Sumaco and Huascarán Biosphere Reserves**

Alba Mohedano Roldán
Submitted to: *Environmental Management*

Participation is often advocated as a tool to increase justice in the management of natural resources. However, the empirical evidence supporting this hypothesis is still unclear. Moreover, the literature’s ambiguous conceptualisation of justice has contributed to clouding the impact of participation on justice. Approaching justice as equality and using interview data from 57 stakeholders in the biosphere reserves of Sumaco (Ecuador) and Huascarán (Peru), this paper explores equality in immaterial (status) and material (costs and benefits) outcomes of three participatory processes. The paper reduces ambiguity by operationalising equality based on Rawls’s conception of justice, according to which inequalities should benefit disadvantaged groups. It also defines equality as levelling up status among vulnerable groups to equalise status across actors. The distribution of
outcomes is explored in relation to the power each participant had and to how
equal participation was. Results indicate that power inequalities are
reproduced in material and immaterial outcomes of participation, but do not
fully shape them. Differences in how equal participation was, mainly in how
inclusive executive organs of participatory bodies were, proved significant for
the improvement of the status of vulnerable groups. By employing a more
precise definition of equality than previous studies, the paper offers new
insights into how different types of outcomes are impacted by power and
participation and how far such outcomes are from an egalitarian ideal.

Keywords: natural resource management; participation; equality; power
inequality; biosphere reserve; stakeholder

Paper 4. Does Stakeholder Participation Increase the Legitimacy
of Nature Reserves in Local Communities? Evidence from 92
Biosphere Reserves in 36 Countries
Alba Mohedano Roldán, Andreas Duit, Lisen Schultz
Submitted to: Journal of Environmental Policy & Planning (under review)

The aim of this paper is to investigate if stakeholder participation increases
the legitimacy of nature reserves in the surrounding community. Most
previous studies of the effects of stakeholder participation in natural resource
management have relied on case studies, but in this paper we use a
combination of panel data from a two-wave survey (2008 and 2013) of 92
Biosphere Reserves (BRs) in 36 countries and semi-structured interview data
from 65 stakeholder respondents in a sub-sample of 10 BRs to systematically
investigate the effects of stakeholder participation on the legitimacy of the
natural reserve in the local community. The data cover four levels of
stakeholder participation: 1) Information, 2) Implementation, 3) Involvement
and 4) Representation. These levels roughly correspond to rungs on Arnstein’s
ladder of participation, and the expected outcome is that the legitimacy of the
nature reserve will increase in the surrounding local community as the degree
of participation increases. However, findings suggest that there is no linear
relationship between participation and legitimacy: climbing upwards on
Arnstein’s ladder of participation does not uniformly enhance the level of
legitimacy of the nature reserve in the local community. Instead, a practice-
based form of participation is what seems to increase legitimacy.

Keywords: legitimacy; participation; empowerment; biosphere reserves;
stakeholder
Contribution to Paper 4 of the author of this dissertation (an approximate percentage of 60%):

- The author of this manuscript participated in the design of the 2013 survey wave. In practice, this implied taking part on the discussions about the questions that ought to be part of the survey. These discussions took as a baseline the survey from the previous wave in 2008.
- The author contributed to the data collection efforts for the 2013 survey wave by contacting managers to ask for their collaboration.
- The author contributed to the design of the interview guide by suggesting questions and discussing questions proposed by other team members.
- The author was in charge of conducting the field work in the biosphere reserve of Sumaco. This implied contacting and selecting interviewees and conducting the interviews. Ten interviews were done during fieldwork. Of those, six fulfilled the requirements to be included in the analysis and five contained data that fulfilled the coding requirements and are part of the analysis.
- The author elaborated the theory framework of this article.
- The author elaborated the methodology section that corresponds to the interview analysis in the paper.
- Together with the co-authors, the author also contributed to defining the goal of the interview analysis in the paper.
- The author elaborated the interview analysis. This included designing the coding rules, coding the data, and writing the analysis.
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Svensk sammanfattning
Equality and Participation: Distribution of Outcomes in Participatory Processes for Managing Natural Resources

1. Introduction

“It was proposed there that all actors of forestry management sit at the roundtable and strive for an adequate forestry management, sustainable, that there is justice in that the benefits of commerce arrive to those who really need them.”

Member of Sumaco Biosphere Reserve’s timber roundtable, Ecuador

In 2008 Sumaco Biosphere Reserve, located in the Ecuadorian Amazon, established thematic roundtables to manage its natural resources in collaboration with its stakeholders (Gómez 2011). In the quote that opens this section, a civil servant involved in one of those roundtables described the vision that brought together public institutions, private resource users, and nongovernmental organisations (NGOs) for managing the resources in Sumaco. The relevance of that description lies in the way it captures and illustrates three widely spread tendencies in environmental management — but that are present as well in other areas of public policy-making.

The first tendency is a concern for the just distribution of benefits of public action, often paying special attention to improve the livelihood of groups in vulnerable situations. Such worries are visible in international efforts to frame environmental management and sustainable development, as concerns about inequality show. For example, in 2012, the Rio+20 Conference promoted policies to “[c]ontinue efforts to strive for inclusive, equitable development approaches to overcome poverty and inequality” (paragraph 58-p). In 2015, the reduction of inequality became the tenth goal of the 2030 Agenda for Sustainable Development of the United Nations. Reducing inequality is of

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2 General assembly resolution 70/1. 25 September 2015. Transforming Our World: the 2030 Agenda for Sustainable Development. A/RES/70/1. Available online at
relevance because it affects environmental degradation, “people’s sense of fulfillment and self-worth”, and socio-economic development. The sustainable development goals also established the ambition to “ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to (…) natural resources” (goal 1, Section 1.4).

These claims are in line with the distributive potential of natural resource management, as it must navigate conflicts over the use and access to resources, and with its potential to impact the social prospects and recognition of vulnerable groups. Indeed, the conflicts that plague the use of resources span from competing claims on material resources to acknowledging the value of farmers’ and indigenous groups’ knowledge. The marginalisation of indigenous knowledge in policy design (Nadasdy 2007), the allocation of fishing quotas among fishermen (see Jentoft 1989) and of fishing space between recreational and professional fishermen (Orbach 1989), or competing interests between timber and tourism industries over the construction of forest roads (Wondolleck 1985) are some examples. As we will see along this introduction to the papers in this dissertation, conflicts over land are also inherent to natural resource management efforts. In essence, natural resource management is an exercise not only of striving for efficient management, but also of allocating resources and of establishing whose values matter for both of these tasks: it is an exercise of addressing claims of justice and equality.

The second tendency in environmental management captured by the participant in Sumaco is the promotion of methods of management that involve those affected by regulations and policies on the use of natural resources. Such a participatory approach is promoted for instance in Rio+20 (paragraphs 43 and 58.c). Another example is the Aarhus Convention, developed by the United Nations Economic Commission for Europe, which established public participation in environmental management (article 1). Organisations such as the International Union for Conservation of Nature (IUCN) or the United Nations Educational, Scientific and Cultural
Organisation (UNESCO)\textsuperscript{5} have also turned their heads towards inclusive approaches for dealing with the use and preservation of natural resources.

The third tendency is the expectation that participatory mechanisms can redress social injustice. Indeed, the rise of participation has been accompanied by an enthusiastic body of literature within the natural resource management environmental and social sciences that emphasises the potential of participatory management to promote social justice. Participation, it is argued, will help build sustainable relationships between communities and their environments while providing opportunities for creating more just societies. Such ambition is not limited to scholars and practitioners working on participation in environmental management. Participation has a long traction in development studies as a way to redistribute power (Gaventa and Barrett 2012). Besides development, participation is also expected to increase social justice (Fung 2015: 519) or modify power relations, including empowering citizens, over a wide range of policies: from public budgeting (Baiocchi 2003, Smith 2009), to policing (Fung 2003), to the examination of electoral rules (Smith 2009). It is also seen as a means to enhance policy legitimacy at a time when “[a]ccording to many indicia, the bond between citizens and political institutions has weakened” (Fung 2015: 515). As in natural resource management, an academic field on democratic innovations has flourished (Font et al. 2012).

However, studies in democratic innovations and participatory natural resource management have not yet produced clear evidence that participation will lead to positive outcomes, not least more just societies. There is, then, a need for more systematic and careful research on how just participatory outcomes are.

This dissertation argues that one of the difficulties natural resource management scholarship has for advancing knowledge on how participation can promote justice is the general absence in empirical studies of a definition of what a just outcome looks like.\textsuperscript{6} Defining and measuring what a just outcome looks like is a complex task, and it is not helped by the fact that participants may have different ideas of what such outcomes ought to be like (Hornik et al. 2016). Yet, if that is so, scholars’ discussion of the justice of participation outcomes without tackling the problem of what is just becomes problematic not only from an empirical point of view, but also in practice. Research becomes uninformative for practitioners and participants who may


\textsuperscript{6} See McDermott et al. (2013) for a similar argument on the difficulties of progress without a definition of equity in the context of REDD+ (Reducing Emissions from Deforestation and Forest Degradation) mechanism.
want to strive for justice in their own terms, but find no guidance in the literature as to whether and how participation can or cannot do so. Instead they may find vague assessments of participation leading to undefined situations of justice or injustice.

Although equity is a highly common term for speaking about the justice of outcomes in natural resource management literature, this dissertation will address justice from the angle of equality, specifically how far participation embodies equality and promotes egalitarian outcomes. I will elaborate on the relationship between these concepts in Section 1.3. However, as should be clear by now, I will use an egalitarian conception of justice, according to which equal distributions of material and immaterial resources (such as access to natural resources or social status) are intrinsic to social justice. From that standpoint, I shall often treat justice and equality as equivalent. Equity, or the even treatment of similar cases (White 2007: 136), provides formal requirements (ibid: 16-7) for a just participatory process. Yet, it does not facilitate an analysis of the substantive justice (ibid: 16-7) of management of natural resources (of the actual effects on how material resources and immaterial outcomes reach different stakeholders). In contrast, equality allows addressing substantive justice and thus tackling pressing and current concerns for just sustainability. As occurs with concepts like justice, equity, and also fairness, equality tends to be left unspecified in natural resource management literature.

A second problem in the way outcome justice is approached by natural resource management scholars is that often concerns tend to be theoretical more than empirical. Despite references to justice, equity, fairness, or equality, the empirical studies exploring how those values are advanced through participation are few, even though recent years have seen an increase in empirical ventures. Moreover, the study of outcomes is biased towards material outcomes. Immaterial outcomes, like status, are just starting to capture the attention of scholars. This means that the information we have on justice as a result of participation is insufficient. Hence, expectations that participation will increase social justice are at best the result of positive experiences bound to contingent characteristics (see Gaventa 2006) and at worst wishful assumptions.

A third challenge is that participation takes place in societies with different levels of economic or political homogeneity and in societies embedded in very different legal and political systems. Yet participatory processes tend to be studied in isolation of the wider political context of which they are part and which may constrain and enable participants. A connected problem is that power imbalances among participants are more often acknowledged than introduced as a relevant variable of study. As a result, participation is seen as a tool for ecosystem management rather than as a political arena where stakeholders engage in conflicts of values.
Finally, we know yet very little about which types of participation generate more or less just outcomes. Comparative analyses of participation designs are uncommon in the field of democratic innovations (Font et al. 2012) and rare as well within natural resource management. Nonetheless, scholars recognise that not all participation is positive in all contexts for achieving desired outcomes, including social justice (e.g., Fischer 2012). This suggests that demands for expanding participation should be qualified with what type of participation ought to be spread (and where).

In short, the awareness in the literature of the risks and difficulties for establishing policies that promote justice through participation has not been translated into empirical efforts that systematically assess the capacity of participation to generate just outcomes nor the circumstances helping or hindering such outcomes. This mismatch means that there is a discrepancy in natural resource management between expectations on how participation and social justice are related and the empirical evidence backing this connection.

This lack of precise empirical attention to justice, and in particular to equality, in the natural resource management literature has important risks. First, we are uncertain of how participation impacts equality. If participation is improving it, we may be missing crucial evidence for encouraging the development of such processes among reluctant managers. If participation is decreasing it, we may be promoting processes that increase social, political, or economic injustice through naive pictures of political processes. Second, we will be unable to explain such impacts and, consequently, to devise participatory processes as opportunities to tackle social injustice. This leaves the justice of participation to contingency or luck.

The study of justice in general, and equality in particular, as an outcome of participation cannot remain as an ad hoc exploration or a side note in studies oriented toward researching other aspects of participation. If we want to manage natural resources so that it gives benefits “to those who really need them”, as Sumaco’s participant said, we need to start exploring the effect of participatory natural resource management on equality in a clear and focused manner.

1.1 Aims, research question, and research strategy

A first step for understanding the link between participation and equality is getting to know the outcomes of participatory processes for different stakeholders and whether or not they are equally distributed. Then we can devise ways to address imbalances. Thus, the primary aim of this project is to assess the equality of outcomes of participation in a natural resource management context.

The variety of outcomes that participation can produce calls for unpacking this aim. The objective stated above implies assessment of how material costs and benefits are distributed, for instance, who shall use natural resources (and
how many), or who receives financial assistance for developing a sustainable livelihood. But participation in natural resource management does not only distribute resources nor are its results limited to this. Participation can also impact immaterial resources. As we saw earlier, the inclusion of equality in the United Nations’ Agenda for Sustainable Development is linked to concerns over “people’s sense of fulfilment and self-worth”. This speaks directly to potential changes in the status of stakeholders as inequality in status, as White (2007) describes, impacts precisely individuals’ sense of worth. When looking at outcome equality, this thesis will also look at status.

Status is a multi-faceted concept. For example, it involves recognition by others, it involves one’s perception of oneself, and it involves how one’s knowledge is regarded. This last aspect is particularly significant in the field of natural resource management, but it demands some explanation. In natural resource management, taking political decisions over the management of ecosystems requires understanding such ecosystems and how humans interact with them, and this requires knowledge from multiple actors (see Schultz and Lundholm 2010). However, participants may not always regard all actors as equals and so not all actors’ knowledge is always given the same attention. Efforts at integrating actors’ knowledge aim at correcting this. By bringing the knowledge of all participants into value in the public sphere, those involved in management recognise all actors, including marginalised groups, as valuable members of the participatory arena. In other words, the status of stakeholders as knowledge providers is an inseparable part of their status in the participatory arena. In a field particularly concerned with knowledge generation and transmission, this aspect of status cannot be left out and I will thus study learning patterns on the premise that recognising someone’s knowledge claims is part of recognising him or her as a valid interlocutor and is part of his or her status in participation.

Finally, participatory management of natural resources occurs in institutionalised settings, often times around natural parks or reserves. This often sparks conflict and the legitimacy of reserves is not guaranteed. Living in or neighbouring a reserve that one perceives as illegitimate can be a serious aggravation. How legitimacy is distributed across participants will thus also be an object of study in this dissertation. This is linked to the thesis concerns with equality in two ways. First, living besides (or within) a reserve that is considered legitimate versus living in one that is perceived as illegitimate can be considered a good or a bad experience in itself that is not always distributed equally across all stakeholders affected by a reserve. For example, depending on whose values the reserve upholds, some stakeholders may see it as a legitimate or illegitimate entity, generating unequal emotional burdens across stakeholders. Second, how the legitimacy of these protective designations is distributed across its stakeholders can tell us about who its beneficiaries are and are not.
In short, then, this dissertation aims at evaluating how equally outcomes of participation are distributed. This aim groups two goals. On the one hand, the dissertation aims to evaluate the equality of material outcomes of participation. On the other hand, it aims to assess the equality of immaterial outcomes of participation, embodied in status and legitimacy. This aim is pinned down in the question: to what extent, and under which circumstances, can participatory processes provide equal outcomes?

In order to answer this question, the dissertation explores how material and immaterial outcomes of participation are distributed across stakeholders and how such distributions differ from or resemble an equal distribution for each type of outcome. It also examines to what extent the distribution of power among stakeholders affects how far participation outcomes approximate egalitarian standards of justice. Lastly, the absence of frameworks in the natural resource management literature for studying equality in participation created the need for developing one, to guide empirical analysis.

The study departs from the assumption that structures that allocate power among participants impact participation and its outcomes. Such structures are assumed to be stable (Giddens 1984). The structure is characterised here by the political regime of the state, the power distribution at the local level where participation takes place, and the distribution of power in the participatory process. The political regime constitutes the overarching structural element. It is then translated into the local context and potentially into participation. Additionally, the local power distribution may have particular characteristics that also have the potential to shape participation. Despite being stable, structures are not conceived as immutable (see ibid). Participation often constitutes the creation of a new public arena that includes actors normally absent from the policy-making process. By modifying the political arena, participation can re-shape the structure and promote more equal outcomes than structures would grant. Outcomes are conceived as material (resources) and immaterial (status and support for the biosphere reserve) and as positive (benefits) and negative (costs).

This dissertation’s research question is explored in one particular setting: UNESCO biosphere reserves. Although biosphere reserves vary, they are usually institutions of subnational governance. Their managerial activity generally spans over multiple municipalities and can cover one or several subnational regions. Biosphere reserves are, then, intertwined with local and regional administrations. They are usually connected to national governments too. Their authority, competences, and the type of relationship they have with public or private stakeholders differ in each case.

Like other institutions involved in natural resource management, biosphere reserves need to cope with social conflicts. One requirement to be a biosphere reserve is establishing three zones within its territory (UNESCO 1996): a core, a buffer, and a transition zone. While in the core conservation is to be enhanced, in the buffer and transition zones human action is increasingly
permitted (see ibid). Ultimately, thus, what a biosphere reserve does is organise how actors use resources across its territory. And this can be designed to tackle existing conflicts as much as it can create new ones. In fact, biosphere reserves are home to a myriad of tensions linking human groups, and humans to nature. For instance, biosphere reserves can be threatened by the expansion of agriculture (e.g., Ianni and Geneletti 2010). Land tensions can confront colonisers with reserves and with indigenous groups (e.g., Pauquet 2005). And the limits of a reserve can expand over land communities may consider theirs (e.g., Rasmussen 2018). An emblematic case is Yasuní Biosphere Reserve, where oil extraction collides with indigenous groups living in the reserve and with the preservation of the Amazon (Hager et al. 2017).

Amidst these potentially conflicting contexts, biosphere reserves aim at promoting sustainable development by involving stakeholders in the management of natural resources, both through protective and sustainable exploitation and development strategies. Part of such strategies, as detailed later, is the promotion of a just distribution of resources. Yet, how far biosphere reserves can facilitate just distributions of resources is still an unanswered question.

The thesis is structured as four studies. The first study is theoretical. Before empirically approaching the role of the structure in how equal participation outcomes in natural resource management are, equality needs to be defined and operationalised. This is done by giving conceptual and theoretical flesh to the implied meanings of equality in the natural resource management literature. Under the title “Understanding Participation Equality in Natural Resource Management: Theory and Research Strategies”, Paper 1 asks how can current uses of the concept of equality in natural resource management literature be further specified? And how can these notions of equality be introduced into empirics? Thus the first study sets the background for the empirical work of the dissertation by approaching the concept of equality from a theoretical perspective and by suggesting empirical strategies coherent with the theoretical discussion.

Three studies empirically approach the relationship between structure and equality in outcomes of participation. The first of them is entitled “Political Regime and Learning Outcomes of Stakeholder Participation: Cross-National Study of 81 Biosphere Reserves”. It tackles the impact on outcome equality of structures at the political regime level. Concretely, the paper explores equality in learning as an outcome of participation. Two questions guide the study: is multidirectional learning between participants occurring in both democracies and nondemocracies? And does the political regime affect which stakeholder categories take the role of knowledge providers and learners? The questions are approached through a large-n study of participation in biosphere reserves. They allow discussion of both to what extent learning

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7 This paper is published in Sustainability 2017, 9(4), 553.
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patterns conformed to an ideal of equal learning and under which circumstances learning patterns were more or less doing so — in this case, under which political regime.

“How Power and Participation Impact Outcome Equality of Management with Stakeholders: the Distribution of Status, Costs, and Benefits in Sumaco and Huascaran Biosphere Reserves” is the second empirical paper. It studies the impact on outcome equality yielded by the local distribution of power and by the equality in the participatory process (more specifically, by equal inclusion in directive bodies of participation structures and by the presence of actors that actively counteract power inequalities across participants). The study is guided by the question: does participation lead to equal outcomes? The paper addresses both the “under which circumstances” and the “to what extent” utterances of the research question of this dissertation by investigating the distribution across stakeholders of benefits, costs, and status changes generated by three participatory projects.

A fourth study explores how participation can enhance the legitimacy of biosphere reserves across different types of stakeholders and how different types of participatory processes can impact the distribution of legitimacy across stakeholders. The types of participation capture the empowerment of participants in decision-making. The paper also explores satisfaction across stakeholders with different participation modes, contributing to a fuller understanding of the role that different types of participation may have on participation outcomes. Legitimacy can be seen, as described earlier, as an approximation of satisfaction and absence of aggravation with the reserve, so that differences in legitimacy can hinge on differences in the distribution of costs and benefits across stakeholders, and it can be conceived as a good in itself that may or may not be equally available for all stakeholders. Through these lenses, the question at the core of this paper, does stakeholder participation increase legitimacy of nature reserves in local communities?, is connected as well to the research question in this thesis. The paper is entitled “Does Stakeholder Participation Increase the Legitimacy of Nature Reserves in Local Communities? Evidence from 92 Biosphere Reserves in 36 Countries”.

1.2 Contribution of the studies

Through these four studies, this dissertation makes several contributions to the literature. The framework elaborated for the study of participation equality provides conceptual clarity to a field dominated by vague approaches to equality and to justice (conceived in egalitarian terms or otherwise). It also problematises the use of the concept equity as a strategy to speak of justice in a seemingly neutral way and without specifying what just outcomes are.

Comparative efforts, especially large-n and medium-n, are rare in participatory studies. This dissertation researches the impact of the political
regime on outcome equality through large-n analyses. The effect of the participatory process is approached through large-n, medium-n, and small-n analyses. These comparative studies offer a unique opportunity to assess the impact that multiple political contexts and types of participation play on outcome equality and how they affect a variety of stakeholders. Such analyses can identify patterns on processes sometimes thought to be too complex to generate assertions that transcend a particular context or a particular participatory process (e.g., Fischer 2006). The analysis of how local power distributions affect outcome distribution is approached through a small-n study, but it contributes to refining our expectations of achieving outcome equality in participation. Additionally, the dissertation investigates equality in immaterial outcomes of participation: the distribution of legitimacy and the status of stakeholders (their recognition by others, their sense of being equals to others, and their status as knowledge providers). Together with the study of equality in material outcomes, this offers a more complete picture than is commonly found in studies of participation.

Finally, the studies make substantive contributions to the literature. The results of these studies are mixed, sharing the ambiguity of the field towards participation. Nevertheless, they provide new insights into the impact of the political regime, the relevance of empowerment and inclusiveness for distributed outcomes, and which types of outcomes approximate more equal distributions. The empirical work shows that nondemocratic states will produce less equal outcomes than democratic states. Moreover, ambitious attempts at participation that aim at empowering participants can be less effective than information-driven ones at improving legitimacy among locals. Further, the capacity of participation to overcome local power inequalities is moderate. Nevertheless, the results are not entirely discouraging. Nondemocratic states showed more similarities with democratic states than expected. Inclusiveness in directive bodies of participation has a positive impact on status equality, and power structures could be overcome in some instances. Moreover, participants valued participation in venues with decision-making power. Finally, the dissertation showed that approaching the analysis of equality in participation outcomes with a clear definition and operationalisation is both possible and valuable for understanding participation.

1.3 Equality, equity, justice, and fairness

In the previous sections, I have mentioned social justice, fairness, equity, and equality. Before proceeding to the rest of the dissertation, the relationship between these concepts should be discussed, however briefly. The reasons for this are two. First, a significant portion of the literature speaks about justice, equity, or fairness and it is necessary to explain why the literature’s statements
on these concepts matter for equality. Second, I want to clarify how I use those concepts in this manuscript.

Fundamental to this discussion is the premise that justice encompasses some type and level of equality (Rawls 2005[1971]: 58, White 2007: 16, see also Pettit 2012: 78) — even though that does not mean that justice entails only equality or pure equality (White 2007: 20-3). Equality is intrinsic to justice in two ways: through formal justice and through substantive justice. Let us start with formal justice. I have mentioned that justice encompasses some form of equality. For Rawls and White, such equality is linked to formal justice. White defends that “[j]ust about every notion of justice or fairness seems to employ one elementary notion of equality, that of ‘treating like cases alike’ (…) sometimes called formal justice” (ibid: 16). This definition of formal justice is the same White later applies to the “principle of equity: that like cases be treated alike” (ibid: 136). Justice, then, requires that policies are applied respecting equity. However, equity is not the only element of justice, for it does not guarantee that the content of policies is just (ibid: 17). This leads us to substantive justice.

Rawls argues that the principles of social justice “provide a way of assigning rights and duties (…) and they define the appropriate distribution of the benefits and burdens of social cooperation” (2005[1971]: 4). In societies with unequal structures, equity alone will reproduce existing inequalities (see ibid: 59) as such rights and duties will likely be distributed unequally. This entails that social justice requires substantive justice and this demands paying attention to how equally or unequally “the benefits and burdens of social cooperation” are assigned to society’s members. Moreover, justice requires such distribution to be “appropriate”. However “appropriate” is defined, a basic premise of justice is the absence of unjustifiable discrimination (e.g., Pettit 2012: 78, Rawls 2005[1971]: 5-6, White 2007: 17-8). This gives two points of connection between justice and equality: justice is concerned with how equally benefits and costs are distributed, and justice rejects unjustifiable inequality. Although some limit substantive justice to concerns over the distribution of material resources (White 2007: 18-9), like wealth, recent work on justice has looked beyond such assets and have included concerns over social injustices linked to the position and power individuals and groups have within social and political structures, and how it may affect their sense of self-worth and personal development (e.g., Anderson 1999, White 2007: 18-9, Young 2011[1990]). The thesis shares this concern that justice cannot be reduced to the egalitarian distribution of material resources alone, and the view that equality of material and immaterial goods, like status equality, are both separate and essential elements of justice.

Justice, then, needs some form of equality beyond that demanded by equity. But what is it? I adopt a homogeneous distribution approach to status equality. I also make use of Rawls’s theory of justice to empirically capture equality for material outcomes in natural resource management. By this view, inequalities
in the distribution of material resources are only acceptable if they benefit the worse off. This approach does not require pure equality in material outcomes, but demands pure equality in status outcomes in the sense that all participants should ideally end with identical status. I explain and justify these choices in Paper 1. For now, note that, according to this framework an outcome that does not fulfil these criteria fails to satisfy weighty standards of social justice. In that sense, equality and social justice are, in this thesis, intimately related.

Further, Rawls links his principles of justice to fairness so that justice is conceived as fairness (Rawls 2005[1971]: 11-7). Rawls conceives his principles of justice as “justice as fairness”, as “[t]hey are the principles that free and rational persons (…) would accept in an initial position of equality” (2005[1971]: 11). In other words, Rawls’s theory of justice rests on the premise that the principles it defends are arrived at fairly, without discriminating against anyone (Rawls 2001: 15-8). Following Rawls, I will understand here justice and fairness, and fairness and equality as closely linked concepts.

To recapitulate, fairness and justice entail equity (understood as formal equality) and substantive equality. Equity is perhaps the most common demand of natural resource management scholars. Research on equity is relevant to this dissertation because it can be informative, for instance, regarding how breaches in equality during or through participation are linked to formal discrimination. Nonetheless, an exclusive concern on equity can lead to substantially unjust situations. This dissertation approaches justice from the point of view of equality to address substantive justice in participation outcomes. The links between fairness and justice on the one hand and equality on the other make results of research focused on the former concepts relevant and allow the results of the dissertation to speak to research on fairness and justice.

Throughout the manuscript, I will refer to equity, justice, and fairness to describe the literature, as those are employed terms. In my own claims, references to justice and fairness are considered equivalents to equality as defined above: purely equal distribution of status, and a distribution of material inequalities that benefits the worse off. I will also speak about equality and justice in participatory processes. As discussed by Rawls, a fair process and a process where people are treated equally go hand in hand and thus, again, the terms are treated as synonyms for the purposes of this thesis.

1.4 Outline of the introduction

The remainder of this introductory text to the articles is organised in seven sections. The next section reviews the literature on participatory natural resource management, alongside literature on democratic innovations. Afterwards, the main concepts in the studies are defined. Section 4 sets the theoretical background of the papers. The empirical strategy of the thesis is
later presented, followed by a description of biosphere reserves. Then, the key points of the four papers are summarised and their main findings discussed in relation to this dissertation’s research question. Finally, the overall results of the thesis are discussed, together with directions forward for the study of equality in natural resource management participation.

2. Previous research: participatory natural resource management research

This section reviews what the literature tells us about the justice of participation outcomes and what facilitates or hampers the achievement of just outcomes through participation. Together with the literature on natural resource management, I describe findings in the field of democratic innovations. The literature on democratic innovations focuses on political participation in institutionalised venues, the form of natural resource management participation this thesis is concerned with. It can therefore provide relevant insights for studying equality and participation in natural resource management settings.

In this section, I will argue that current approaches in the literature are insufficient due to their lack of clarity as to what they understand and evaluate as just, a lack of attention to the wider context, and the subordination of outcome justice to an as yet unclear ideal of justice during participatory processes. Further, I will argue that the field hosts a tension between the expectation that participation can promote just management of natural resources in unequal contexts and the worries that background power inequalities can counter the potential of participation to derive just outcomes. Even more, the literature has not translated such concerns into systematic empirical ventures on the impact of participation on justice.

First I will briefly describe the types of outcomes related to justice that scholars have linked to participation. Then I will analyse how scholars have dealt with the idea of justice, and related concepts like equity. Subsequently, I will introduce the factors external to the participatory process that the literature suggests can interfere with outcome justice. Finally, I will assess how the literature approaches the potential of participatory processes to overcome such barriers and yield just policies for natural resource use.

2.1 Can participation generate social justice?

Among the long list of outcomes that participation can provide, the literature on democratic innovations and on natural resource management place justice and equity (e.g., from democratic innovations Fung 2006, 2015, Fung and
Wright 2003a, Jos 2016, Osmani 2008; e.g., from natural resource management Agarwal 2001, Brosius et al. 1998, Castro and Nielsen 2001, Jentoft 1989), as well as legitimacy (from democratic innovations Smith 2009, see also Fung 2006, 2015; from natural resource management Schultz et al. 2011, e.g., Fritsch and Newig 2012, Jentoft 1989). However, studies on democratic innovations have been criticised for the insufficient systematic study of outcomes (Ansell and Gash 2008, Buchecker et al. 2010, Gaventa and Barret 2012, Speer 2012), and in natural resource management there is no conclusive evidence that participation outcomes are just. Indeed, causality is difficult to establish (Speer 2012) and suspicions that not all participation can produce such positive outcomes grow (e.g., Butler and Adamowski 2015, Fung 2015). This section briefly looks at what the literature has said about the impact of participation on the distribution of material resources, legitimacy, learning, and status.

Participation is expected to transfer influence from people who usually have it to those who usually do not (Fung 2015). This transfer would lead to more just policies and thus to more just distributions of resources (ibid). Indeed, some studies in natural resource management report that participants gain influence (McDermott 2009) and that benefits reach communities, although in an unequal way (ibid, Parker and Thapa 2011). Dyer et al. (2014) found outcome equity in two out of three participatory processes and outcome fairness in one (the difference between both concepts is left unclear) although they also found that elites can have privileged access to resources. More equal distributions have been described in studies of democratic innovations (Baiocchi 2003, Isaac and Heller 2003). However, in both fields, we encounter contradictory examples where rich groups accumulated benefits (Vyamana 2009) or where proposals coming from middle income groups were more likely to be satisfied (Labonne and Chase 2009). Moreover, rather than an increase of citizen influence, some studies have found that elites retain power in resource access (see Zafra-Calvo et al. 2017).

The empirical work on status as recognition in natural resource management is scant (Martin et al. 2016), but more attention has been given to other immaterial outcomes like legitimacy or learning. Multidirectional learning, or learning across stakeholders, is a prominent area of study. An emphasis on its advantages (e.g., Daniels and Walker 1996), such as better management or empowerment (Reed et al. 2010), has brought support for valuing knowledge from multiple sources (see Schultz et al. 2011, Schultz and Lundholm 2010). Nevertheless, attempts to generate multidirectional learning (in natural resource management or beyond) often suffer from a privileged consideration of scientific and expert knowledge and criteria to evaluate.

8 Multidirectional learning describes learning processes where knowledge flows across stakeholders in multiple directions, that is, multiple stakeholders share knowledge and multiple stakeholders learn from a variety of sources.
knowledge (Thrupp 1989, Davidson-Hunt and O’Flaherty 2007, Delvaux and Schoenaers 2012, Nygren 1999, Raymond et al. 2010), failing to achieve an equal evaluation of the contributions vulnerable groups make. Despite this, positive cases of integrative knowledge experiences (Ballard et al. 2008, Raymond et al. 2010, Rist et al. 2006) and multidirectional learning (Stöhr et al. 2014) have been reported.

Legitimacy is a desired outcome both in itself and as a means of achieving other benefits, like less contested policy implementation (Jentoft 2000). Within natural resource management, this can help preserve and promote the sustainable use of resources. But legitimacy and participation have an ambiguous relationship. On the one hand, a fair participatory procedure (Schroeder and Fulton 2017) and a just distribution of resources (Turner et al. 2016), as well as better policies (Papadopoulos 2012) can increase legitimacy — albeit the first indirectly by increasing trust in institutions. On the other hand, participation can pose legitimacy problems for those outside the process (Jentoft 2000). Contested views on who should be involved (ibid) and power imbalances (Birnbaum 2016) can also tarnish the legitimacy of the whole process. In fact, Fung characterised increases in legitimacy as “an ambition rather than a guarantee” (2015: 517).

In other words, we have little certainty about how far participation can lead to just outcomes. The great variety of processes and contexts is certainly not helping. However, inattention has also contributed to this lack of knowledge, especially with regards to outcomes linked to status and the distribution of material resources.

2.2 What is a just outcome?

‘What is a just outcome?’ is an elusive question in the field of participatory natural resource management. Many refer to the concept of equity. But definitions are often vague. For instance, Pomeroy described equity relating to how benefits are redistributed and as an “equitable distribution of benefits” (2007: 173, for similarly vague examples see Kellert et al. 2000: 707, Newig et al. 2013). More concrete definitions exist. These include being able to make a living out of extractive professions (Fricke 1985), “ensur[ing] a sufficient quality of life for all” (Butler and Adamowski 2015: 155), or establishing projects in vulnerable areas (Sherman and Ford 2014). Yet these examples offer guidance for where to look for equity but leave the door open for imbalances in benefits that may or may not be justifiable. For instance, if a project guarantees a minimum of fish quota for fishermen to live out of fishing while assigning substantial fish quotas to a multinational organisation, should this be considered equitable? Moreover, they do not fully avoid vagueness as to what an equitable outcome is. We can ask, for instance, where is the threshold for a sufficient-quality life, or for making a living: do we consider
the minimum or median income to calculate it? Do we take into account how many people are dependent on the extractive professional?

Imperial proposes a more concrete approach to equity, following the Institutional Analysis Development framework (1999: 457, see also Ostrom 2011). In the framework, equity is conformed by fiscal equivalence, meaning that those benefiting from a system should sustain it, and redistributational equity, where ability to pay is taken into account. Agarwal (2001) is another exception to vagueness in discussing implications of several distributive principles. But such examples are rare. Some authors have argued that it is participants who should decide what is just (e.g., Gustavsson et al. 2014 (combined with distribution descriptions), Hillman 2004). Germain et al. operationalised outcome equity by asking participants if they felt the outcome was fair and free of biases (2001: 118). This approach has the virtue of avoiding paternalism, but is not without problems, as Paper 3 will discuss.

In the last few years, some evaluation frameworks specialised in justice have appeared. Schreckenberg et al. (2016), recognising the lack of conceptual clarity, proposed an equity framework composed of recognition, distribution, and procedural dimensions — three dimensions often present in environmental justice scholarship (Martin et al. 2016). Based on Schreckenberg et al.’s work, Zafra-Calvo et al. (2017) suggested an operationalisation. They proposed that outcomes can be regarded as equitable if, for example, the costs of the most vulnerable actors are compensated, if benefits arrive to all households as agreed and complying with cultural ideas of distribution, and if traditional knowledge is “equally or more represented than statutory ones” (ibid: 138). These measures, useful in their tangibility, are not unproblematic. For example, it is unclear why it is fair that traditional knowledge is more represented than other types of knowledge. Additionally, participants could agree upon a distribution of goods that disregards, for example, the needs of those uninvited to participate or upon a distributive norm accepted by a majority, but that infringes on the rights of vulnerable sectors of society. Although the authors offer a menu of distributive criteria, their pros and cons could be further discussed. The measures presume that the process has fully shunted away power, but this need not be the case. The framework proposed in this dissertation’s first paper will provide a more concrete definition of equality for costs, benefits, knowledge, and status, grounded on theoretical arguments.

2.3 Barriers to outcome justice

Contextual factors matter for participation. Natural resource management scholars have highlighted, for instance, how decentralisation (Pomeroy and Berkes 1997, Ribot 2004), clear property rights over resources (Pomeroy and Berkes 1997, Shackleton et al. 2002), and respect for local and communal rules and self-determination (ibid) would facilitate successful participation.
Outside natural resource management, some scholars have pointed as well to several factors that would suggest participation requires a democracy to be successful, like right of assembly, freedom of speech or an independent judiciary (Osmani 2008), while a lack of elected representatives (Pandeya and Shrestha 2016) would be detrimental. In natural resource management, factors signalled out are the right to organisation (Pomeroy and Berkes 1997) or an independent judiciary (Singleton 2000), while disenfranchisement (Butler and Adamowski 2015) would make participation difficult. In spite of this, the idea that the political regime may impact participation is rarely addressed by the literature in natural resource management.

One exception is Duit and Hall’s (2014) study of the effect of the political regime on the quality of co-management. The authors found that better protection of political rights did not affect who was involved in decision-making participation, except in low income states where it promoted the involvement of locals and discouraged NGOs. Despite this mixed effect, the less democratic a country was, the worse the outcome. This suggests that either processes differ between democratic and nondemocratic states, or the stakeholders participating in them are qualitatively distinct. In both cases, it seems reasonable to consider that the political system may be playing a role. Gaventa and Barret (2012), outside natural resource management, found that the most and least democratic states have more positive outcomes of participation than those in the middle. More directly linked to outcome distribution, Ribot argued that in state agencies that escape representative authority (whether in democracies or in nondemocracies) “the best-placed and most-powerful authorities and institutions are likely to capture power over resources” (2004: 68). Although Ribot does not refer to dictatorships, his argument casts doubt on the expansion of participatory processes regardless of the political regime where they will take place.

For instance, repression can impact actors’ behaviour in a participatory process, being nondemocratic states the most repressive ones (Tarrow 1999). In fact, in participation within nondemocracies, limits to expression (including self-censorship) have been reported (e.g., Gray 2013, Tilt 2009). However, scholars simultaneously argue that there is potential for debate and self-expression, with diverse degrees of constraint (Balla and Liao 2013, Connelly 2009, He and Thøgersen 2010, Kornreich et al. 2012, Zhang 2013). This contradictory description also reflects in the fact that participants voice hegemonic and challenging discourses (Connelly 2009, Zhang 2013). Other ways in which authoritarian states thwart participation are exclusion (Gray 2013), limiting empowerment (Chen et al. 2012, He 2011, He and Thøgersen 2010), or using participation as a co-optation mechanism (Xiaojun 2011). This is not to say that democratic states are immune to limitations of empowerment (de Vries 1997, Martínez López and Lorenzi Fernández 2012, Van Tatenhove et al. 2010) or to instrumentalisation of participation, stripped out of force and oriented to generate support (e.g., de Vries 1997, Harrison et
al. 2004, Van Tatenhove et al. 2010). Nonetheless, specific characteristics of authoritarian contexts seem to interfere with participation. Given the theoretical difficulties for participation to thrive in contexts that heavily control political action and the empirical evidence on the limitations of participation in nondemocratic states, it is surprising that natural resource management scholars have not paid much attention to what we can expect from participatory processes in nondemocracies.

Another challenge, which transcends regimes, is the generally unequal distribution of power across participants. As Fung and Wright warned, “designs of institutions of collaboration are themselves generally the result of endogenous political processes. Where countervailing power is weak or nonexistent, the rules of collaboration are likely to favor entrenched, previously organized, or concentrated interests” (2003b: 263). Socio-political structures (Butler and Adamowski 2015, Morales and Harris 2014; see also Fischer 2006 for a discussion on the relevance of social and cultural structures) or social (Fischer 2012, Morales and Harris 2014, Skelcher and Torfing 2010) and economic (Alix-Garcia and Harris 2014) inequality matter for participation and can empower some enough to shape decisions in their favour (Butler and Adamowski 2015).

Sørensen and Triantafillou claimed that, although participation can be a venue “for new forms of freedom and resistance” (2009: 218), “the processes and outcomes remain vulnerable to forces, interests and resources of the actors engaged in them” (ibid: 219). Powerful actors can become a strong resistance pole for redistributive policies (Gaventa 2006). Power, thus, can affect the potential of participation for equitable outcomes (Fischer 2012).

Scholars in natural resource management have widely discussed their concerns over power asymmetries filtering into participation (e.g., Adger et al. 2005, Barnaud and Van Paassen 2013, de Vente et al. 2016, Nadasdy 2007; see also Brisbois and de Loë 2016). Lack of respect, intimidation, rationalisation, coercion, insufficient empowerment, or tinkering with the agenda are mechanisms through which power can operate in participatory exercises (McCullum et al. 2004). Elite capture is an important phenomenon in participatory natural resource management. Elites are often more able to take advantage of institutionalised benefits in resource management projects (Ribot 2004) and benefit when participation reproduces unequal structures (Ojha et al. 2009, Pandeya and Shrestha 2016). For instance, Saito-Jensen et al. (2010) found that, due to social hierarchies, elites occupied the most powerful positions within collective managerial bodies. Recognising such difficulties, some argue power-sharing ought to be understood as an outcome of collective management (Carlsson and Berkes 2005, see also Berkes 2009). However, there is no conclusive empirical evidence backing or contradicting this statement. Even more, if that is the case, the normative implications regarding decisions taken during participation until power balance has been reached should be spelled out.
Power and power inequality have also been recognised (by natural resource management and other scholars) as potential barriers to multidirectional learning and to valuing and integrating knowledge from different actors (e.g., Armitage et al. 2011, Davidson-Hunt and O’Flaherty 2007, Delvaux and Schoenaers 2012, Reed et al. 2010). For example, powerful actors may not always be willing to engage in learning processes (Papadopoulos and Warin 2007). Power can also shape learning and knowledge perception by classifying stakeholders or their knowledge (Delvaux and Schoenaers 2012, Guhin and Wyrtzen 2013, Nygren 1999, Raffles 2002). Categories such as “modern”, “traditional”, “rational”, or “magical” are “powerful mind organizers, privileging one form of knowledge over another” (Nygren 1999: 271), even though they may be used for resistance to hierarchies as much as for their reproduction (Nygren 1999, Raffles 2002).

Such concerns have led scholars to reject participation in institutionalised channels as a useful tool for traditionally less powerful actors. From social movement studies, McAdam suggests the need for marginalised groups to “seek, through the use of noninstitutionalized tactics, to force their opponents to deal with them outside the established arenas within which the latter derive so much of their power” (1983: 735). McAdam draws a pessimistic picture for the capacity of institutionalised participatory processes to equalise traditionally powerful and vulnerable actors. Demands for deliberative democrats to accept mobilisation tactics to equalise power (e.g., Humphrey and Stears 2009) resonate with McAdam’s approach and counter against participation’s capacity to build equal arenas.

2.4 Participatory processes, a complex solution for social injustice

The natural resource management literature is characterised by a strong connection between participatory process justice and just outcomes. Consider, for instance, the following quotation: “It must be stressed that equitable solutions (…) cannot come out of an inequitable process; they can only be achieved if anti-oppressive practices are implemented” (Butler and Adamowski 2015: 155). However, the road to achieve just processes is tortuous.

Previous to the expression of inequality in any participatory activity, actors are distinguished by being included in or excluded from the process. Inclusiveness of marginalised communities is seen as intrinsic to procedural justice (Jos 2014, see Hornik et al. 2016 for a stakeholder perspective) as well as instrumental to how far their interests are considered (e.g., Agarwal 2001, Fung 2015). Indeed, limited inclusiveness can have the effect of distributing resources to socially privileged actors (Mukherjee et al. 2017). Yet, achieving inclusion is challenging. For instance, processes can be tailored to the detriment of minority voices. An interesting example is presented by Olsson (2007). Olsson found that inviting supportive actors to participate in initial
phases and slowly introducing more sceptical ones increases project support by reducing the likelihood that actors develop alternative visions. This strategy promotes exclusion of some groups from certain stages of participation and seriously challenges the options for minority or disempowered groups to prevail. Ideas of who should be involved in policy-making also affect inclusion of vulnerable groups like women (Agarwal 2001). Self-exclusion is also a danger. Power inequality impacts the incentives of different groups to participate, being those with more chances to lose the ones with lower incentives (May 2013; see also Akbulut and Soylu 2012, Rose et al. 1989). Moreover, people with less economic resources tend to be less involved (e.g., Alix-Garcia and Harris 2014, Beatty and Pierce 1976) and to arrive later to participation (Ribot 2004). Some cannot afford sustained participation (Rigon 2014).

Even if all relevant actors are present, power imbalances may render inclusiveness meaningless (Butler and Adamowski 2015). Vulnerable participants may be reluctant to criticise decision-makers (Ribot 2004), and differences in resources can lead to unequal participation (see Ansell and Gash 2008). Civil servants that design participatory processes and facilitators retain important power attributes by shaping rules and spaces of debate (Butler and Adamowski 2015, Hall and McGinty 1997, Van Tatenhove et al. 2010). Moreover, as Van Tatenhove et al. argue, “structural power mechanisms (such as legitimate discourses about governance and participation (...), and structural asymmetries of resources) determine the dispositional power structure within a project” (2010: 620). Even more, not everyone’s inputs may be regarded equally, as the discussion on the prevalence of scientific knowledge in the previous section illustrates and as critics of deliberation warn (see below). Finally, gender can also play a role in actor behaviour (e.g., Karpowitz et al. 2012), although some found gender inequality was challenged during participation (Baiocchi 2003, Isaac and Heller 2003).

Conversely, facilitation (Fung 2003), changes in the role that communities have in decision-making (McDermott 2009), equal empowerment and ownership of the agenda (Innes and Booher 2004), being heard with respect (ibid), or assisting disadvantaged groups in having effective representation (ibid) would have the opposite effect. Access to information, to decision-makers, and to decision-making (Simcock 2016), and the opening of an outlet for citizens to give input into policy-making (Rantala et al. 2015) can contribute to increase perceived justice or equity. Multidirectional learning would be promoted, for instance, through attention to power and processes of learning (Delvaux and Schoenaers 2012), early involvement and participation in decision-making (Diduck and Mitchell 2003), or upholding subjective rather than positivist epistemic frames that more readily welcome multiple knowledges (Raymond et al. 2010). How to achieve equal empowerment or what we can do when putting attention on power is still a matter of debate.
Lastly, natural resource management studies are linked to some extent to deliberative democracy (Reed 2008, Rodela 2012, Zachrisson 2010). Deliberation\(^9\) is often advocated as a decision-making method where power imbalances are greatly mitigated (Hendriks 2009), but its contribution to equal outcomes is unclear. On the one hand, some findings support the idea that deliberative participation can overrule domination by teaching participants how to participate (see Baiocchi 2003) and by overcoming structural inequalities (Dutwin 2003). On the other hand, deliberation requires moderate, autonomous, impartial, and reason-led actors who will not behave strategically and these requirements contrast with interest groups (Hendriks 2011), such as stakeholders normally involved in natural resource management participation (see Parkins and Mitchell 2005 on the frequent stakeholder approach in natural resource management). Additionally, deliberative democracy could lead to unequal distributions of resources by attempting to reach consensus, as not all parts may settle for morally or collectively optimal solutions (Elster 1997), or due to difficulties for reaching equal influence across actors (Bohman 1997, Hendriks 2009). As Young pointed out, “[a] common consequence of social privilege is the ability of a group to convert its perspective on some issues into authoritative knowledge without being challenged by those who have reason to see things differently” (1997: 399), thus favouring their inputs on the participatory arena.

Hence, scholars are well aware of the problems with inequality in participation. Yet, the difficulties of building a fair process mean that suggestions to promote justice are often imprecise and disputed.

2.5 Summary

What we know about distributive effects of participation is vague and results are mixed. But maybe even more problematic is the approach to the study of these outcomes. Few studies explicitly address outcome distribution (even less focus on it) despite a clear concern for inequalities among actors previous to and during the process. In terms of resource distribution, roughly, the literature suggests that elite capture is a serious problem, but benefits may still arrive to communities (although communities may receive, for instance, unjustifiably higher or lower benefits than what other groups perceived). Therefore, questions remain about the overall prospects of participation to foster social justice.

In the study of learning as an outcome, equality has been further addressed while seeking to understand the lengths to which knowledge types have been

\(^9\) Deliberation is a decision-making method “in which free and equal citizens (...) justify decisions in a process in which they give one another reasons that are mutually acceptable and generally accessible, with the aim of reaching conclusions that are binding in the present on all citizens but open to challenge in the future” (Gutmann and Thompson 2004: 7).
integrated for managerial action. Often, scientific knowledge is found dominating participation while local and traditional knowledge must struggle to be considered relevant. Nevertheless, a participatory process comprises more actors than locals and scientists and the question of who learns from whom and what remains to be more thoroughly investigated.

In that sense, asking which impact participation has on distribution can enrich the knowledge in the field and balance the attention on inequalities prior to participation and in participation processes on the one hand, and in participation outcomes on the other. If the expectation is that participation generates more social justice, discussing equality in processes is necessary but insufficient. Outcomes need to be analysed. For that, the literature needs to be clearer than it is now on what it is meant when social justice, equity, or equality are brought to the forefront, either in processes or in outcomes. Without systematic analyses that indicate what the researchers considered was an equal or a just outcome, results remain blurred.

The main focus of concern regarding inequality in natural resource management is power asymmetries among participants before and during participatory processes. Scholars have suggested several factors to address process inequality, but many are still too imprecise. Deliberation appears as a tool to mitigate such concerns although it has been received with scepticism by some participation scholars. Another proposed way to mitigate power asymmetries is ensuring equal empowerment. However, this is a vague suggestion that covers from formally equal rules of power sharing within a participatory process to eradicating socio-political inequality before participation takes place.

One factor that might impact power asymmetries, but which is rarely pointed out in natural resource management studies directly, is the political regime. Warnings about the relevance of state institutions are certainly present, but given that participation is advocated for democracies as well as for nondemocracies it seems surprising that this concern for institutions has not been translated into enquiries about the need (or lack thereof) to have a democratic context for participation. A growing body of literature on participation in authoritarian states suggests limited possibilities for involvement. If participatory management is to spread to nondemocracies, it is important to understand the impact of the political context where it takes place. Even more, if participatory management is going to continue growing under the premise of social justice, we have to understand the impact of the political regime on how just participation outcomes are.

To conclude, then, the way that natural resource management scholarship deals with outcome justice is dominated by positive expectations on the one hand, pessimism derived from awareness of the relevance of power asymmetries on the other hand, and ambiguity for how both are supposed to interact to produce just or unjust outcomes. This vagueness starts from what just outcomes are. It expands to whether they can be more or less easily
achieved in material or immaterial outcomes, both, or neither; whether participation is marked by winners and losers, who they are and what they are winning and losing; and how far outcome justice is determined by power asymmetries in the socio-political structure, in how participation unfolded, or in both. The problem then is not a lack of awareness of difficulties in achieving social justice through participation. It is rather an inconsistency between this awareness and the theoretical and empirical vagueness that surrounds it. A significant part of the literature is dominated by case studies that approach the topic in an ad hoc manner and often in passing, while focusing on other aspects of participation. But the field can benefit from analyses focused on how outcomes are distributed across actors and how the power of those actors and their political context impact that distribution.

3. Concept definitions

This section outlines the main concepts involved in the research question, in the overarching theoretical approach of this thesis, and in its papers: participation, outcome, stakeholder, power, and democratic/nondemocratic regime. The concept of structure is addressed while discussing the theoretical framework (Section 4) as its definition is intimately linked to its role in the theory. Paper 1 is devoted to defining equality, which is then also not covered here.

3.1 Participation

The type of participation that concerns us can be characterised as “a participation that is non-conventional because it takes place beyond elections and party politics, but which is also institutional because it is organized or at least sustained by local governments or other public institutions” (Font et al. 2012: 9). In this quote, Font et al. refer to what Smith (2009) called democratic innovations, such as participatory budgeting, whose spread has marked the last decades (Font et al. 2012). Smith defined democratic innovations as “institutions that have been specifically designed to increase and deepen citizen participation in the political decision-making process” (2009: 1, italics in the original).

Font et al.’s and Smith’s definitions fit well with the sort of participation taking place in natural resource management. They share an institutionalised process, with recognition and strong involvement of the state; the involvement of those who are usually not part of the intricacies of policy-making; and engagement procedures distinct from (generally deeper than) “elections and party politics”. But two differences exist between Smith’s definition and participation in natural resource management. First, the latter takes a
stakeholder approach to participation (Parkins and Mitchell 2005), as opposed to a citizen approach. Second, democratic innovations focus on decision-making, while participation for managing natural resources encompasses a wide set of processes that include providing information, decision-making, policy implementation, or learning processes leading or not leading to policy-making. Therefore, participation is defined here as an institutionalised process involving stakeholders through nonconventional mechanisms in political procedures and leading to public management of natural resources. Nonetheless, despite defining participation as stakeholder involvement, stakeholders are not always organised groups. They can be autonomous individuals or collectives. This blurs the distinction between citizen and stakeholder, meaning that dialogue between research on citizen participation and this dissertation is possible.

3.2 Stakeholder

The term stakeholder has been defined and redefined many times. Friedman and Miles (2006) classified the definitions of a business stakeholder according to their nature, strategic or normative, and their breath, broad or narrow. Strategic accounts define stakeholders as actors legally or institutionally related to a firm (in a broad approach) and as key for a firm (in a narrow perspective). Normative definitions consider stakeholders all entities in nature affected by or that affect the activities of a firm (in a broad approach) or all human groups towards which a firm is responsible (in a narrow perspective). All these views share a common bond between a firm (or in our case the entity in charge of the management of natural resources) and an external actor. This bond can occur at any level of activity of the issue at stake and has significance (it is not trivial) for at least one of the parts.

When translating these options into the setting of this dissertation, several choices have to be made. First, only human entities can participate. Second, the focus of the relationship is not with private, but rather with public resources and therefore a normative rather than a strategic approach seems more convenient (although, as seen, stakeholder selection is not void of strategy from participation organisers or sponsors). Therefore, a stakeholder would be any human agent with a nontrivial relationship with the natural resources under management. By nontrivial relationship it is meant here that stakeholders should be directly connected to the resource in ways that are relevant to their goals (economic, political, personal, or otherwise) and/or values (religions, cultural, etc.). For example, a citizen who is attached to a resource through public ownership but has no direct concern for how it is used would not be considered a stakeholder, but instead an actor who has no ownership of a public resource but its use is directly affecting their political goals, for example an international conservationist NGO, would be. This
generally includes the managers of natural resources, governmental actors, NGOs, local communities, resource users, businesses, or scientists.

3.3 Outcomes
Outcomes of stakeholder participation are direct or indirect consequences of such participation. Outcomes can be material or immaterial, as participation can distribute material (e.g., Kellert et al. 2000) or immaterial (e.g., Innes and Booher 1999) resources. They can also be positive (benefits) or negative (costs).

Positive material outcomes include access to natural resources and to alternative material resources that, for example, help stakeholders develop a living not based on natural resource exploitation. Positive immaterial outcomes correspond to changes involving intangible resources. This project will focus on the status of actors in the political arena and on legitimacy.

Why focus on status? Status inequality has significant effects on how people perceive themselves and for their development. In White’s words, status inequality “works against the victim’s sense of self-worth and self-confidence and, in this way, can discourage the individual from thinking creatively and imaginatively about what he or she wants to do with her life” (2007: 19). Similarly, Rawls argued that a sense of worth will move people “to pursue their conception of the good with zest” (2005[1971]: 178) and therefore “is clearly rational for men to secure their self-respect” (ibid). In that way, status equality contributes not only to one’s possibilities for economic development, but also to one’s self-esteem and personal development. In other words, it has significant ramifications for building just communities beyond material distribution.

Related to status is the role of a stakeholder in learning processes. Bouwen and Taillieu stated that learning occurs “when people can renegotiate which portions of their continuing collective experience they will next forget, render visible or make silent and which discontinuous residuals they will treat as current meaningful artefacts of culture” (2004: 141). Thus defined, learning involves not only acquisition of knowledge, but changes in the belief structure (see Delvaux and Schoenaers 2012). The role of a stakeholder in learning, in partaking in the construction of the structure of beliefs of another individual or of the collective, may be seen as an indicator of social recognition (e.g., Roncoli et al. 2016).

Knowledge and social structure are interrelated: what you know and whether you are a knower, Berger and Luckmann (1991) say, is defined socially, and simultaneously such distribution of knowledge builds a social structure that separates experts from laypeople. Such role differences are legitimated by a conceptualisation of society whose definition is linked to power (ibid). Those at the bottom of the structure are seen as dispossessed of knowledge (Freire 1996) and are diminished in their “capacity as a knower”
This means their claims are stripped out of credibility (ibid). Such prejudices originate in stereotypes of the social group actors belong to and are part, Fricker argues, of their identity power (ibid: 14-7). Negative stereotypes tend to overlap with vulnerable groups (e.g., ibid: 32). Thus, understanding how knowledge is valued helps us understand the position an actor occupies in society and the recognition his or her claims (his or her identity we could interject following Fricker) have. In other words, it tells us whether someone belongs to a social group furnished not only with power but also with high social regard or not.

Understanding status as recognition of knowledge thus contributes to understanding outcome equality in terms of status equality. It has a similar effect to that White attaches to status inequality: according to Fricker, it can interfere with a person’s intellectual self-confidence and development, as he or she is perceived and routinely treated as less capable of knowing (e.g., ibid: 44-59). Moreover, Fricker (ibid: 148-55) still argues, powerless groups have a disadvantage in generating collective meanings, so that their experiences are either silenced or biased with the interpretation powerful groups make of them, again diminishing the potential that less powerful groups have to spread knowledge (ibid: 162).

But such injustices linked to knowledge can have further ramifications. Fricker (ibid: 43) argues that lack of credibility denies a person the possibility to participate in public discourse construction, constituting a limitation to that person’s freedom. Together with the weak participation in constructing the meaning of social experience, this can result in a public discourse dominated by a majority that is necessary to change to build policies in equal conditions for all (Catala 2015).

The second immaterial outcome is legitimacy. Legitimacy is defined as support towards public actions and entities (see Fung 2006). Legitimacy, per se, is not an outcome prone to be looked at in terms of equality. Nonetheless, we can look at it from an equality perspective in two ways: by asking who sees a reserve as legitimate through participation, and by seeing legitimacy as a proxy for a distribution of benefits and grievances. First, legitimacy of a reserve can, in itself, be seen as a good to strive for. Whether one has a reserve on one’s land that one considers legitimate or illegitimate makes a difference. Actors are not necessarily competing for legitimacy. All actors can see a reserve as legitimate and legitimacy can be increased for all actors. Yet, it does not imply that this will be the case. Considering the conflicting values it has to manage (both in terms of policy and decision-making processes), it is possible that reserves’ legitimacy is not evenly spread across all its stakeholders. Therefore, legitimacy in itself can be seen as a good that may or may not be equally distributed.

Second, Fung directly links legitimacy to equality by arguing that “[i]f government is really run for the benefit of a few big interests, then that is one strong reason many citizens should not support it” (ibid: 70). This suggests
that distributions of benefits may be linked to the legitimacy of the management. In that way, the spread of legitimacy can be seen as a proxy for the spread of benefits and aggravations across stakeholders. Establishing a reserve is generally a conflictive process that limits the use an actor can make of resources. Supporting that enterprise can be seen as a proxy that a stakeholder sees a benefit in it. It does not mean that a stakeholder agrees with everything that the reserve entails, but that, in itself, is seen as beneficial (be it for selfish or for selfless reasons). Conversely, if a stakeholder does not see legitimacy in a reserve, this would suggest a stakeholder is aggravated (again, for selfish or for selfless reasons) by it. Whether legitimacy is built around material benefits secured by the reserve or around values, and whether it is built before the reserve is born or through the relationships the reserve has nurtured with stakeholders does not alter that argument. That is not to say that legitimacy is only built by securing benefits or avoiding grievances, and this approach thus has limitations. Nonetheless, it can indicate with whom a reserve aligns, materially or in terms of values. In unequal contexts, that can be indicative of who is gaining (in tangible terms or in terms of values) through the reserve’s existence or action.

Finally, negative outcomes are immaterial or material losses, such as losing access to land, bearing the costs of a decision, or losing privilege in the status configuration.

3.4 Power
As we have seen, scholars studying participation tend to emphasise power inequalities (Ansell and Gash 2008, e.g., Barnaud and Van Paasen 2013, Cohen and Rogers 2003, Osmani 2008). In other words, the amount of power per se is not as important as the differentials between actors’ power. For Lukes, “[t]he concept of asymmetric power, (…) or ‘power over’, is (…) a sub-concept or version of the concept of power as potentia: it is the ability to have another or others in your power, by constraining their choices, thereby securing their compliance” (2005: 74, italics in the original). For Giddens, “[p]ower (…) is generated in and through the reproduction of structures of domination. The resources which constitute structures of domination are of two sorts — allocative and authoritative” (1984: 258). In other words, for power an actor needs material resources (natural or produced goods) and resources linked to authority, like capacity for “generating command over persons or actors” (ibid: 33). Thus, in this thesis, power will be treated as the capacity of one actor to secure the compliance of another actor. A configuration of power can be defined as the mapping of the power differentials between actors in a specific context, in this case, in a specific participatory process. It is understood in relational terms and as determined by material resources and authority. Although power with and not only power
over can be conceived, the purposes of this project seem better served by focusing on the latter.

3.5 Democracies and nondemocracies

Defining democratic and nondemocratic regimes\(^{10}\) means determining two things: whether we opt for a procedural or a substantive definition of democracy and whether we conceive democracy as a matter of category or as a matter of degree (see Cheibub et al. 2010). A political regime is defined by Geddes et al. “as basic informal and formal rules that determine what interests are represented in the (...) leadership group” (2014: 314).\(^{11}\) This definition leads us to a procedural definition of democracy. Procedural approaches focus on elections: if the legislative and the executive bodies are directly or indirectly elected following certain democratic criteria, the country is considered democratic. Geddes et al. (ibid) include the need for those elections to be competitive.

The advantages that Cheibub et al. (2010) put forward to defend this approach are conceptual clarity and facilitating empirics by (1) maximising the amount of research questions to be explored, (2) facilitating the investigation and definition of mechanisms linking democracy to diverse outcomes, and (3) avoiding the introduction of political elements external to the political regime into its definition. These advantages are the consequence of leaving out of democracy concepts such as civil rights or rule of law. By limiting democracy to its electoral aspects, researchers can explore whether it is causing civil rights or causing rule of law. It is possible then to avoid confusion as to whether it is elections, civil rights, or rule of law that matters in each potential causal relationship that researchers explore.

However, if civil and political rights are sine qua non conditions for electoral democracy, if they are so entrenched in the process of electing leaders democratically that without them elections are meaningless (e.g., Merkel 2004), can we argue that they are not part of democracy? If that is the case, classifying regimes based on their procedures would mean classifying regimes based only on one of the indicators of democracy, biasing any analysis. Like Geddes et al., researchers attempt to mitigate the shortcomings of procedural approaches by adding qualifiers to elections such as “competitive”. Yet this opens the question of whether these definitions are letting civil rights in through the back door (see Diamond 2002: 21-2). One could argue that we only take that portion of civil rights that is strictly needed

\(^{10}\) The reasoning for the definition of democratic and nondemocratic regimes offered here is an extension of that in Paper 2.

\(^{11}\) Although they use this definition for defining an authoritarian regime, it seems equally applicable to any type of regime.
for the electoral procedure to be democratic. Yet we introduce not only fuzziness (again), but we do it in a disguised manner.

Precisely this argument, that democracy requires certain minimal requisites for elections to be democratic, is at the base of substantive definitions of democracy. Elections are not enough to have full-fledged democracy (e.g., Merkel 2004). This dissertation takes a substantive approach that goes beyond purely electoral democracy. It does indeed seem unclear how competitive elections can take place without rights such as freedom of organisation or freedom of speech. Therefore, a substantive approach will bring clarity as to what is being measured. Since this dissertation is not concerned with understanding civil rights nor electoral democracy, it is believed this choice will not obscure causal mechanisms. Therefore, democracy is understood here as a regime with competitive elections and civil rights. Nondemocracies are those regimes where one or both characteristics of democracies are at fault.

The second debate was between dichotomy and scale. Authors in favour of a dichotomous approach criticise the lack of meaning of jumping from one to another value of a scale (Cheibub et al. 2010). A scale approach, however, gives nuance. Generally, procedural approaches to democracy favour dichotomous measures (e.g., Alvarez et al. 1996) while those introducing civil rights favour scales (examples are Freedom House, Polity IV). This thesis takes a scale approach: depending on how much civil rights are protected, on how competitive elections are, countries can be more or less democratic. But I also determine a critical point to sort out what could be understood as undeniably democratic regimes. The establishment of a critical point is a common analytical devise, although where the cut-point is set is arbitrary (Cheibub et al. 2010). A random cut point has been avoided through operationalisation. The regime has been dichotomised by combining Freedom House and Polity IV scores to a 0 (nondemocratic) to 10 (democratic) scale and determining as democratic those countries scoring more than 7.5 (see Åström et al. 2012 for an example of this approach). The 7.5 cut point is similar to what Freedom House considers “free” states and is thus not without substantive meaning.

4. Theoretical framework: participation as continuity, participation as change

This section articulates the theoretical basis for the study of equality in outcomes of participation and motivates the empirical focus of the papers. Three main arguments will be sustained. First, it is argued that the unequal social and political structure in which participation develops constrains the possibilities for egalitarian outcomes of participation. Second, by being an innovative approach to policy making, participation can dissociate itself from...
that structure. Finally, the more participation distributes power across participants, the higher the chances that the second scenario will arise.

4.1 Balancing continuity and change in equality through participation

As a case of participation in the distribution of public resources among actors with competing interests, the so-called participatory managerial approaches of natural resources can be conceived as political exercises. They can then be studied in the light of power allocation and power relationships (Weber 2013[1918]). Therefore, in order to understand the potential of participation to deliver equal outcomes, stakeholders’ relative power in the process needs to be considered.

One difficulty for understanding participation in the management of natural resources is the contradiction between the presumed usefulness of participation for surpassing inequalities affecting such management and the fears that participatory decisions are biased to the advantage of powerful actors. However, both ideas can be reconciled. Social structures can be conceived as pervasive (Giddens 1984), permeating all political arenas, including participation. If that is the case, structural inequalities will shape participation outcomes. But such pervasiveness has limitations (ibid). These limitations come in two shapes. One is the appearance of shocks that alter the existing structure (ibid), such as, arguably, the creation of a new participatory political arena. The other is actors’ agency (ibid): conscious efforts to modify inequalities. While recognising the role that actors can play, this dissertation explores the structural factors that mark the continuity of inequalities and the study of participatory processes as a shock to that structure. Agency, nevertheless, enters the analysis implicitly through the conception of participation as a new element in the structure, for it needs to be created and accepted by actors.

Such a duality approach (acknowledging structure and agency) contrasts with pluralism and structuralism. Unlike pluralist approaches, it emphasises structural inequalities in constraints and opportunities. Unlike structuralism, it avoids determinism by recognising the potential to re-define such inequalities. Pluralism considers that in democratic societies power is spread enough across groups so that, although unequally distributed, no one could dominate the political process and all could have a chance to influence it (Hill 1997). Pluralists have been criticised for ignoring power inequalities (ibid, Baumgartner and Leech 1998, see also Hendriks 2011: 37-8). Olson (1971), for example, criticised their inattention to how small collectives have disproportionate power as they are more often organised and ready for action, which can cause differences between population-wide interests and more concentrated ones. Additionally, Bachrach and Baratz (1970) defended the
notion that it was insufficient to see how decisions benefited one or another group and they argued that it was important to look at what was left out of the political table. Pluralism can also be criticised from an interactionist point of view. For example, Hall and McGinty argue that policies are determined by the interactions of actors within the process. In these interactions, "[a]ctors with advantageous access to resources operate from circumstances of control and structure conditions for interaction" (1997: 443). This gives them an important leverage ignored in pluralist notions of the policy process. One such actor can be the initiator of the process, as seen in the literature review.

Some responded to these criticisms with a structural analysis of power relations in the political processes (Hill 1997). Structural approaches see the configuration of power within the state (and thus the policy process) as determined by economic class (with Marxism at the fore) and/or by institutionalised domination of groups based on noneconomic factors like gender (ibid). Yet, strictly structural accounts of decision-making run the risk of being too deterministic and of stripping actors out of agency (Sewell 1992).

The structure-agency duality recognises structure as an important constraining element of social and political action. But it also recognises space for change (ibid). The structure can be defined as “rules and resources recursively implicated in social reproduction” (Giddens 1984: xxxi) that is “produced and reproduced” (ibid: 25) by actors who understand these rules and resources (ibid: 26). The distinction “produced and reproduced” (added italics) emphasises that actors are both applying preexisting rules and deploying their resources, giving continuity to the structure, and generating new rules and redistributing resources, therefore changing them. The structure becomes dynamic, mutable.

The institutional analysis development framework implicitly takes into account the structure-agency duality and applies it to political processes. Ostrom’s (1999) framework connects context, process, and outcomes. The impact of context on outcomes is mediated by processes. Thus defined, processes can both be a site of agency and change and a place to reproduce the status quo. Therefore the process, in this case participation, becomes a black box. Although this thesis shares with the framework the conceptualisation of an interplay between context (or structure) and agency, the framework is not adopted for analysis for two reasons. First, it does not pay enough attention to power asymmetries (Clement 2010). Context is characterised by its biophysical conditions, community attributes, and rules-in-use (Ostrom 1999, 2011). Community attributes include size, trust, heterogeneity, or shared values (Clement 2010). They do, then, shy away from power. Rules-in-use refer to how participants ought to behave, whether legally or informally defined (Ostrom 1999, 2011). Arguably, institutions and their rules-in-use will be shaped by power, although how it does so escapes the framework (Clement 2010). How institutions affect power distribution across actors is also absent from the framework (ibid). For example, within the
framework an actor can choose to follow the rules-in-use (that would be part of institutions (see Ostrom 1999)) or not (Ostrom 1999, 2011). However, this does not recognize how power inequalities set different constraints for actors to make such a choice. In that sense, the idea of power is diluted.

Second, explaining change is a challenge (Ostrom 2011). Change can occur if the context varies (ibid). In this case, change is prior to participation. The framework admits that outcomes of the process feed back into the context (see Ostrom 1999, 2011) and, arguably, change can also occur via this path. However, it is not obvious how or why outcomes constrained by a given structure would depart from it if the context permeates the action arena. How participation can change the structure is thus unclear. Conceiving participation as a potential shock to the structure is useful for conceiving change from a structural point of view without relying on context changes. Without such independence, it is difficult to see how participation could be a modifier of the structure or how it would produce outcomes that modify it (especially if we consider the idea that all actors can freely and equally choose to stop following rules-in-use problematic).

This section expands on the mechanisms between the context-process-outcome interactions while also allowing a nonmediated effect of the context on the outcomes.

4.2 Structure and structural episodes

The discussion of the potential impact of the structure on participation outcomes can depart from the following statement: “institutionalized features of social systems have structural properties in the sense that relationships are stabilized across time and space” (Giddens 1984: xxxi). If the structure is reflected in institutions, it is possible to argue that the political regime, as an entity defining and legitimising overarching socio-political institutions, will reflect those structural properties. If it is stable across space, one can expect that the relationships reflected by the political system will be able to travel from the national to the local context.12 In other words, the local power distribution will be impacted by the political system. And finally, if the relations are stable, the statement that participatory processes will be emancipatory is not necessarily true. Indeed, if institutions and relationships are tainted by structural properties, chances are that participatory processes,

12 Paper 2 further discusses the transferability of characteristics of the structure at the national-level to the regional or local level, where participation in natural resource management takes place. Still, we can briefly note that subnational authoritarianism studies usually focus on countries with relatively young democracies, which can be controlled for. Meanwhile the possibilities of local democracy in nondemocratic states are limited by repression at the national level and a dependency of the local elite on the national administration.
as spaces of interaction produced and/or allowed by the government, are impregnated with the same structural properties.

More tangibly, and as seen in the literature review, the political regime may be determinant for participation by assigning rights over collective organisation and political action, or by establishing limits to freedom of speech. If that is true, one can expect democracies to provide more equal outcomes as these rights are expected to be more evenly spread and thus allow a wider set of groups to partake in political action and defend their interests.

The transferability of the structure as determined by the distribution of political and civil rights to the local level does not imply that the local structure is solely defined by the democraticness of a state. The local idiosyncrasies of how power is distributed across actors at the local level may play a role in participation outcomes. For example, project donors can have leverage in defining participation (Béné et al. 2009), an illustration of how economic power at the local context may mark participation.

The political regime and the local power distribution would then tend to reproduce the inequalities in the structure. However, as mentioned, the structure can be changed through episodes or institutional changes, as suggested by Giddens. Episodes are “large-scale processes of change, in which there is some definite type of institutional reorganization” (Giddens 1984: xxix). Although Giddens conceives episodes as introducing changes of a societal scale, the concept is useful as well for analysing changes at a more micro-level, such as a fishery, but with sufficiently profound changes in the way that such a micro-society is organised to change its structure. The origins of such episodes, or why participation is introduced in a particular location, can be found in interactions with actors or societies external to the context where an episode occurs (ibid: 244-5). Nevertheless, this thesis is less concerned with how an episode comes to be than with whether participation constitutes such a change.

Episodes occur within a context that influences them (ibid: 251). In our localised approach, such context is constituted by the national and local structure and the forces of change that brought about participation. In that milieu, a new political arena can both be infused of the structure in the context and modify it. For that reason, studying the way power is distributed by the participatory process is equally relevant. The more such power distribution differs from that in the structure, one can argue, the higher the chances that participation constitutes an episode.

One way to approach the potential of a participatory process to bring change, then, is by looking at how much it distributes power horizontally. In an unequal structure, as it is assumed here we will find, creating an institution in which individuals have equal power would suppose an institutional change that would empower traditionally marginalised actors, breaking with the structure. This is a sine qua non of participation for Arnstein. For her, “citizen participation (...) is the redistribution of power that enables the have-not
citizens, presently excluded from the political and economic processes, to be deliberately included in the future (...) it is the means by which they can induce significant social reform which enables them to share in the benefits of the affluent society” (1969: 216). In that way, participation can redistribute the power and resources actors have, and modify the norms that have contributed to some being “have-not citizens”. One such norm, for instance, is their absence from or inclusion in the political process. Including them could enable participants to design or demand policies that distribute resources in a new way that benefit such citizens (see Fung 2015). This could also lead to changes in participants’ status, for instance by recognising their rightful standing in a political arena.

A classic example of how participation can modify the structure (and constitute an episode) comes from the literature on democratic innovations. Porto Alegre’s participatory budgeting included both better-off segments of society and people with low economic resources (Baiocchi 2003). The first did not dominate participation, which permitted redistributing resources to poorer areas of the city (ibid).

Table 1 summarises the main arguments for the impact of the structure on outcome distribution in natural resource management participation. The left side of the table specifies the three main dimensions of structure identified in the preceding discussion (political regime, local power, and power distribution within participation). The right side of the table summarises their expected impact on outcome equality.

<table>
<thead>
<tr>
<th>Political regime</th>
<th>Assuming that no political regime is perfectly equal, the political regime, as a stable feature of an unequal structure, will constrain equality in outcomes. The more unequal the regime (the less democratic), the less potential for equal outcomes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power distribution across actors in the local context</td>
<td>Assuming that no distribution of power at the local level is perfectly equal, the distribution of power across actors in the region where participation takes place, as a stable feature of an unequal structure, will constrain equality in outcomes. The more unequal the local structure, the less potential for equal outcomes.</td>
</tr>
<tr>
<td>Power distribution in participatory processes</td>
<td>As an institutional change, the distribution of power within participation may reproduce or break with the structure. Assuming an unequal structure, the more equal the power distribution in participation, the more participation constitutes a change, the more potential for equal outcomes.</td>
</tr>
</tbody>
</table>

### 4.3 Propositions and studies

With this theoretical framework in mind, it is possible to argue that a distribution of participation outcomes influenced by the structure will mirror the inequalities in that structure. By contrast, equal distributions of
participation outcomes show a success of participatory processes in mitigating structural inequalities. Following this, structural factors should play in favour of the status quo. Participatory processes escape this. As discussed, participatory processes can introduce changes in the structure as well as they can reproduce it. This will depend on how equally power is allocated within participation. This framework suggests several expectations for equality in the distribution of participation outcomes in natural resource management. These expectations are detailed in the propositions below. These propositions are not literally translated as hypotheses into the empirical papers, but constitute the guidelines for the empirical efforts in this thesis.

**Proposition 1.** The political regime impacts the potential for participation to produce equal outcomes in such a way that the more equal citizens are in the regime (the more democratic), the more participation will generate equal outcomes. The second paper of this thesis speaks to this proposition. Exploring who becomes a learner and who becomes a teacher in participation across democracies and nondemocracies, the paper studies whether the political regime impacts outcome equality by addressing status linked to knowledge.

**Proposition 2.** The power a stakeholder has in the local context, that is the position a stakeholder occupies in the local structure, will affect his or her share of outcomes. Therefore, the more equal the local structure, the more equal participation outcomes will be. The third paper of the dissertation studies whether the power of a stakeholder in the local context affects the material and immaterial benefits and costs he or she receives through participation.

**Proposition 3.** In an unequal structure, equal participatory processes constitute an episode, a break with inequalities in the structure. This will lead to equal outcomes. The fourth paper explores the idea that the more power is given for participants to partake in decision-making over natural resource management, the more spread out legitimacy for institutions managing such resources will be. As argued, this can be seen as a proxy for the distribution of satisfaction and aggravations with how such institutions manage the resources. Additionally, based on similarities and differences across three participatory processes, the third paper of the dissertation discusses the impact on outcome equality of equal inclusion in the directive bodies of participation and the role of actors counteracting the role of powerful stakeholders.

Paper 1 discusses the criteria that will determine whether or not an outcome and the process of participation are equal.
5. Study design: using multiple methods to explore the role of structures in participation outcomes

The previous sections problematised the way natural resource management scholarship has generally studied the potential of participation for producing equal outcomes. They also highlighted that research in outcome distribution is nowadays inconclusive. Although vulnerable groups can benefit from participatory processes, there is evidence of elite capture. Those imbalances can originate both from participants’ power differentials (including those determined by the political regime) and from characteristics of participation. Yet, the extent of those effects is unclear. To recall, this dissertation wants to contribute to dispel some of these uncertainties guided by the following research question:

To what extent, and under which circumstances, can participatory processes provide equal outcomes?

To approach this question, the preceding section described the role that the structure can play in shaping participation and its outcomes. The structure is assumed to be characterised by an unequal distribution of power. Further, it constrains participation’s capacity to transform such inequality. The structure is determined by the political regime and by the local power distribution across participants. The participatory arena also forms part of the structure, but it is a special case. Because participation is a product of and operates in an unequal structure, it has the potential for reproducing it in its process and outcomes. Nonetheless, by opening a new political arena to traditional outsiders of policy-making, participation can become a catalyst for transformation of the structure it is embedded in. This is dependent on the participatory process transferring power to those actors. Said differently, this is dependent on how equal the participatory process is. From this framework and from the concepts outlined previously, it is possible to distinguish some explanatory factors of outcome distribution. Those are summarised in Table 2, together with the types of outcome studied in the papers.
As said in the introduction of this text, the main goal of the dissertation is to assess the equality of participation outcomes. In the previous sections, outcomes were characterised according to whether they were material or immaterial and positive or negative. Positive outcomes are benefits and in their material dimension they can be equated to resources accessible to stakeholders thanks to the participatory process. Those can be natural resources or not, such as funds or tools for more efficient exploitation of natural resources. Immaterial benefits are representative of the status gained through participation, such as value of knowledge or validation of an actor as a political interlocutor. It can also be an increase on how legitimate a reserve is for a participant. Those outcomes are mirrored in the negative outcomes, which can be conceived as losses in status, in how legitimate the reserve is for a stakeholder, or in access to resources.

### 5.1 Studying Biosphere Reserves

Some of the most convenient settings for conducting this study are UNESCO’s biosphere reserves. Biosphere reserves are governmentally defined areas under UNESCO’s Man and the Biosphere program. They are characterised by their participatory management of the environment and its resources and by their focus on sustainable development. They are also recognised as learning sites (Schultz and Lundholm 2010, UNESCO 2008), where sustainable managerial approaches can be developed (UNESCO 1996).
Biosphere reserves present three advantages for this study. First, they approach ecosystem management from the point of view of sustainable development instead of purely conservationist strategies. Therefore, accessing natural resources is possible. Second, they emphasise learning processes. Thus, we can observe the distribution of status associated with knowledge provision. This allows expanding the concept of status, widening the possibilities to observe potential changes in it. Additionally, it allows a connection with a key debate within the natural resource management literature, contributing to the relevance of the study. Third, biosphere reserves have in common the search for sustainable development through participation. But how participation is organised varies. So does the political and social context where the reserves are found. Hence, biosphere reserves provide a pool of diverse cases where the impact on outcome equality of the political regime, the local power distribution, and participation can be studied.

Biosphere reserves stress sustainable development and learning processes. However, these characteristics do not preclude the results from applying to participatory natural resource management in places that are not biosphere reserves. If participatory management is applied, chances are that this is because someone is using those resources and thus a need to balance economic exploitation and ecosystem preservation is in place. As discussed, biosphere reserves’ emphasis on learning is not uncommon in natural resource management. Instead, it is often seen as a useful tool to manage complex systems such as those built by human-nature relations. The diversity of participatory arrangements, socio-economic and political contexts, and ecosystem and ecosystem uses that biosphere reserves encompass means that participation in biosphere reserves is not highly idiosyncratic either.

5.2 The GLEAN survey and case studies

This dissertation is part of the GLEAN project on stakeholder participation and learning in ecosystem management in biosphere reserves at the University of Stockholm and the Stockholm Resilience Centre. The project studies stakeholder participation in biosphere reserves’ management. Under the GLEAN, several data collection efforts were made. One of them was a global survey to reserve managers undertaken in 2008 and 2013. In 2008, the survey was sent to all biosphere reserves existing at the time (531 (Schultz et al. 2011)) and a net total of 143 responses were collected from 54 countries, 19 of which were nondemocracies. Figure 1 shows the location of surveyed reserves in 2008. The reserves that replied were then contacted in 2013, when 100 responses were collected. A net total of 92 reserves had answered both surveys. The 2008 survey was conducted with hard copies, distributed in the Third World Congress of Biosphere Reserves, and online.

13 The author of this text collaborated in the 2013 survey round.
38
(Schultz et al. 2011). It was distributed in French, Chinese, English and Spanish (ibid). In 2013 the survey was based on telephone interviews in the same languages plus Russian and Portuguese.

Figure 1. Distribution of biosphere reserves that responded to the 2008 GLEAN survey

Source: Map elaborated by Matthew David Plowey, from the GLEAN project team.

The survey included questions on learning processes, both on who shared knowledge during participation and on who learnt. Through the knowledge flows the data portrays, Paper 2 studies to what extent status outcomes were equal. By exploring the impact of the political regime on such knowledge flows, Paper 2 targets also the “under which circumstances” utterance in the dissertation’s research question. Discontinuity in the questions analysed meant that only the 2008 survey was used. The paper discusses the data’s limitations (especially the use of manager-based data).

Both survey waves (2008, 2013) provide data on the involvement of stakeholders in different tasks of the reserve (for instance, on decision-making or implementation) and on how supportive of the biosphere reserve different stakeholders were. Paper 4 analyses this data to study whether more empowered involvement of stakeholders led to more distributed legitimacy across actors. The survey data was complemented by interviews to stakeholders in ten biosphere reserves. These interviews were conducted within the GLEAN project using a standardised interview guideline. Questions on how interviewees evaluated the effectiveness of the biosphere reserve, outcomes and challenges of participation, what makes a participatory process successful, and rationale for participating were used. Each case covered at least two projects: one with a decision-making character, the other designed to implement a managerial activity. Successful and unsuccessful projects were included. The reserves studied can be found in Table 3.
Table 3. Biosphere reserves in the medium-n study and their country

<table>
<thead>
<tr>
<th>Biosphere reserve</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosque Mbaracuyú</td>
<td>Paraguay</td>
</tr>
<tr>
<td>Sumaco</td>
<td>Ecuador</td>
</tr>
<tr>
<td>Cape West Coast</td>
<td>South Africa</td>
</tr>
<tr>
<td>Kruger to Canyons</td>
<td>South Africa</td>
</tr>
<tr>
<td>Noosa</td>
<td>Australia</td>
</tr>
<tr>
<td>Mornington Peninsula and Western Port</td>
<td>Australia</td>
</tr>
<tr>
<td>Doñana</td>
<td>Spain</td>
</tr>
<tr>
<td>Isla de El Hierro</td>
<td>Spain</td>
</tr>
<tr>
<td>La Palma</td>
<td>Spain</td>
</tr>
<tr>
<td>Menorca</td>
<td>Spain</td>
</tr>
</tbody>
</table>

These 10 reserves were selected attending to diversity in environmental and socio-economic contexts, and in approaches to governance, and sustainable development strategies (West 2016). Interviews covered a wide range of stakeholders: resource users, scientists, NGOs, members of the public administration, and inhabitants. Among those, I conducted the interviews in Sumaco (10 interviews with cooperation and NGO workers, farmers, and members of the public administration). The interviews in Paraguay, Ecuador, and Spain were conducted in Spanish, while the interviews in South Africa and Australia were conducted in English.

Even though the interviews provided data on participation and on outcomes of participation, the GLEAN interview guideline was not tailored to collect data on stakeholders’ power, on participatory process equality, or on specific outcomes such as economic benefits or status. Therefore, additional interviews were conducted in Sumaco and in Huascarán Biosphere Reserve (Peru). Such interviews were developed using a different interview guideline (see Appendix 1) than the one employed in the GLEAN project and, in the case of Sumaco, different interviewees were contacted as well. These interviews are the basis for Paper 3, which is concerned with the impact of the local power distribution and process equality on participation outcomes.

To arrive at the selection of Sumaco and Huascarán, several characteristics of the reserves were observed, in addition to those for case selection in the GLEAN project. The reserves needed to have stakeholders with different socio-political and economic background; participatory processes that included these stakeholders; and something being distributed. Arguably, status may be more frequently at stake than material outcomes. Therefore, material outcomes determined the focus of this condition.

The first way to limit the options was geographical. Latin America is the region with highest inequality in the world (Torche 2014) and this was considered to provide three advantages. First, finding processes that would include people with different social, political and economic backgrounds became easier. Second, it increased the chances that differences in status and material resources would be bigger, making them more visible and therefore
easier to investigate. Third, this constituted a hard test for participation so that if inequality can be overcome there, it probably can be improved in more equal contexts.

In 2014, Latin America had over a hundred biosphere reserves. For guaranteeing the existence of stakeholders with the limited information available, only inhabited reserves were selected in the first phase. Additionally, only those reserves with indications of participation and some conflict of interest were preselected. Transnational reserves were discarded to prevent inter-country relationships from entering the study. Security concerns also limited the choice. This yielded a list of 31 reserves.

In a second step, the population and conflict criteria were refined. Reserves with a few thousand inhabitants were explored further, but preference was given to those with a population similar or superior to 10,000 inhabitants. This is an arbitrary number, but it further increased the possibilities to encounter multiple interests and stakeholders with different backgrounds. The focus was set on identifying reserves managing divisible resources (such as timber, land, or fishing quotas). Those were given preference to reserves managing nondivisible ones (such as infrastructure or mineral extraction). This would increase the chances of distribution across stakeholders. Although it can be argued that there is not such a thing as a nondivisible resource (for instance a road path can be designed to acquiesce more or less with different preferences and mining companies can provide compensations), there is a difference in terms of room of manoeuvre when dealing with infrastructural projects compared to more malleable quotas, land parcels, or seed distribution. Given the difficulties to obtain information on conflicts taking place in biosphere reserves, however, this refinement on conflict criteria was not considered when establishing initial contacts with reserves, but was relevant for final selection.

With these criteria in mind, I contacted nine reserves and asked for information on the reserve’s participation. Two of them, Yasuní and Oxapampa-Ashanika-Yanesha, did not reply. This may have introduced self-selection bias. It is not possible to say with confidence where the bias lies. In the case of Yasuní, nonetheless, Ecuador was at the time preparing to exploit oil in the reserve amid significant contention. Although it is difficult to say whether this was the reason for the nonresponse, it may have played a role. Two of the reserves contacted were in formation or new and not yet in UNESCOs database. These were dropped from the potential cases. Sumaco Biosphere Reserve in Ecuador and Huascarán Biosphere Reserve in Peru were selected. Both fulfilled the criteria above, and had important advantages. First, both reserves were accessible for field work. Second, they had long-standing participatory processes. Third, participation is structured differently in each case. Sumaco is organised around multiple roundtables that aimed at shared management over single thematic issues (Gómez 2011). Huascarán, instead, has a managerial committee that, despite being able to take some decisions, it
has mostly a supportive role for the public administration. This difference in participatory arrangements opens different possibilities for power sharing among participants. It thus speaks to the core assumption of this thesis that more radical redistributions of power in participation will lead to more equal outcomes.

Sumaco encompasses the Sumaco Napo-Galeras National Park and the surrounding communities. It is organised around roundtables that cover target areas of the reserve, such as tourism, timber, and agricultural production (for cocoa, coffee, guayusa, or naranjilla). For manageability, research focused on the cocoa and chocolate roundtable and the timber roundtable. They have the particularity of being the roundtables with the highest and the lowest participant satisfaction in the reserve according to a previous study (Torres et al. 2013). Both bring together private actors (such as cocoa producers and sawmills), NGOs and cooperation actors, and public actors. Access to natural resources was not called into question as much as the distribution of other types of resources like machinery in the case of the timber roundtable and cocoa plants in the case of the cocoa and chocolate roundtable.

Huascarán invites the population living around Huascarán National Park to participate in a managerial committee. In the committee, participants deal mainly with the management of pasture and tourism. Peasants have been involved in the exploitation of the first for generations. However, over pasture has had a destructive impact (SERNANP 2011). In tourism, peasants are involved as porters, cooks, and mule drivers. Adventure guides and official guides (guides holding a generic title for tourism guidance) are key actors, but different access rights to the park has made relationships between them and park employees tense.

Although efforts were made to select biosphere reserves for the case studies included in the GLEAN survey, difficulties in obtaining information related to the selection criteria constituted important limits. Therefore, biosphere reserves were instead selected from the whole pull of reserves and maximising fit to the needs of the study that was to make use of the case studies. Although Sumaco did answer the GLEAN survey, Huascarán did not. Selecting the reserves among survey respondents would have permitted their being located among the results in the large-n studies (Paper 2 and Paper 4) and characterise them in relation to typicality among biosphere reserves. Despite this, the selection outside the survey does not affect the studies presented here and it had advantages. As said, it unlocked biosphere reserves that had a better fit for the study than some in the survey. That was especially important after the

15 Data for one roundtable was missing from the study.
pool of reserves became more limited with the second survey round. Additionally, if there was a self-selection bias among reserves in the survey, that score was set to zero for the case studies (that does not imply that there is no self-selection bias danger with the cases presented, only that it does not overlap with that of the survey). Finally, although the studies share a thematic concern for outcome equality, they tackle different aspects of the structure so that systematic comparisons across papers are not easy to undertake. In that sense, even if all cases would have been selected from the survey, a nested analysis would have been difficult to design and to take full advantage of.

Within both reserves, the main criteria for selecting interviewees was to achieve a diverse sample of stakeholder types. The criteria are detailed in Paper 3. In Sumaco and Huascarán, I conducted 57 interviews, 26 in Sumaco and 31 in Huascarán. All the interviews were conducted in Spanish.

5.3 Methods: conceptualising equality and studying equality through large-, medium-, and small-n analyses

Each paper has a specific goal and different methods are used to accommodate them. Thus, the empirical papers are independent from each other despite being complementary for answering the research question of this thesis. As mentioned in the previous section, no attempt at nested analysis was undertaken.

The first goal was to devise a framework that could be used to evaluate equality (Paper 1). For that, it was necessary to establish how equality could be understood in natural resource management participation in the first place, both for participation outcomes and processes. Then, it was necessary to consider how equality could be observed in practice. The aim was not to provide, using Gerring’s terminology (2001: 69), a general but a contextual definition of equality, tailored to be used in natural resource management research. One strategy Gerring suggests is to depart from ideal definitions of a concept, or definitions that describe a concept in its “purest” (ibid: 80) form, and then contextualise them (ibid: 80, 85). The other strategy is to provide a minimal definition of equality “that would apply to all usages of a term within a specified language region” (ibid: 78). Given the multitude of definitions of equality, this last option is a daunting task. An ideal definition that encapsulates a theoretical perspective is more limited, but allows for a more meaningful analysis and was thus preferred.

I faced the task of specifying how equality was to be conceived in the context of natural resource management by striving for resonance within the natural resource management field, that is, attempting to approach equality in a manner that would be familiar (see ibid: 52) to those involved in studying natural resource management participation. I then described the concept of equality by combining different but compatible approaches to equality and
justice in participation and theories of justice that would abide by the resonance conditioning. The second task, operationalisation, meant searching for identifiable attributes in the real world (ibid: 43-8). Observable elements of equality in participation were searched for and questions were posed that could help bring the abstract idea of equality into more concrete terms.

The large-n approach for studying the impact on outcome distribution of the political regime (Paper 2) and of the distribution of power in participation (Paper 4) fits the probabilistic perspective (Mahoney and Goertz 2006) taken in propositions 1 and 3 above, that the more equal citizens are treated by the political regime or participation, the more equal the outcomes. The large-n approach contributes to the generalisability of the results but, especially in Paper 2, this method does not allow the empirical exploration of the mechanisms through which the political regime affects knowledge flows.

The highly contextual data required for studying the impact of the local structure on participation outcomes required intensive data collection and forced a small-n study for Paper 3. On the one hand, Paper 3 has a descriptive character. It gives an account of how patterns of power outside participation overlap (or not) with outcome distribution and how that outcome distribution compares to a previously determined ideal. Case studies are appropriate for these tasks (Gerring 2004, Yin 2014: 143). Gerring argues that “[w]hen one is examining correlative relationships (…) the case study format seems less problematic and is often highly informative” (2004: 347). This is even more the case when the existing data, which in this case would be the cases studied by other scholars, are difficult to systematise (Gerring 2007: 58). This difficulty arises here from the fuzzy characterisation of equality that predominates in the field. On the other hand, Paper 3 approaches the discussion of participatory process equality by comparing processes in Sumaco with that in Huascarán. As discussed in the paper, both reserves had similar processes regarding their equality level, except that Huascarán has a more equal executive body — as it includes all types of stakeholders — while resource users are absent from sub-organs of participation in Sumaco (a technical commission in the cocoa and chocolate roundtable and a promoting group in the timber roundtable). This set the basis for a cross-case comparison to understand the relationship between equality in the directive bodies of participation and outcome equality under the logic of Mill’s method of agreement (Mahoney 2000). The same applies for the presence of actors mitigating differences in power across stakeholders, present in one of the roundtables of Sumaco but absent from the other roundtable and from Huascarán.

The medium-n analysis of Paper 4 is an exploratory analysis of the reasons why different types of participation may be connected to different outcomes in terms of legitimacy. Qualitatively exploring the experiences participants had is a convenient strategy for identifying possible factors at play (Gerring 2004).
The surveys and interviews span over a relatively long period of time. The first survey wave was done in 2008 and the second in 2013. In Paper 4, this allows for estimation of the effect of increments in participation. This gap leaves room for a structural event taking place between those years that could interfere in the analysis, for example, if there would have been a change in how UNESCO structures participation in biosphere reserves. As I will explain in the next section, such truncation did indeed occur as biosphere reserves became more participatory, but in 1995. Since then, UNESCO has continued in the same strategic line. The same applies to the GLEAN interviews, which took place between 2012 and 2015 or the interviews in Sumaco and Huascarán, done between June and August of 2015. No comparability difficulties were identified, thus, because of time. Nonetheless, as discussed in Paper 3, interviewees in the timber roundtable spoke from memory as no meetings had taken place in the year previous to the study. However, if there was an effect it was homogeneous, thus not affecting comparisons across stakeholders. In Huascarán, some participants had been involved in the past, but no differences in their responses attributable to time lapse was identified.

The study relies exclusively on survey and interview data. This is an efficient way to collect data about very different participatory processes. An alternative could be the use of meeting minutes or documents generated through participation. But the recording procedures across participatory bodies and how open they are for external access may vary. Moreover, not all outcomes may be traceable in official documents. The clearest example is changes in status. Nonetheless, surveys and interviews are subject to potential biases of informants. The survey is directed to managers who may have an incentive to portray their biosphere reserves as, for instance, active participatory sites. The survey was anonymous, and in the studies the responses showed no particular bias. In Paper 4, survey data was also complemented with interviews. In both Paper 4 and Paper 3, a wide range of stakeholders were included so that, although all are subject to their own biases, the account of each interviewee is set in the context of others’ descriptions.

Finally, the use of survey and interview material means that the data is based on actor perceptions rather than hard data. However, this should not be interpreted as the results being based on whether the interviewees perceived outcomes were close to an equal distribution or not. Instead, in Paper 3, interviewees provided information about their experience of the participatory process, and their information was reconstructed to understand how far outcome equality was achieved using external definitions of equality. For instance, interviewees were asked what benefits they had obtained. I then coded those benefits (as well as benefits identified elsewhere in the interviews) and compared their distribution across actors with an externally defined ideal of equality. In Paper 4, specific segments of the interviews were scanned for evaluations of participation at different empowerment levels rather than interviewees being asked what they thought of participating in...
information exchanges or decision-making. In that sense, interviewees are approached as informants rather than as constructors of the meaning of outcome equality and participation. As explained in the conclusions, this is not because their perceptions are thought to be irrelevant or not valuable, but rather this approach is taken as a research strategy to discuss outcome equality with a unified and specified concept of equality that is not subject to power relations.

In the medium-n and small-n analyses, the interview material was coded using thematic analysis techniques, using NVIVO 11 Pro and MS Word. In Paper 4, the coding searched for specific elements in the data (for example, types of participation) but also derived in great measure from the data (for example, to identify themes in positive evaluations of information-based participation). In Paper 3, codes were mainly derived from theory (based on Paper 1), although part of the coding was done departing from the data. Moreover, in both papers, the coding rules were developed while the coding proceeded, even though in Paper 3 the basic coding rules were derived from the theoretical framework in Paper 1. Although the detailed description of coding is given in each paper and their appendices, the gist of thematic analysis is to identify patterns (that is themes) across qualitative data sets (Braun and Clarke 2006). Thematic analysis can be very diverse (ibid). In this thesis, it is used to find patterns by coding interview fragments according to the evaluations they give of participation forms (Paper 4) or to the characteristics of participation and to its outcomes (Paper 3). Patterns of similarities and differences in themes and their content are then searched for across stakeholders to understand how they evaluate participation (Paper 4) or whether powerful actors get more benefits than less powerful ones (Paper 3). The content of interviews is coded at face value: the information given by each interviewee is coded according to what its content refers to.

The large-n, medium-n, and small-n analyses are deployed to look at the structure from three different angles: the political regime, actors’ local power, and the participatory process. This mix of methods is useful for what Greene et al. (1989) called extension. Extension means increasing the span of the study through the use of multiple methods. Different methods are used to observe different aspects in each study, in this case, different elements of the structure. Table 4 summarises the structural element each study is concerned with, the data each uses, and how each study approximates the analysis.
Lieberman (2005) argues that one advantage of large-n is testing for alternative explanations. Given the complexity of power analysis at the local level, disentangling the impact of the political regime from local power would have been difficult. The large-n approach facilitates this task. It also gives wider generalisability.

The small-n allows for the observation of the complex web of power at the local level. Moreover, small-n analysis, Lieberman argues, facilitates “the quality of measurement instruments” (ibid: 436). Indeed, the amount of data required to apply the framework developed in Paper 1 would have turned the large-n approach unmanageable. Moreover, the diversity of perspectives captured through the small-n (and medium-n) analysis would have been difficult to obtain. The use of methods on a need basis is accepted and advocated by mixed methods scholars (Greene 2008, Johnson and Onwuegbuzie 2004).

I mentioned earlier that no attempt at nested analysis was made. This entails the limitation that, although the papers speak to each other through the concept “structure” and through their observation of outcome equality, they do not build on one another. The large-n results on the impact of the political regime on learning are not deepened in the following papers. The results of Paper 3 do not benefit from the survey. Paper 4 does not build upon Paper 2 or Paper 3, but it is an exception in itself, for it is designed as a mixed methods study that combines the survey data, based on managers’ perceptions, with interview data from stakeholders. It also combines the numeric impact of participation empowerment on legitimacy with an exploration of possible causes for such impact through narrative evaluations of participation. Nonetheless, in the thesis as a whole, the use of multiple methods primarily as an extension device has meant that it is not designed to achieve triangulation in the sense of combining multiple methods to search for congruence in results (Jick 1979). We can nonetheless speak about triangulation through the use of multiple methods at an abstract level: in all cases we are looking at the relevance of the structure for outcome equality.

### Table 4. Methods used in each empirical paper

<table>
<thead>
<tr>
<th>Study</th>
<th>Explanatory factor</th>
<th>Data sources</th>
<th>Type of analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 2</td>
<td>Political regime</td>
<td>Survey data from 2008</td>
<td>Quantitative analysis</td>
</tr>
<tr>
<td>Paper 3</td>
<td>Actor’s power at the local context</td>
<td>Interview data from Sumaco and Huascarán, 2015</td>
<td>Qualitative analysis using thematic analysis</td>
</tr>
<tr>
<td>Paper 4</td>
<td>Participation equality</td>
<td>Survey data from 2008 and 2013</td>
<td>Quantitative analysis and Qualitative analysis using thematic analysis</td>
</tr>
<tr>
<td>Paper 4</td>
<td>Participation equality</td>
<td>Interview data from 10 biosphere reserves</td>
<td>Qualitative analysis using thematic analysis</td>
</tr>
</tbody>
</table>

I mentioned earlier that no attempt at nested analysis was made. This entails the limitation that, although the papers speak to each other through the concept “structure” and through their observation of outcome equality, they do not build on one another. The large-n results on the impact of the political regime on learning are not deepened in the following papers. The results of Paper 3 do not benefit from the survey. Paper 4 does not build upon Paper 2 or Paper 3, but it is an exception in itself, for it is designed as a mixed methods study that combines the survey data, based on managers’ perceptions, with interview data from stakeholders. It also combines the numeric impact of participation empowerment on legitimacy with an exploration of possible causes for such impact through narrative evaluations of participation. Nonetheless, in the thesis as a whole, the use of multiple methods primarily as an extension device has meant that it is not designed to achieve triangulation in the sense of combining multiple methods to search for congruence in results (Jick 1979). We can nonetheless speak about triangulation through the use of multiple methods at an abstract level: in all cases we are looking at the relevance of the structure for outcome equality.
Triangulation can refer not only to the use of multiple methods, but also to “data collected at different places, sources, times, levels of analysis, or perspectives” (King et al. 2010: 109). The interview sampling design, with its emphasis on diversity, strives for this type of source-based triangulation.

Finally, the research design in this dissertation has limitations. The generalisability of Paper 3 is limited. Ecuador and Peru are highly unequal. This sets a hard test for participation’s capacity to produce equal outcomes. If it fails, though, we cannot rule out that more equal societies will experience more equal outcomes. Nevertheless, power inequalities are not absent in more equal societies and if difficulties are found in Sumaco and Huascarán to overcome inequalities, these may also apply to more equal contexts. We have, moreover, no reason to expect either case to be highly different from other participation processes that started in natural resource management.

These arguments apply as well for generalisability of the results to democratic innovations outside the natural resource management realm. Although learning processes might be less emphasised in democratic innovations, this does not mean that knowledge exchanges are absent. For example, one of the advantages democratic innovations are thought to have is enhancing policy effectiveness by pulling citizen knowledge and perspectives into the policy-making arena (Fung 2006). Indeed, Fischer (2012, 2006) has raised the need for higher attention to the role that knowledge from different actors has in participation.

The impact of the political regime was only evaluated for immaterial outcomes (status as defined by knowledge flows). It is possible that the political regime impacts material and immaterial outcomes differently and that similitudes or differences in learning identified across regimes do not apply to all outcomes. This generalisability limitation, nonetheless, does not render results uninformative.

Finally, this dissertation adopts a specific definition of equality set by the researcher. Three limitations arise from this. The first one relates to its level of resonance in the ground. The definition was constructed to capture values identified in the natural resource management literature, but it is not clear how it resonates among stakeholders and practitioners (or among which stakeholders and practitioners). The advantage is that if participants and practitioners were to make use of the studies, they would know which values are being assessed and could then judge the results accordingly, something, as discussed, that currently the literature does not often allow. This leads us to the second limitation, which is that by adopting one definition of equality, others were left out. The third limitation has to do with the specific content of the definition and particularly with its concern with justice among human entities. The studies here do not include nature as a recipient of justice, but this does not need to be the case (see Schlosberg 2007).
6. What are biosphere reserves and how do they practice participation?

This section describes what a biosphere reserve is and how does it look like in practice. The aim is to give a context to the studies in this dissertation. I describe the development of the concept of the biosphere reserve, with especial focus on its participation aspects. Using the GLEAN survey and examples of biosphere reserves, I also explain the main traits of biosphere reserves, including their context and how stakeholders are involved in them.

6.1 The concept of biosphere reserve

According to UNESCO, “[b]iosphere reserves are areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO’s programme on Man and the Biosphere (MAB)” (UNESCO 1996: 16), proposed by national governments (ibid: 4, 16). The designation is based on the candidate’s ecosystem representativeness, its relevance to preserve biodiversity and potential to test sustainable development strategies, its capacity to fulfil the biosphere reserve functions, and its proposed organisation system, which should allow “the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests” (ibid: 17 italics in the original, see ibid:16-7 for the selection criteria). The biosphere reserve functions are three: biodiversity conservation, sustainable development, and support for research and environmental education (ibid: 4, 16).

The biosphere reserve concept was generated in 1974 by a Task Force of UNESCO’s MAB Program to promote the reconciliation of biodiversity conservation, socio-economic development, and the preservation of cultural values attached to each ecosystem (ibid: 3). The emphasis lay originally in conservation and research, but during the 1980s and especially in 1995’s Seville Strategy, the developmental dimension became a solid pillar of biosphere reserves (Ishwaran et al. 2008).

The Man and the Biosphere programme has linked biosphere reserves with wider international efforts for sustainable development. In the Seville Strategy, for example, it positioned biosphere reserves as a relevant tool for accomplishing the goals of the Convention on Biological Diversity that took place in Rio de Janeiro in 1992: biodiversity conservation, sustainable development, and fair distribution of benefits arising from the use of genetic resources (UNESCO 1996: 3). Later, in the 2008 Madrid Action Plan for Biosphere Reserves, it aligned biosphere reserves with the Millennium Development Goals through, for example, the emphasis on sustainable development designed together with society (UNESCO 2008: 4). Both instruments served to further root the human in biosphere reserves.

Crucial in the Seville Strategy, in the context of this thesis, is the statement that reserves should be managed “in a partnership” (UNESCO 1996: 6) with...
all stakeholders. Therefore, participation in the management of reserves became essential, as did the recognition of the interests of local resource users. Justice was also part of the picture. Several guidelines of action from the Seville Strategy illustrate these elements, such as:

- “Survey the interests of the various stakeholders and fully involve them in planning and decision-making regarding the management and use of the reserve.” (ibid: 8)
- “Ensure that the benefits derived from the use of natural resources are equitably shared with the stakeholders” (ibid: 8)
- “Encourage training programmes for local communities and other local agents (...) in order to allow their full participation in the planning, management and monitoring processes of biosphere reserves.” (ibid: 10)

The Madrid Action Plan of 2008 further developed the participative character of biosphere reserves, which is again present in the Lima Action Plan of 2015 (UNESCO 2016).

Finally, biosphere reserves have been termed as learning sites or laboratories in reference to their goal of experimenting and developing managerial approaches reconciling development and biodiversity preservation (Ishwaran et al. 2008, Schultz and Lundholm 2010). Such experiments should also have a participative character (see, e.g., UNESCO 2008: 5, 20, 22) since it is the mix of different types of knowledge that is thought to build stronger and more resilient approaches to sustainable management (see, e.g., ibid: 20).

UNESCO’s biosphere reserves are nowadays spread worldwide, especially since the renewed emphasis on development attracted states in the South (Ishwaran et al. 2008).

6.2 Participation in biosphere reserves: context, actors, and practice

Characterising the context and structure of biosphere reserves is an elusive task. Not only are reserves extremely different from one another (Price 1996), but so are their contexts (Batisse 1997) and governance structures (Schultz et al. 2011). Therefore, I do not aspire in this section to offer a homogeneous description of biosphere reserves. Rather, I want to give the reader some general indications of how biosphere reserves and their relationships with their immediate context can look like. I provide qualitative examples from reserves included in the GLEAN survey or in the case studies, as well as data from the GLEAN survey.16

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16 The survey data informs about different stakeholder types. These are: the reserve’s coordinating team (this organ is considered a stakeholder in the 2008 survey, but not in the 2013 one), scientists, non-profit organisations and volunteers (abbreviated in the text as nonprofits),...
UNESCO’s biosphere reserves are located in very diverse contexts (Batisse 1997). First, biosphere reserves can have very different population levels. For example, among the reserves in the 2008 GLEAN survey, Prioksko-Terrasnyi (Russia) had 1,500 inhabitants while Kruger to Canyons (South Africa) had more than 1.5 million.\footnote{UNESCO. n.d. UNESCO-MAB Biosphere Reserve Directory. Available online at http://www.unesco.org/mabdb/br/brdir/directory/database.asp, last accessed 23 November 2017. Data on population from 1997 for Prioksko-Terrasnyi, on 1996 in Kruger to Canyons. Although the data is old, it serves the illustrative purpose of this section as they are comparable in terms of their date.}

Second, the social tensions biosphere reserves have to deal with can also vary enormously. For instance, poaching in the core of Bosque Mbaracayú (Paraguay) has led to judicial sentences for locals and to confrontation with armed guards (Elgert 2014). In Huascarán, the peasant community Catac has long contested the limits of the park as an infringement on their land, even in courts (Rasmussen 2018).\footnote{See also author field notes 11 August 2015.} In contrast, in La Palma (Spain), disagreements arose, but of a very different nature as the reserve and the public administration disagreed, for example, over the implementation of a reserve hallmark.\footnote{La Palma, participant 1. 2012. Personal interview conducted by Laia d’Armengol i Catà.}

Third, UNESCO’s demands for the governance structure are brief: reserves ought to have participatory mechanisms. How this has played out in practice, again, defies a streamlined description. A way to envision biosphere reserves is as loose institutions of regional governance. Edge and McAllister argue that “they promote regionalised decision making (…) and serve as models for multi-jurisdictional management” (2009: 284). Biosphere reserves’ regional character derives from their tendency to cover multiple territorial units, despite reserves varying in size. They can stretch across multiple provinces, as is the case of Sumaco — located in the provinces of Orellana, Napo, and Sucumbíos — and often they cover multiple municipalities. These overlaps mean reserves must articulate with and observe the regulations of regional and local governments (see, e.g., Schlip and Stoll-Kleeman 2010). Moreover, usually the core of a biosphere reserve is protected by a national designation such as a nature reserve, national park, or another type of designation (Bridgewater et al. 1996). Mount Carmel’s (Israel) core areas, for instance, are nature reserves.\footnote{UNESCO. 2012. Mount Carmel | United Nations Educational, Scientific and Cultural Organization. Available online at http://www.unesco.org/new/en/natural-} Menorca (Spain) has a natural park and a marine reserve,
among other designations. This means that national governments are often present as well, at the very least through this institution.

I also called biosphere reserves “loose” governance institutions because they do not have the authority to demand that the concept of the biosphere reserve is integrated in actors’ working flows. I believe Edge and McAllister’s description of biosphere reserves as promoting regional decision-making goes in a similar direction. Biosphere reserves do not have an authority that can enforce the reserve’s planning over all its territory (Ishwaran et al. 2008) and buffer and transition zones are often not regulated by law (ibid). Moreover, the integration of biosphere reserves in state planning has been proposed, but found to hardly be implemented in practice (Jaeger 2005 for Latin America and the Caribbean). Therefore, the room of manoeuvre for stakeholders to act in an atomised manner is wide. Despite this, reserves can promote change across all these governmental levels. Take, for instance, the case of Sumaco. Thanks to the experience of timber management in Sumaco, the national government of Ecuador now provides free technicians for bureaucratic procedures to legalise timber exploitation.

The existence of a biosphere reserve thus does not imply per se a transfer of powers from the administration towards this new institution. The regulatory competences of the administration could be re-organised as a territory becomes the core of a reserve and nothing precludes a transfer of powers, but public administrations of all territorial levels will likely retain a key role thanks to their regulatory capacity over the biosphere reserve’s territory. In fact, governmental institutions can act as managers of biosphere reserves. For example, Isla de El Hierro (Spain) is managed by a regional government.

The importance of the administration can also be seen in the reserves’ funding. The GLEAN survey shows that biosphere reserves are financially assisted by a low number of stakeholders. In 2008, reserves had an average of 2.27 funders and fundraisers, which barely increased to 2.38 in 2013 (n = 92 for both years). This suggests that reserves are economically dependent on a handful of actors and state actors seem to be the most relevant ones: the most common source of income and the biggest fundraiser is the national administration (selected by 48.91% of reserves in 2008, and 69.57% in 2013),
also important is the environmental local administration (36.96% in 2008, 40.22% in 2013). Nonetheless, the support of nonprofits is also substantial, especially in 2013 (33.70% in 2008, 46.74% in 2013).

Indeed, NGOs and cooperation agencies, both national and international, play a significant role in reserves. As we have seen, nonprofits can be important donors. They can also manage the reserve, and even own its core. Take, for example, Bosque Mbaracayú. The nonprofit Fundación Moisés Bertoni is the owner of the core and the manager of the reserve (Elgert 2014). Noosa (Australia) is also managed by a nonprofit organisation, the Noosa Biosphere Limited (Hardardottir 2014). In Sumaco, an international cooperation agency proposed the participatory structure and facilitated meetings. Other actors have a less fundamental role. For instance, Rainforest Alliance in Sumaco provides assistance to naranjilla farmers but despite being an important player their role is not as constitutive of the reserve or its participatory design as the examples above.

Another prominent group are scientists. Biosphere reserves were born with a focus on research and conservation (Price 1996) and, as we saw in the previous sub-section, research and monitoring are still key tasks. Where reserves have not transitioned into the Seville strategy and conservation is still the focus of action, scientists have a leading role (Schultz et al. 2011). In contrast, in Huascarán some found that research institutions were not involved enough.  

Local communities and resource users cover different actors with different histories and needs across reserves. For example, Bosque Mbaracayú, Sumaco, and Huascarán have representatives of indigenous groups involved. In Bosque Mbaracayú, Aché communities must partake, by law, in the management of its core. In Sumaco, groups of Kichwa and Waorani cocoa producers are or have been part of the roundtable on cocoa. Some of these groups were organised in cooperatives, others represent communities as a whole. In Huascarán, Quechua communities are present through peasant communities. We saw that Catac claims land that is part of Huascarán’s core (Rasmussen 2018). But we should not assume all groups have claims over the land in the core area, as some communities had found ways to collaborate with the park that constitutes Huascarán’s core. Other participants that are part of local communities or resource users are farmer unions and cooperatives (not belonging to indigenous groups), entrepreneurs, citizens and citizen organisations, companies, or students.

24 See also field notes by GLEAN team member Juárez, A. n.d.
25 For instance, Huascarán, Participant-49. 2015. Personal interview conducted by the author.
26 Field notes by GLEAN team member Juárez, A. n.d.
27 See also author field notes 11 August 2015.
Finally, UNESCO is also intertwined with reserves. It gives guidelines to biosphere reserves, as we saw in the previous sub-section. States are encouraged to form national MAB committees that are to act as communication vehicles between national states and UNESCO.²⁸ Biosphere reserves can also apply to national committees for small quantities of money to develop projects and activities,²⁹ but UNESCO does not fund reserves per se (Jaeger 2005). These national committees do not always have a dynamic role (e.g., Schliep and Stoll-Kleeman 2010) and, in Latin America and the Caribbean, they are perceived as opaque, with unclear role, and missing biosphere reserve representatives (Jaeger 2005). Finally, since 1995 UNESCO has been aiming to evaluate how reserves fulfil their mandate and it can withdraw its denomination (Batisse 1997). In practice, however, this is “the last resort” (ibid: 32).

As I mentioned earlier, how these actors are articulated depends on each biosphere reserve, and the governance structures vary. As we saw, for instance, Sumaco is organised around roundtables while Huascarán is organised around a managerial committee. I want to use these two reserves to illustrate not only the diversity of arrangements, but also how the plethora of actors mentioned above can come together.³⁰

Sumaco's organisation is atomised. It has roundtables on different aspects of the reserve and no coordinating organism. Thus, the reserve is not acting as a single entity, but rather as a multi-headed institution. I will use the timber roundtable for the illustrative purposes in this section.

The timber roundtable is concerned with the management of timber extraction in Sumaco. It brings together multiple types of actors, like administrations at the national, regional, and local levels, cooperation agencies, businessmen, or forest users. The national administration is in charge of the Sumaco Napo-Galeras National Park. It also regulates timber exploitation. In practice, this means that it is the main holder of power in the field.

Subnational administrations, like provinces or parishes, have environmental competences.³¹ However, the provincial administration, for

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²⁹ Ibid.

³⁰ The descriptions draw from interviews conducted by the author in Sumaco and Huascaran, 2015. The interviews are described in Paper 3. Annex 2 of that paper includes a list of interviewees.

instance, was a newcomer to forestry and unprepared. In fact, in 2015, the strongest public actor working in forestry was the national administration. Nonetheless, subnational public administrations have as well an important role as consumers of timber for construction. Some informants reported that the public administration did not always buy legal timber and the timber roundtable had not managed to overcome this. Recall, biosphere reserves do not have authority over actors.

An international cooperation agency had designed and facilitated the participatory meetings of the roundtable. It also advised the national administration. Hence, it had a pivotal role in management and it was not left unused. Indeed, this agency has been an effective mediator between the interests of users and of the administration. It has also supported users coping with new policies that may have been hard to implement.

Finally, timber exploiters are of two kinds: those who buy and sell the timber and those who cut the trees down. The first kind are businessmen (of diverse economic power) some of which have been involved in the roundtable, most of which have not. They feel defenceless in front of the national administration. The second group were sporadic exploiters of timber, cutting trees when in need of extra income. They are generally not organised and their participation has been complicated. Nonetheless, efforts were set to generate groups of forestry users and some of these groups were involved in participation.

The regulatory power of the national administration and the lack of legal status for the roundtable has meant that the roundtable has often been used for diffusing new legislation and programmes of the national administration. However, important changes in legislation occurred. The work of the facilitator in smoothing relationships is not to be disdained here. Nonetheless, meetings do not lead to decisions of compulsory implementation. Rather, the roundtable was often seen as a dialogue or coordination exercise to establish agreements that then each actor would be responsible for implementing. Some agreements were fulfilled, others were not. The roundtable cuts across three levels of public administration and brings together members of the civil society, local and international. But it does not tie them to collectively enacted regulations. It gives them a space for discussion.

In Huascarán, Peruvian law establishes that natural protected areas must have a managerial committee.\(^{32}\) The committee of Huascarán’s park acts as well as the committee of the biosphere reserve. It is hosted by the park (the authority belongs to the national administration), who is also the secretary of the executive commission. Managerial plans and plans for touristic use of the park have been discussed within the committee with tourist worker

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associations, peasant communities, committees of pasture users and other civil society organisations (see also, e.g., SERNANP 2011). However, the park holds managerial power within its borders. One source of dispute is tourism. The administration collects important amounts of fees from tourists entering the park (see also ibid) and some actors (e.g., municipalities, peasant communities) living at the park borders have felt excluded from the benefits. Some have enacted deals with the park to use the park for touristic activity, but such decisions are made on a bilateral basis, although the committee has proven relevant to diffusing relevant information for those to occur. Additionally, some tourist guides felt discriminated against by the park and the committee. They have demanded that the regional authority for tourism intervenes as the regulator of touristic activities, but the administration has refused to interfere in the park’s turf.

If the national administration holds contested yet strong competences over the reserve's core, this situation changes in the buffer and transition zones. The 2010-2015 managerial plan describes how in the buffer zone the “superposition of competences with local governments and other public and private sectors” and conflicts in the area “make difficult realising with effectiveness the functions of opinion, supervision and monitoring” (SERNANP 2011: 162, translation from Spanish by the author). This quote illustrates the softer functions of the park in the buffer area and how relationships with other actors’ competences become complicated. Still, projects within the park and its buffer zone, like building roads, need to hold a favourable opinion from the administration of protected areas (SERNANP 2016: 56-60). Nonetheless, there is concern about potential increases in pressure from tourism due to emphasis on touristic activity by local governments without planning for sustainability (SERNANP 2011). The lack of coordination is another problem for the park (ibid). With this scenario, an integrated management with a biosphere reserve approach is difficult.

The looseness of the governance building capacity of biosphere reserves is represented in Sumaco, for instance, by the difficulties of translating discussions into enforceable action. In Huascarán it is illustrated, arguably, by a collision of competences within and outside the core. On a more positive note, these two reserves exemplify as well that biosphere reserves can bring together actors of multiple sectors of the social and political fabric. Yet, not all stakeholders play the same role. In addition to these examples, this can be seen in two figures elaborated using GLEAN survey data.

Figure 2 presents data on the participation in biosphere reserves. It depicts the frequency with which each stakeholder type is found in different participatory bodies and activities within biosphere reserves (n = 92 in both years). The participatory bodies include the coordinating team and the steering committee. The participatory activities covered in the survey are: setting the goals of the reserve, designing projects, implementing projects, day-to-day management of the reserve, and monitoring activities.
Figure 2. Percentage of stakeholders involved in multiple bodies and tasks of biosphere reserves for 2008 (A) and 2013 (B)
Overall, decision-making bodies and actions (coordinating team, steering committee, setting goals, and designing projects) seem to be the most inclusive ones, compared to implementation (implementing projects, daily management, and monitoring). What is remarkable is the high involvement of scientists in all spheres but daily management. This contrasts with the lower integration of resource users and inhabitants. Nonetheless, the graphs show a tendency for them to be increasingly present in the biosphere reserve. Additionally, the high involvement of users, the environmental administration, scientists, and nonprofits in implementation stands out in comparison with the involvement of the national administration, higher in decision-making. The closeness to the territory may explain the former while needs to comply with national policies may explain the latter.

Figure 3 portrays the influence and importance of several stakeholder types for decision-making and implementation activities within biosphere reserves (only 2013, n = 79-91) as rated by managers, from 1 (not influential) to 10 (highly influential). The question covered the same activities as before: setting goals, designing projects, implementing projects, day-to-day management, and monitoring ecosystem changes.

The graphs show a more balanced influence in implementing projects and in day-to-day management than in setting goals, designing projects, and monitoring. In these three types of activities, locals have a comparatively lower influence than other actors. Especially scientists and the national administration appear to be more influential, followed by nonprofits and the environmental administration. Lastly, although resource users are, arguably, the most directly impacted by activities of the reserves, they are similarly influential to inhabitants. This is surprising given the stakeholder approach that the natural resource management literature takes.
Figure 3. Average influence and importance of stakeholders on decision-making (A-B) and implementation (C-E) activities in biosphere reserves for 2013

This pattern of influence is also reflected in managers’ perception of which stakeholders support the goals and processes of their reserve, as can be seen in Table 5.
Table 5. Percentage of stakeholders perceived by managers as supportive for biosphere reserve goals and processes for 2008 and 2013

<table>
<thead>
<tr>
<th></th>
<th>Scientists</th>
<th>Nonprofits</th>
<th>Resource users</th>
<th>Inhabitants</th>
<th>Environmental adm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>80.43</td>
<td>75.00</td>
<td>46.74</td>
<td>48.91</td>
<td>64.13</td>
</tr>
<tr>
<td>2013</td>
<td>94.57</td>
<td>91.30</td>
<td>56.52</td>
<td>58.70</td>
<td>72.83</td>
</tr>
<tr>
<td>Local adm</td>
<td>44.57</td>
<td>52.17</td>
<td>41.30</td>
<td>38.04</td>
<td>92</td>
</tr>
<tr>
<td>National adm</td>
<td>40.22</td>
<td>65.22</td>
<td>34.78</td>
<td>55.43</td>
<td>92</td>
</tr>
<tr>
<td>Politicians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNESCO</td>
<td></td>
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<td>n</td>
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</tbody>
</table>

The table suggests that biosphere reserves’ goals tend to be in line with scientists, nonprofits, and the local environmental administration. By contrast, neither resource users nor inhabitants were perceived as sharing the enthusiasm. Over time, nonetheless, they have become more supportive. Arguably, prolonged contact between stakeholders and the reserve may have resulted in stakeholders being more convinced by the reserves’ goals or in reserves incorporating their goals.

Overall, this discussion leaves a picture of the concept of biosphere reserve as a framework that has been adopted in very different contexts and with different approaches. It shows biosphere reserves as entities facing conflicts of diverse intensity and providing different opportunities for different kinds of actors. The implementation of the biosphere reserve concept indicates that it is not always capable of engrossing all its actors in working towards a regional biosphere reserve perspective, but that it can build spaces for collective thought and action.

7. Summary of the papers

7.1 The context of the studies

In recent decades, participation in natural resource management has been promoted by practitioners and scholars fuelled by prospects of more just management of resources. Yet, this has been criticised due to the power asymmetries pervading participation. These contradictory statements coexist in a literature that approaches the link between participation and justice in a theoretically vague and empirically insufficient manner. This dissertation contributes to the field by exploring the capacity of participation in natural resource management to yield equal material and immaterial outcomes across stakeholders. This is concretised in the research question “to what extent, and under which circumstances, can participatory processes provide equal outcomes?”

This question is approached from the assumption that the structure defines power distribution and thus impacts the configuration of power arenas.
However, the structure can be changed through social action and institutional shocks. The structure is characterised here by the political regime, the distribution of power at the local level where participation occurs, and the distribution of power in participatory processes. The political regime and the local distribution of power are enablers or inhibitors of equal outcome distributions depending on how horizontal they are. The distribution of power in participation is conceived as a pivotal factor: it can be affected by the structure and thus reproduce it, but by involving new actors in policy-making, it can also change it. The equality of the outcome distribution is the dependent variable. Outcomes can be positive or negative and material (like access to natural resources) or immaterial (participants’ status and legitimacy).

The thesis studies the distribution of outcomes of participation in biosphere reserves. Biosphere reserves are typically subnational institutions, recognised by UNESCO, that encompass areas of high biodiversity value and the populated areas surrounding them. They aim at exploring sustainable development strategies through participatory and learning processes.

The dissertation is structured in four papers. Paper 1 is a theoretical approximation of the concept of equality in participation. Methodological reflections for its study are derived from the theoretical discussion. Paper 2 focuses on the impact of the structure as determined by the political regime on participation outcomes and Paper 3 does the same for the local distribution of power. Paper 3 studies as well the effect of participation equality on outcome equality. The last paper deals with the characteristics of the participatory process by studying the distribution of biosphere reserves’ legitimacy across stakeholders as affected by the level of empowerment of the participatory process in which they are involved. This section summarises these papers and discusses their results in relation to the overarching question of the dissertation.


This study argues that the use of the concept of equality in the field of participatory natural resource management is vague. Research often leaves equality and the way it is measured empirically undefined or vaguely so. This generates difficulties for systematising findings in the literature. However, it is possible to find in the field implied and commonly shared meanings about the idea of equality. Especially noticeable are a connection between equality and empowerment, a concern for the welfare of disadvantaged groups, and a demand that power is distributed in a balanced way across actors during the participatory process. The paper’s main goal is to provide a framework for
understanding and studying equality in a natural resource management context that takes into account such meanings.

The concerns for vulnerable groups and an emphasis on process equality are not exclusive of natural resource management scholarship. Fung and Wright’s empowered participatory governance framework (2003a) shares them. This opened the possibility of using this framework to give theoretical content and to operationalise the concept of equality in natural resource management participation, as the framework addresses such worries in a structured and theoretically solid manner. In addition, the theoretical discussion on equality in participation and the discussion on how to study equality empirically uses republican and Rawlsian ideas of justice.

The study discusses equality in participation processes and in its outcomes (both material and immaterial). It argues that equality in participation processes helps achieve equality in participation outcomes. Yet, this link is treated as a hypothesis that has yet to be tested rather than as a given. Hence, the paper defends that it is not possible to assume that outcomes were equal because the participation process was equal. Equality needs to be researched both in processes and in outcomes.

The discussion on equality in participatory processes is structured along three principles embodied in the empowered participatory governance framework: deliberativeness in decision-making, a bottom-up approach to policy-making, and a focus on solving problems. In deliberative decision-making, equality is conceptualised through the notion of mutual respect across participants. Mutual respect embodies the idea that everyone has equal worth, and thus can make equal claims for respect from their participating peers. Mutual respect, it is proposed in the paper, can be studied through the practice of reason-giving during participation or, in terms of status, through the “eyeball test” (Pettit 2012: 84), that is, whether individuals (or in this case stakeholders) consider themselves equal to the others and feel that they can act accordingly (see ibid). It can also be studied by observing whether knowledge is judged by its content instead of its emitter, thereby emphasising that all who contributed knowledge are equally respected.

Bottom-up participation refers to who participates. The paper questions the egalitarian character of the stakeholder approach adopted in natural resource management practice and scholarship. It does so on the grounds that a stakeholder approach can introduce inequality between those included in and those excluded from participation (for instance because they are not regarded as stakeholders), if strong accountability mechanisms are not in place. One way to provide such accountability is by including the state in participation (e.g., Fung and Wright 2003a). However, the state is a powerful actor. Its participation can, hence, disrupt the balance of power among participants. To avoid this, participation should include actors that counteract the state’s power (Fung and Wright 2003b). Equality in who participates has thus three components: not excluding anyone unnecessarily, establishing mechanisms of
accountability to nonparticipants through state presence, and setting in place mechanisms to counteract power inequalities derived from the presence of the public administration.

The last principle is solving problems. This principle demands that participation acts upon reality and is thus discussed in terms of empowerment of the participatory process. Without empowerment, process equality will hardly translate into outcome equality, since a disempowered process means that no decisions are taken or implemented in the real world. Empowerment is observable in the impact of participatory discussions into implemented decisions.

Equality in material outcomes is defined with Rawls’s (2005[1971]) principle of justice, as the empowered participatory governance frame did not provide a clear definition. Following Rawls, equality is conceived as (1) a protection of basic liberties and (2) a structure of inequalities that benefit disadvantaged groups. In participation, the second clause translates into benefits concentrating on disadvantaged groups or on advantaged groups but maximising the welfare of vulnerable groups compared to other options. For outcomes in status, the eyeball test is invoked again, together with a horizontal distribution of the role of teacher as the participatory process progresses.

By reflecting on how to understand equality in participation and in its outcomes, the paper addresses two needs in the field of natural resource management: it tackles the need to employ clear concepts when speaking of equality; and it speaks to the necessity of devising operationalisations of the term applicable in empirical studies.

This framework complements the conceptual map presented in this introduction to the papers by defining how equality is conceived. Although the paper does not directly answer the research question set at the outset of this dissertation, it is a necessary step to do so. It provides guidance for evaluating to what extent participation outcomes were equal in the remaining papers.

The paper complements this dissertation’s theoretical framework in yet another way. I have argued that participation can be conceived as an institutional change that can modify the structure (an episode) through a redistribution of power. We can now expand on what this means. The paper defends that equal participation is not necessarily achieved because participation establishes rules that apply equally to all. Those need to be applied in such a way that actors of different backgrounds can partake equally. Formally equal rules are necessary for equality in processes, but insufficient. For participation to overcome structure inequalities, for it to be an episode, it has to be equal in practice.

Equality in actual participation is in itself an example of the materialisation of an institutional change in the sense that it departs from the unequal structure in which it is embedded. As I argued at the beginning of this section, when this occurs, we might expect such a break to facilitate equal outcomes, but
outcome equality cannot be assumed by declaring process equality. It is still an empirical question to be explored.

7.3 Summary and discussion of Paper 2: “Political Regime and Learning Outcomes of Stakeholder Participation: Cross-National Study of 81 Biosphere Reserves”

The literature in natural resource management participation has been aware of contextual limitations to participation but, in a time where participation is spreading worldwide, little empirical attention has been given to one particular characteristic of that context: the political regime. Nonetheless, one can expect nondemocratic regimes to impose limitations on a democratic institution such as participation.

The paper discusses how the political regime may condition multidirectional learning in biosphere reserve participation. The more multidirectional learning is, the more stakeholders learn from others and teach others, and thus, the more equal the status among them as knowledge providers is. For Giddens (1984), actors’ power depends on their authority and material resources. Limitations to civil and political rights in nondemocracies allow state actors to concentrate authority, limiting the potential of others to participate in equal terms and thus of multidirectional learning to blossom. Additionally, the political opportunity structure theory (based on Kriesi 1995) suggests that actors’ capacity to operate politically is conditioned by how open the public arena is. One can suspect a more closed public sphere in nondemocracies, with more rigid elite alignments and higher repression. Unofficial knowledge about a resource or about how to manage it should have problems to thrive in participation and multidirectional learning should once more be limited. This led to three hypotheses:

1. Multidirectional learning in natural resource management will tend to occur more often in democracies than in nondemocracies.
2. In nondemocracies, state actors involved in participatory processes to manage natural resources will be (a) more often knowledge sharers and (b) less often learners, compared to democracies.
3. In nondemocracies, local actors involved in participatory processes to manage natural resources will be (a) less often knowledge sharers and (b) see their knowledge less often adopted, compared to democracies.

Using the GLEAN survey, data on who shared knowledge and who learnt in biosphere reserves was analysed. The results showed that the political regime did not affect the amount of stakeholders learning and sharing knowledge. Also, no difference appeared in the tendency of the state to share knowledge across regimes. Nonetheless, the political regime had other effects.
Multidirectional learning was deeper in democracies, as stakeholders in democracies (compared to nondemocracies) tended to learn more the more stakeholders shared knowledge. Moreover, in democracies, more stakeholder types became teachers than in nondemocracies.

State actors and locals had different roles and behaviours in different political regimes. In nondemocracies, state actors had a prominent role in learning processes: they were the most important learners and they learnt especially from other state actors (although not uniquely). Finally, locals tend to share more knowledge and teach more types of actors in democracies, even though they were significant teachers of state actors in nondemocracies.

What does this tell us about the research question guiding this thesis? We asked under which circumstances participation would generate equal outcomes. The political regime is a structural factor that allows us to give an answer to this, in this case with regards to status observed through learning. The results suggest that participation will lead to higher status equality under democratic circumstances, where more actors become knowledge sharers and teachers. But this needs to be nuanced given that state actors in nondemocracies dominated the role of learners, and learnt from locals. Although status as a knowledge provider seems more equal in democracies, the expected pattern of local actors seeing their knowledge ignored and of state actors unwilling to learn in nondemocracies did not occur. Learning, and the status of teacher, was more equal in nondemocracies than expected if no structural pattern would have been superseded.

This leads to two conclusions. First, participation in democracies and nondemocracies will lead to different results in terms of status equality and advocating their spread should be done bearing this difference in mind. Participation cannot fully override the power asymmetries determined by the regime. But, second, the state in nondemocracies is more receptive than expected and thus it may be that although participation in nondemocracies will find more difficulties for achieving equality in status (as measured by knowledge consideration) the status of nonstate actors as knowledge providers can be improved through participation even under nondemocratic circumstances.


Studies on the justice of participation outcomes are scarce and often fail to define what they are measuring in their assessments of outcome justice. As a result, claims that participation can produce just outcomes are surrounded by uncertainty. From the perspective of justice as equality, this paper studies
outcome equality of participatory natural resource management by comparing the distribution of outcomes of participation across stakeholders with a previously specified ideal of equal distribution. The paper starts from two assumptions present in the natural resource management literature. First, power impacts outcome equality and unequal power structures will lead to unequal outcomes. Second, equal processes are instrumental in achieving equal outcomes.

This paper explores the distribution of material and immaterial outcomes in three participatory processes: the timber roundtable and the cocoa and chocolate roundtable in the Sumaco Biosphere Reserve, in Ecuador, and the managerial committee of the Huascaran Biosphere Reserve, in Peru. Qualitative analysis of the content of 57 interviews with participants at the three processes constitute the empirical base of the study. Interviewees included members of the public administration, NGO and cooperation workers, and resource users.

As mentioned, the study contrasts the distribution of outcomes with an egalitarian ideal. More specifically, it contrasts the distribution of material costs and benefits across stakeholders with an ideal inspired by Rawls’s (2005[1971]) principles of justice: the allocation of costs and benefits should favour vulnerable groups. Immaterial outcomes are studied through status. Outcomes on status are measured through the distribution of the role of teacher, as changes in recognition, and changes in stakeholders’ capacity to address others as equals (based on Pettit 2012). For outcomes to be equal, changes in status ought to concentrate on vulnerable actors, so that the final distribution would leave no stakeholder with more or less status than another. These definitions of equality are based on the framework established in Paper 1.

The paper explores first the role of power in outcome equality. The outcome distribution in each participatory process is compared to the ideals described above and to the distribution of power among stakeholders. It is assumed that power prevails if an outcome distribution is similar to an unequal power structure and/or reproduces it. In contrast, similitude with the definitions of equality in the previous paragraph indicate that power differences have been surpassed. Afterwards, the role of participation equality is discussed, attending to similarities and differences across cases in terms of outcome equality and process equality.

The results indicate that outcomes on status tend to reproduce the power structure when status is observed through recognition and through the distribution of teacher roles, even though differences in this last case appeared. Sumaco’s cocoa roundtable and Huascaran had more equal distributions of teaching roles than the timber roundtable. Cocoa roundtable’s higher equality can be explained by a somewhat flatter distribution of power across stakeholders, Huascaran’s by process equality as detailed below. Status outcomes tended to equal when observed through stakeholders’ perception of
their capacity to address others as equals. In this case, improvements were concentrated in resource users. 

The distribution of economic benefits favoured resource users, the least powerful stakeholders. However, benefits were sometimes received by the most powerful among them. In that sense, the distribution of these benefits approximated a Rawlsian ideal across stakeholder types, but not within them. The distribution of costs was widespread. This left inequalities unmodified.

The participatory processes in Sumaco and Huascaran were fairly similar in how equal they were. With two exceptions. The timber roundtable in Sumaco counted with an actor mediating between the more and the less powerful actors. Moreover, participation in both reserves had a sub-body with leadership and organisative functions: an executive commission in Huascaran, a promoting group in the timber round table, and a technical commission in the cocoa roundtable (that also worked as a body to analyse issues of relevance for the roundtable). While resource users and inhabitants were not present in Sumaco’s commissions or groups, they were in Huascaran’s. The first difference may have equalised outcomes, but no outcome was more equal in the timber roundtable compared to the other processes due to the presence of such a countervailing power. The case is different for the sub-bodies of participation.

Outcome equality differed across cases with regards to teacher roles. The paper argues that the inclusion of resource users in Huascaran’s executive commission may have conditioned knowledge flows. Their presence may have granted them a platform from which their knowledge is valued as differences in power between resource users and other types of actors are blurred when the executive organ of the participatory body includes all of them. Nonetheless, causality is difficult to establish.

This thesis asked to what extent participation can provide equal outcomes. In the processes studied, the results were at best modest. Participation could provide close to equal outcomes in two instances: in status as self-confidence and in the distribution of economic benefits across stakeholder types. Participation produced unequal outcomes otherwise. These results highlight, more than anything, that participation does not need to produce similarly equal or similarly unequal outcomes in material and immaterial outcomes or in all kinds of material and immaterial outcomes simultaneously. Different types of outcomes can have different levels of equality. This calls for a broad evaluation of outcomes.

The thesis asked as well under which circumstances participation would produce equal outcomes. This paper tells us that, under unequal distributions of local power, participation cannot produce fully equal outcomes. However, it can lead to outcomes that are more equal than the distribution of power. That occurred even though the participatory processes studied were not fully equal either. This is a moderately encouraging finding for proponents of participation. The paper also suggests that equal participation, even if
contained to one aspect of the process, can significantly modify the equality of some outcomes.

7.5 Summary and discussion of Paper 4: “Does Stakeholder Participation Increase the Legitimacy of Nature Reserves in Local Communities? Evidence from 92 Biosphere Reserves in 36 Countries”

On the one hand, participation is thought to increase the legitimacy of nature reserves among local communities through power sharing and co-ownership of reserves. On the other hand, difficulties like power inequalities across participants are thought to lead to elite capture and eventually to decreases of legitimacy. Amidst this tension, the literature proposes that the more empowered stakeholders are in the management of a reserve, the more legitimacy will increase.

Paper 4 contributes to the debate through the analysis of the 2008 and 2013 GLEAN survey data on stakeholder support to biosphere reserves. The analysis scrutinises the support to biosphere reserves of scientists, NGOs, local administration, resource users, and inhabitants and whether the depth of their participation affects that support. Inspired by Arnstein’s ladder, four types of participation are distinguished. From shallow to deep participation, those types are: processes oriented toward exchanges of information (information), implementation of decisions (implementation), setting the goals of the biosphere reserve (involvement), and participation in the steering committee or the coordinating team of the reserve (representation). Further, the study explores the relationship between participation and legitimacy by analysing interview data of managers and stakeholders on how they evaluate each of the four types of participation.

The survey analysis suggests that more participation in representation, involvement, and information increases the legitimacy of biosphere reserves among their communities. The strongest impact is that of participation in information. The inclusion of locals (local administration, resource users, and inhabitants), especially of resource users, is also positively associated with legitimacy. In contrast, increasing the presence of scientists can have a negative effect. In addition to the overall levels of legitimacy, support for the reserve was also analysed among specific groups. Scientists and NGOs did not perceive biosphere reserves as more legitimate when partaking in the reserve’s activities. However, this was not the case for locals. The legitimacy of the reserve among inhabitants increased when they participated in information, involvement, and representation, information being the type of

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33 This paper is co-authored with Andreas Duit and Lisen Schultz. For a full description of the contribution of the author of this dissertation to the paper, see page iv.

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participation with the largest effect. For users, higher participation in implementation improved legitimacy, while for the local administration it was representation and information that increased legitimacy, with information again having the biggest effect.

The interview data revealed that the deeper participation was, the more negative stakeholders’ and managers’ evaluation was. The problem did not lay on rejection of the ideal of involvement or representation as forms of participation. Rather, it seemed to lay in the increasing difficulties to achieve satisfaction with involvement or representation in practice. Instead, satisfaction was more common with information and implementation. Even more, locals could identify an instrumental value to the first two types of participation, something which was missing among the two deepest forms of participation.

What does this mean for the extent to which participation can provide equal outcomes? If we consider supporting a reserve in your vicinity to be a benefit in itself, participation improved legitimacy amongst those who we can suppose had lower power: local inhabitants and resource users. Legitimacy also improved among the local administration, but we have no reason to suppose that this was to the detriment of other groups. Increasing legitimacy of the reserve among some stakeholders does not imply that it decreases for others. In that sense, participation could build support amongst those who potentially have less authority and resources to affect the reserve from the outside, which is in line with outcome equality. If we take legitimacy as a signpost of where benefits are going, the enthusiasm would be a bit more moderate, given the positive effect for the local administration, but still the strong impact on inhabitants and resource users ought to be evaluated positively.

With regard to what the results say about “under which circumstances” participation will lead to equal outcomes, we need a nuanced approach. According to the survey data, if equality demands that inhabitants and resource users should be the most benefited (assuming, again, they are those with lesser power), different strategies are required for benefiting each of them. Information has the most positive impact on inhabitants (although representation and involvement are also positive) while implementation has the most positive effect for resource users. The interview data indicates that satisfaction is easier to achieve with information and implementation than with involvement and representation. Interviews also indicate that both inhabitants and resource users have a higher capacity to benefit instrumentally from both information and implementation, which might explain their positive impact on legitimacy. It is not, then, that involvement and representation are undesirable, but they do not seem to lead to the same benefits for citizens.
8. Conclusions and outlook

Participation is often portrayed as a doorway to social justice. Experiments in participation have been carried out with the hope of improving social justice and expectations have risen among practitioners and researchers. However, the relationship between participation and social justice is far from straightforward and the conditions to reap justice from participation are not yet fully understood.

In the last decades, scholars have engaged in efforts to comprehend how participation can work towards social justice. Nevertheless, the literature needs to address tensions and gaps to advance. Research needs to wrestle with its inherent tension between the positive expectations for increased justice through participation and the challenges that existing inequalities pose for participation to achieve just outcomes. Moreover, research on natural resource management often bears the assumption that just participatory processes will build social justice, but studies tend to focus on studying justice in participatory processes while outcome justice is often overlooked or addressed in passing. These two problems are further exacerbated by a contradiction in the natural resource management scholarship between abundant mentions of justice, fairness, or equity and an often shallow way of addressing them both empirically and theoretically. As a result, the data we have to understand how far and when participation can lead to social justice is insufficient and insufficiently specified. Accurately outlined analyses on the potential of participation to lead to social justice would set a basis for future research on why participation leads or does not lead to just outcomes. It would also give participants and practitioners concrete information on what values participation contributes to, which can assist them in building a participatory process whose outcomes they can consider socially just.

Approaching justice from the perspective of equality, this dissertation contributes to generating such a base of knowledge by asking to what extent, and under which circumstances, can participation lead to equal outcomes. Given that scholars have identified contextual factors affecting power distribution and power inequalities as significant barriers for participation to produce equal outcomes, and given that the main solution is an equal participatory process, these constituted the explanatory factors for equality in participation outcomes. The political regime, the local power distribution, and the participatory process were conceived as structural factors reflecting the distribution of power and with the capacity to shape the outcomes of participation. Participation, however, can constitute a shock to the structure by opening the door to new actors in policy-making. It can then be more equal than the other two structural factors and challenge their influence over outcomes.

The research question guiding this thesis addresses the need to balance the attention in the field between justice in participatory process and in
participatory outcomes. By conceiving participation as a potential shock to the structure, the dissertation’s theoretical standpoint accommodates the tension between contextual power inequality and expectations that participation will produce just outcomes. Moreover, the dissertation suggested an operationalisation of equality in participation, departing from the vague approaches used in the field. The study is structured in four papers. Paper 1 provided a framework for studying equality in participation, theoretically grounded and oriented for use in empirical research. Paper 2 discussed the political regime as a contextual factor impacting the potential of participation to achieve distributed learning. Paper 3 analysed whether and to what extent the distribution of power among participants is transmitted to the distribution of outcomes. It also addressed the relevance of participatory processes, focusing on equality in inclusiveness. Finally, Paper 4 discussed how different levels of participant empowerment are related to outcome distribution.

In the following pages, I describe lessons learnt and make suggestions for future research paths. I start with a reflection on how equality can be defined and studied within the frame of participation. I will then recover the three propositions outlined in the theory section to articulate the discussion of the empirical results. This structure will lead me first to discuss the impact of the political regime on outcome equality, followed by the impact of the local distribution of power, and finally that of the participatory process. I will then reflect on future paths for research.

8.1 Conceptualising and operationalising equality in participation outcomes

The first challenge for preparing the empirical work in this thesis was determining how to study equality in participation outcomes, given the absence of guidance for research. One of the tasks within this dissertation was, then, to elaborate a framework defining and operationalising equality in natural resource management participation. The definition of equality was based on the empowered participatory governance framework of Fung and Wright (2003a), the concept of nondomination (Pettit 2012), and Rawls’s (2005[1971]) maximin principle. Although researching justice through participants’ own evaluations is a valuable strategy that some scholars in natural resource management have used, this dissertation elaborated a framework that contained in itself a definition of what equality is. Such choice was not out of conviction that participants ought not to or cannot evaluate justice, or that researchers should establish if and when participation is just. Without wanting to limit the application of the approach proposed in Paper 1 on the ground, the main reason for providing a definition was research oriented. The goal was to promote analytical clarity and accuracy, not to suggest the proper definition of justice.
Through that framework, the dissertation brought theoretical grounds to the generalised concern in natural resource management literature for vulnerable groups. It also contested the widespread use of the concept of equity as a means of speaking of justice without specifying what is being considered as just or not. In that way, I believe the framework can contribute to the field, not only by providing theoretical and empirical guidelines to study equality in participation but also by bringing to the fore that scholars tend to implicitly depart from values that align with specific ideas of justice, even though they are not always clearly stated.

Additionally, the application of the framework on empirical material highlighted the need to clarify what is being defined as equal or not. For instance, the results showed difficulties to reach a Rawls-based state of equality, but an approach that considers win-win situations or benefit-sharing as just would have shed a more positive light on the participatory processes studied. Therefore, we need to move beyond saying whether a participatory process displayed or not equity or justice. We need to study which justice values participation brings about. Scholars analysing justice through participants’ evaluations ought to consider investigating as well what values are participants using to consider outcomes just or not, in addition to whether they consider outcomes just or who does (in this line, Schnegg et al. (2016) and Smith and McDonough (2001) analyse which values of justice participants support).

The use of the framework with interview data in Paper 3 also sparked reflections on its empirical applicability. First, the framework analyses equality in outcomes and equality in participation processes independently. Although useful, this approach proved wanting of an interrelation between process and outcome equality that better highlights the potential connection (or lack thereof) between them. This could be done using the framework in qualitative comparative analysis, but in the most common single case study analysis in participatory studies, this may be limited. Nonetheless, even in such studies, qualitative comparative analysis could be used if stakeholders are the unit of analysis. In that case, one could explore questions such as which characteristics of participatory process equality are necessary or sufficient for vulnerable participants to consider they benefited from participation. Alternatively, each dimension of participation can be explored separately with comparative studies, as is done, for example, in Paper 3 with inclusiveness in sub-bodies of participation.

Second, the description of process equality in Sumaco and Huascarán revealed a tension between equality as empowerment and equality in inclusiveness through accountability. On the one hand, empowered processes are necessary for equal participation. If a participatory process has no power to impact policy-making, it does not redistribute power for managing natural resources nor is it consequently able to modify the structure. On the other hand, the need to keep those taking decisions over publicly owned natural
resources accountable requires that decisions taken in participation are either submitted to public scrutiny (for instance, through referendums) or returned to elected officials. This second approach was the one encountered in Sumaco and Huascarán (the reflection here, thus, does not necessarily apply to referendums). Accountability mechanisms in both reserves often meant that decisions were implemented too slowly, forgotten, or disregarded, infringing upon the empowerment of the processes. While some of the problems may be due to ineffective administration, interviewees demanded the presence not of civil servants but of decision-makers. It is possible, then, that some accountability channels may be more compatible with empowerment than others, as such demand suggests. Yet, in the three processes studied, accountability and empowerment appeared on two ends of the same rope. Pulling in one direction may undermine the possibilities to strengthen the other. Such tension is partly justified to ensure that nonparticipants are not surpassed. Nonetheless, participation designers that cannot count with the presence of mayors, provincial directors, or other decision-makers may face a challenge in ensuring accountability to nonparticipants without making the process irrelevant.

Third, Rawls proposed that a just distribution is one in which inequalities benefit vulnerable groups the most from any alternative distribution. This needs adaptation for empirical use as it is materially impossible to study all potential combinations of outcome distribution in a given process. The alternative used in Paper 3 was to study whether advantages for others have visible benefits for vulnerable groups. One example is the funds that public administrations and NGOs in Sumaco’s cocoa and chocolate roundtable received and which were invested in projects to promote cocoa and chocolate.

Fourth, Paper 1 considered that costs came in the shape of losses, payments, or concessions, but in the interviews costs came also in the way of disappointments, of outcomes that actors wanted to achieve but could not. As Bachrach and Baratz (1970) showed, power can not only mould decisions but also nondecisions. In that sense, studying decisions of participation appeared insufficient for understanding equality.

Finally, the interviews illustrated the usefulness of Pettit’s (2012) eyeball test — the idea that two people with equal status will be able to address each other without deference or fear — in the contexts of Peru and Ecuador and of teaching flows to study status. Moreover, both concepts show status in different light compared to each other and compared to recognition, revealing the importance of studying status as a polyhedral concept.

Despite the areas for improvement outlined above, the framework set in Paper 1 to study participation’s equality and its application in Paper 3 set a strong theoretical basis for researching equality in participation. By clearly defining equality, not only can multiple qualities of equality be studied but also enhance comparability.
8.2 Context and power inequalities as determinant factors for equality in participation outcomes: the difficulty of breaking away from the socio-political structure

One of the components of the research question guiding this dissertation was “under which circumstances” would participation produce equal outcomes. In the theory section I outlined three propositions with the aim of guiding the empirical work of the dissertation addressing this part of the research question. Two of them referred to the context where participation takes place:

*Proposition 1.* The political regime limits the potential of participation to produce equal outcomes in such a way that the more equal the regime is (the more democratic), the more participation will generate equal outcomes.

*Proposition 2.* The power a stakeholder has in the local context, that is the position a stakeholder occupies in the local structure, affects his or her share of outcomes. Therefore, the more equal the local structure, the more equal participation outcomes will be.

The studies showed that the political regime and the distribution of power at the local level shaped the outcomes of participation and set limitations to (or enabled) how equal they were, in line with the propositions above.

The democratic character of the political regime in which participation took place affected participants’ involvement in learning, both as knowledge sharers and learners, being multidirectional learning deeper in democratic states. Learning, as discussed earlier, is relevant for equality because it can highlight status inequalities, as those with lower status will see their knowledge discredited not on the grounds of its content, but on the grounds of who they are. Then, the deeper multidirectional learning in democracies signals that participation will contribute more to status equality in democratic states. Nevertheless, differences in outcome equality are not as evident as expected. Locals share knowledge less often in nondemocracies, but their knowledge was not discarded by state actors. Therefore, it is possible that locals’ status is higher than supposed. This is a positive result for proponents of participation worldwide. But in light of the more limited learning in nondemocracies, it remains the case that a nondemocratic context poses specific difficulties for participation to achieve equal outcomes in learning and, thus, in status.

Hence, expanding participation to nondemocratic countries requires caution, as participation will have different levels of success for generating equality compared to democracies. That being said, the results support the promotion of participation as well, even in nondemocratic regimes. That the expectations for equality should be lower than in democracies does not mean that participation will only be counter-productive for equality in nondemocratic states. Participation in nondemocracies seemed to open a
venue for the knowledge of local stakeholders to be heard by the state, contributing to their status in the managerial process.

In any case, research in natural resource management can benefit from considering the political regime as a relevant factor. Moreover, in the field of democratic innovations, and especially in deliberative democracy, research in both regime types follows different paths. However, comparison proved fruitful for understanding what can be achieved in democracies and in nondemocracies in terms of equal knowledge sharing and learning. Given the many contextual factors that enter any study of participation and the difficulty to obtain comparable data across states, the isolation of participation studies in nondemocratic regimes on the one hand and in democratic regimes on the other is understandable. Nonetheless, bridging both, as this dissertation has done, is rewarding for understanding the circumstances in which participation can have better results.

The second proposition referred to the impact on outcome equality of actors’ power at the local level. Paper 3 shows that power in the local governance structure influenced outcome equality. But, again, it could not completely explain it. Participation improved the self-confidence of the most vulnerable actors in addressing others as equals and distributed economic outcomes across stakeholders in a more equal way. However, power affected outcomes on status as measured by knowledge flows and recognition. Moreover, costs left the power structure fairly unmodified. Generally, this unequal distribution of costs was not because powerful actors avoided costs, but because their distribution was too flat.

These results are in line with the abundant concerns in the literature over power inequalities, but they bring a new light. First, power inequality may not need to affect all outcomes equally. Notably, it seems easier to distribute economic benefits towards vulnerable groups than to alter their recognition. The recent concerns with recognition are then a welcome addition to the field. Second, the literature points to elite capture as a way in which powerful actors accumulate benefits and divert costs to poorer or less powerful actors. By contrast, the case studies showed that inequalities can arise not by accumulating resources, but by not challenging existing disparities in resources and authority. Third, less powerful stakeholders felt more self-confident to address others as equals, but participation did not have an equalising impact on status as perceived by others. Therefore, participation can contribute to one’s sense of worth in a public arena without changing the status structure. Improvements in self-confidence among less powerful actors are a positive development, but an insufficient one. The results speak as well to scholars who connect the distribution of immaterial and material resources in that participation could more easily redistribute funds than status. Nevertheless, it did not tackle how those are interconnected or whether one leads to the other.
Finally, powerful actors often had a privileged position for distributing their knowledge. Powerful actors from the state and from cooperation agencies had the opportunity to play a central role as teachers and thus to have their knowledge play a more central role in participation than that of others. This is in line with scholars who cautioned about difficulties for integrating knowledge. Not everyone would consider it problematic that not all knowledge is considered equally. For example, Christiano (2012) defends the idea that citizens’ task is to set the areas where expertise is to be built and the values on which it ought to be built, not to contribute expertise into policymaking themselves. Yet, others feel that such a division needlessly disempowers citizens (Parkinson 2012). From the point of view of equality, valuing some actors’ knowledge more than others is a mark of and contributes to unequal status (Fricker 2007) and can lead to domination of one group by letting them determine the range of proper policy action (Catala 2015) as discussed in Paper 1. State actors in nondemocracies and locally powerful stakeholders’ privilege is thus a worrisome result for the capacity of participation to achieve equality. For deliberative scholars, this is an important debate as privileges in how one’s knowledge is regarded in the public sphere can severely limit the quality and plurality of discussions (e.g., Young 1997 discusses this issue with a special focus on social knowledge).

In short, participation could generate results that slightly alter the structure, but it was decidedly affected by the political regime and the local distribution of power. Nowadays, research on participation in democracies and in nondemocracies is unconsciously mixed in natural resource management research, and the results in this thesis suggest this is a mistake, especially if we are to promote participation with the same arguments everywhere. Contexts with unequal power distribution also impose a toll on participation. Participation may then require a friendly context to develop its full potential for social justice. This does not mean that participation is unhelpful for achieving equality under circumstances of inequality. We have seen timid advances in unequal contexts both in terms of political regime and local power distributions. Therefore, participation does not seem to simply reproduce preexisting conditions, but it also does not leave inequalities at the door. It is true that examples of participation vastly improving inequalities do exist, the participatory budgeting of Porto Alegre being the most famous example. However, Gaventa (2006) suggested that successful cases have concentrated in a few states. Reproducing Porto Alegre elsewhere is challenging. Again, this suggests that the structure is constraining, but not immutable. We are not to expect the same outcomes in all contexts. But this does not mean that we should not expect any equal outcome even where conditions are hard. We turn now to a highly publicised factor for achieving such change, the participatory process.
8.3 The participatory process: an ambiguous piece in the puzzle

The last proposition set in this introduction argues that participatory processes can contribute to building outcome equality even in unequal structures. It can do so if the participatory process differs from such structure by being an equal political process:

**Proposition 3.** In an unequal structure, equal participatory processes constitute an episode, a break with inequalities in the structure. This will lead to equal outcomes.

One way participation can build equality is through empowerment. By empowering the participatory process, stakeholders become political decision-makers alongside the traditional political actors, challenging entrenched powers. However, Paper 4 showed that participatory processes with low empowerment levels (focused on giving information and implementing projects) may be more efficient than processes with higher levels of empowerment (focused on setting a biosphere reserve’s goals and on managerial decision-making) for increasing legitimacy among local communities. This contradicts the intuition in the literature that deeper forms of participation will lead to increased legitimacy. But more important for our purposes in this section, participation improves legitimacy for inhabitants and users, presumably some of the least powerful actors in biosphere reserves. It also increases legitimacy for the local administration. The relationship between empowerment and increases of legitimacy across these groups, however, is not straightforward. Whether we conceive of legitimacy as reflecting the distribution of benefits and grievances associated with a reserve, or whether we see it as a good in itself that can be equally or unequally distributed, more empowerment does not guarantee more legitimacy nor, thus, more outcome equality. Still, participants considered partaking in setting goals or decision-making as desirable and engagement in such processes did not have a negative effect on legitimacy though it was less satisfactory than participation in information and implementation. The message, thus, is not that involving stakeholders in decision-making is bad for legitimacy and should be discarded. Rather, it implies a need to keep working in order to understand how to better implement such processes.

One hypothesis of why empowered forms of participation performed worse in terms of legitimacy is that less empowered participation types are more capable of delivering positive outcomes. They were associated with more instrumental outcomes, challenging the claim in Paper 1 (based on Fung 2006) that more empowerment will lead to more substantial changes in social justice but consistent with previous studies suggesting that outcome satisfaction plays an important role in building legitimacy (e.g., Arnesen 2017, Birnbaum et al. 2015). This result may be linked to the higher levels of success of information
and implementation. The interviews in Sumaco and Huascaran, additionally, suggest that information is relevant for secondary outcomes of participation that contribute to distributing resources. For instance, communities achieved business deals for tourism in Huascaran thanks to information received in assemblies. Information may also unlock resources not available to the participatory bodies themselves.

Another way that participation can be equal or unequal is through inclusion. Paper 3 studied how equality in inclusiveness in sub-bodies of participation affected outcome equality. Equal inclusiveness in leading organs of participation seemed to have no effect on the distribution of economic outcomes. However, it had a positive effect on the status of actors as knowledge providers. This is in line with the reflections above and claims in the literature that participation equality matters. Such result also highlights the need to pay attention to each cog in the participation wheel if we want to increase outcome equality, for each may have a specific rather than an overarching effect — without denying that changes in status may spill over to other areas in the longer run.

Sumaco and Huascaran also show that moderately unequal processes can contribute to increasing equality, even if slightly. That is not to say that process inequality is normatively acceptable. It is also not to say that participatory inequalities are generating such improvements. No process was completely unequal. It is possible that the equal elements in them helped generate outcome equality, despite cohabiting with unequal ones. That is a topic for future research. Researching unequal processes leaves unanswered the question of what equal processes can do. However, in societies marked by inequality, it is also important to see what outcomes unequal institutions produce, for the difficulties of expanding highly equal processes like Porto Alegre bring to the fore the question of whether we can expect equal processes to appear in unequal contexts.

The exercise of describing process equality in Sumaco and Huascaran also showed that the three pillars of process equality, derived from the empowered participatory framework and adapted in Paper 1 (deliberation, inclusiveness, and empowerment), proved useful for characterising the processes studied even though they were more integrated than originally envisaged. For instance, while coding the interviews, inclusiveness and mutual respect were hard to distinguish in cases where leaders within participation abused their power to make unilateral decisions.

Finally, the data also suggest the importance of studying the equality of participation rather than equal opportunities to participate. Although the formal design of participation in Huascaran and Sumaco were not perfectly equal, participants had equal opportunities to speak during meetings and rules generally respected equality. Yet those rules did not produce equal processes. The clearest example is a difficulty achieving mutual respect.
8.4 Can, then, participation lead to equality?

It has been argued, so far, that participation may require beneficial circumstances to achieve equality. That is, a democratic context and a flat distribution of power at the local level. Nevertheless, it has also been said that the absence of such conditions does not imply that the degree of outcome equality achieved will be zero. Finally, it has been shown that legitimacy and moderately equal outcomes can occur even with processes that do not fully satisfy the equality ideal set in this dissertation. But this thesis is concerned not only with when could participation lead to equal outcomes. It asked as well to what extent participation could achieve this.

The discussion so far and the empirical studies suggest a nuanced answer. The equal distribution of status was limited especially, but not only, in nondemocratic states. As argued, status became less distributed in nondemocracies, as indicated by multidirectional learning, than in democracies. The picture was more mixed in the case studies, although powerful actors tended to have strong roles as teachers and changes in actor recognition left power structures unchanged. In that sense, the results are aligned with scholars who hold sceptical views on participation as an instrument of political action that can provide more just outcomes. The same applies to the distribution of material benefits across resource users. The tendency to work with the most powerful among resource users is regressive. The distribution of costs and disappointments was mixed but did not fulfil the ideal of equality, as not only the most but also the least powerful stakeholders bore heavy loads.

Nevertheless, participation did not transpose the power structure intact on outcomes. Economic benefits arrived to vulnerable groups. Participation also gave some the chance of becoming confident in the public arena. It gave state actors the chance to learn from locals in democracies and in nondemocracies. Thus, the expansion of participation may also be a positive force for equality, even if expectations ought to be readjusted.

To conclude, some lessons can be distilled from the articles in this dissertation. These lessons are linked to both research and participation as a policy-building tool. Research wise, the papers suggest that (1) as with any other concepts, it is necessary to define justice or equality whenever it is being evaluated, be it through researcher-built definitions or through participant evaluations, in order to clarify what values participation supports; (2) we need to explore equality in multiple dimensions of participation design and of actual participation to understand equality in diverse outcomes; (3) relatedly, participation can lead to multiple types of outcome and they will not all reach the same level of equality through the same process, therefore, research needs to explore multiple types of outcome in order to form an idea of where participation is or is not contributing to equality. Regarding participation as a political arena, the papers suggest that (1) practitioners need to adapt
expectations to the political context where participation is embedded, in line with previous research; (2) processes may need to be tailored to achieve equality in the desired outcomes given that equality in different outcomes seem to require different types of processes; (3) even though participation faces multiple hurdles for reaching equality, efforts for building equality through participation are not in vain, in spite of expectations having to be moderate in unequal settings.

8.5 Areas for future research

The results of this dissertation and that which the studies could not cover suggest areas for future research. First, what are the impacts of the political regime in participation outcomes beyond learning? The studies suggest that different outcomes can advance differentially on equality in the same context. Therefore, is it possible that the political regime affects equality in some outcomes more than others? And if that is the case, which outcomes should we be more wary of? Moreover, as discussed earlier in this section, although the dissertation results suggest that the political regime has an impact on participation outcomes, we saw that differences across regimes are less than expected. Why this is the case is another area to further expand research.

Second, process characteristics have multiple dimensions, not all of which could be covered by this dissertation. Paper 3 explored the potential causal link between inequality in outcomes and inequality in inclusiveness in leading bodies of participation as well as the presence of countervailing power. Paper 4 analyses the empowerment dimension of participation. More work is required to understand the relevance of process equality beyond these factors. Aspects like mutual respect or accountability should also be explored. Further research is also necessary to pinpoint what can be done for improving equality while stakeholders (or citizens) are participating (Thompson 2008). This dissertation suggests that low empowerment suffices for increasing legitimacy among resource users or local inhabitants. However, if the desirability of participants see in empowered forms of participation could be realised in practice, if empowered forms of participation could be designed so that they satisfy participants, would empowered forms of participation improve legitimacy more than less empowered types? Does this apply to other outcomes? Paper 3 offered some indications of how the participatory process may have impacted outcome equality in Sumaco and Huascarán. It suggests that integrating a diverse range of stakeholders in executive organs of participation, as was the case in Huascarán, may help citizens be valued as knowledge providers in settings where actors have different levels of power. But again those are not all aspects of participatory process equality. More research could also clarify how processes interact with structural elements to subvert them. The causal mechanisms linking power and the political regime to outcome equality deserve more empirical exploration than research has
granted them up to now. Why questions remain to be explored in future research.

This dissertation has made use of a specific definition of equality set by the researcher. New studies could compare results according to different definitions. Those definitions could come from theoretical approximations to equality or from participants, but in either case it would be relevant to describe what is being considered equal and why. Agarwal (2001) has worked in this direction, but it is a rare case. Moreover, the role of nature in stakeholders’ conceptualisations of equality and how outcomes affect nature from an equality perspective could be explored in new efforts.

This project could not cover the role of agency for equality in participation outcomes. If the structure tends toward stability, but is not immutable, actors themselves can work to change it, as we briefly pointed out in the theoretical section of this introduction. This begs several questions: what type of distribution are different stakeholders attempting to achieve? How are they attempting to do so? How effective are their strategies — and are there differences in effectiveness linked to power inequalities? Natural resource management scholarship has up to today paid insufficient attention to actors’ intentionality in participation and its effects on justice. This constitutes a prominent area for further understanding participation outcomes. Political will (see Fischer 2006, Baiocchi 2003) or the nature of the resource being managed are also factors that may impact the potential for reaching outcome equality that were not explored in the thesis.

Finally, another area that begs for deeper research is the extent to which equality in material outcomes can be achieved with or without achieving equality in status. And vice versa. Some theorists, like Fraser (1996), suggest that both are connected, but the case studies flagged that it may be easier to give resources to vulnerable groups from nonprofit organisations and cooperation actors, and from public agencies working to improve, for instance, agriculture, than to acknowledge and integrate all actors as equals in the political arena. Whether or not the distribution of resources affect status in long-term participatory processes is an intriguing question to explore.
9. References


Pomeroy, R. 2007. ‘Conditions for Successful Fisheries and Coastal Resources Co-Management: Lessons Learned in Asia, Africa and the Wider Caribbean’. In *Adaptive Co-Management: Collaboration, Learning, and Multi-Level...


Appendix 1. Interview guide for the case studies

This interview guideline was used in the biosphere reserves of Sumaco and Huascaran. The data obtained with this guide is used in Paper 3. Paper 4 uses data from the GLEAN project, collected with another interview guide elaborated within the project. Nevertheless, some of the questions are shared in both guides. This is the reason why some questions are worded oriented towards a “project”, but during the field work they were re-formulated towards participatory project or participation as appropriate.

A. Interviewee background

- What is your regular profession?
  - Where did you learn your profession?
  - How would you describe your life as a…?
- Could you describe your relationship with the BR?
  - And with the natural resources contained in the BR?
  - Is there anything you would change of your relationship with the BR and/or natural resources?
  - What are the main challenges you face in achieving those changes you just mentioned? Are there any other challenges you face in achieving your interests?
- How have you been involved in the BR?
  - For how long?
  - What moved you to get involved?

B. Participation

- What is, in your opinion, good participation?
- Who initiated the participation project?
- What were the targets of that participatory process?
  - Were those targets accomplished?
- What types of stakeholder were involved (i.e., what was their affiliation — government representatives, communities)?
- What criteria were used to select these stakeholders?
- What responsibilities did the stakeholders have (decision-making, implementation)?
- [Wording for participation managers] Could you describe to me how you involve stakeholders in this project? [Wording for stakeholders: Could you describe to me in what consisted participating in that process?] (Meetings, workshops, roundtables? How are these run? Who performs each role? Mediator/facilitator? Do you have one? If so, who performs the role? If not, would it be useful?)
- Can you describe how a typical meeting/workshop/workday takes place?
- Where do these types of participation take place, how often?
• Could you describe to me the level of engagement — do you feel that all participants are equally contributing to activities?
• Did you interact similarly with everyone?
• Were there any stakeholders you would consider key?
  • Who were the key stakeholders?
  • How did they become key?
• Are there any key stakeholders who were not involved in the meetings or otherwise in the project?
• Were there moments of disagreement?
  • How were these moments addressed?
• Were any decisions taken?
  • Have they been implemented?
• Do you feel that being involved in the biosphere reserve gave you the opportunity to affect how the biosphere reserve is being managed?
• Of those involved in the process where you were involved, do you think that some should be more listened to than others?

C. Material outcomes
• Do you feel that participation has helped you/your organisation achieve your goals?
  • If so, how?
  • And does it impact your access to natural resources?
• How has the project changed the lives of the people involved? And how has the project changed your life?
• Do you feel that your interests are taken into account by the steering committee of this project?
  • And by the other participants?
• Do you think that participating has been somehow beneficial to you?
• If you wanted changes in your capacity to use natural resources, who would you direct your demands to?
• Has there been any project organised by the biosphere reserve that gave you access to resources such as training, loans…?
  • Can you explain how did you (or did you not) get to be part of the beneficiaries?
• Did any decision taken during participation involve losses or costs for you/your organisation? [Not to be asked to managers: And did the biosphere reserve take in any other way any decision involving costs for you?]
  • If yes, to what would you attribute that you in particular had to assume that cost? (Would you say it was just bad luck, or was there something else?)
  • Do you think participating in the biosphere reserve helps in getting fair decisions? (Why?)
D. Process equality, learning, and immaterial outcomes

• Do you feel that decisions were acceptable?
• And legitimate?
• Could you describe the process how the agenda of the meetings was decided?
• In the participation process, do you think you could address all the issues that were important to you?
• Have other stakeholders contributed what you expected them to contribute to the biosphere reserve process?
  • Were there any unexpected contributions?
  • Have you had any disappointments?
• Can you give me an example of a time where [your] concerns have been taken into account and changed the structure/practice of the project?
  • What happened? What were the circumstances that led to it?
  • Who was involved? What did they say/do?
  • What did you think about it?
  • Do you feel listened to by the project managers?
  • Do you feel that you have a voice in this project?
• Are there any individuals who really stand out in terms of their knowledge related to this project and from whom you learnt?
• Are there any particular stakeholders from which you have learnt about the ecosystem?
• And about how to manage the biosphere reserve?
• Did you expect to learn from those people?
• Have you shared your expertise in the biosphere reserve?
  • About what?
  • Do you think others have learnt from it? Who?
• Have your views of other stakeholders changed as a result of participation?
• Do you feel more recognised by others in the biosphere reserve/participatory body as a result of participating?
• When you want to say something in a participatory process, do you feel welcome to do so?
• Do you think the way the [participatory] project was set ensured that everyone would be treated and acknowledged equally?
• When you are in a room with other participants, do you feel you can address each one of them looking at them directly in the eye, without feeling that you have to behave with deference towards them?
  • Was it always like that?
  • Has taking part in this [participatory] project had any impact on this?
• Do you think any actor dominates the process/management on the biosphere reserve? (How can you tell? Who?)
  • Why do you think this is the case?
E. Political actors
• Does the presence of authorities inhibit you from speaking your mind in any way?
• Do you think that politicians have listened to your opinions?
• Do you think that they accept other people’s opinions on how the biosphere reserve has to be managed?

F. Deliberation
• Do you feel that all stakeholders justified their ideas and suggestions?
• Did they try to understand others, to stand in their shoes?
• Do you think the process facilitated a shared understanding of problems and solutions?

G. Strategies
• Have you joined forces or made alliances with other stakeholders to have more voice in the process?
  • What was the result of joining forces with others?
• If you have tried or wanted to convince others, how do you try to convince people about the relevance of your interests/opinions?
• Do you think it is easy to convince others of what has to be done/spoken about?