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**Institutional analysis to assess inclusive decision-making in community resource management:**

**A diagnostic review of barriers and interventions in participatory processes.**

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## **Institutional analysis to assess inclusive decision-making in community resource management: A diagnostic review of barriers and interventions in participatory processes**

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### **Abstract**

Scholars and practitioners frequently cite participatory governance arrangements as critical for successful resource management. While recognizing the rights of local and indigenous communities in their own development and resource management is fundamental for sustainability, centering communal decision-making in resource management does not guarantee that said decisions will be democratic, inclusive, or equitable. A critical question for community leaders and practitioners alike, is not whether communities should have rights to manage their resource systems, but rather, how to identify and support communal decision-making processes that are inclusive of diverse voices, transparent, and just.

Here, we tackle one piece of this question by using the Institutional Analysis and Development (IAD) framework to diagnose how communal governance characteristics shape inclusion in local decision-making process, namely who and how distinct community members participate in resource management decision-making forums. While the IAD framework has frequently been applied to assess how local rule-making rights are linked to successful resource management outcomes, relatively few studies have used the IAD framework to diagnose participation within communal decision-making arrangements.

The objectives of our paper are to identify relatively malleable local governance elements that can be tweaked to facilitate more inclusive collective decision-making in community resource management. To do so, we apply the IAD framework in conjunction with Agarwal's participation typology to a systematic review of 59 case studies to map out the barriers to, and interventions to support, participatory decision-making in community resource management (forests, water, fisheries). Our study focuses specifically on how local governance factors influence *who* participates (e.g., individual attributes based on socioeconomic status; gender, race, ethnicity) and *how* they participate (leadership roles, voice, and influence). In our analysis, we pay particular attention to how local governance conditions (e.g., decision-making rules, leader attributes, organization) and external interventions serve to thwart or support inclusion in communal decision-making processes. In mapping out the barriers and interventions along the IAD framework, our analysis points to the need to pay more attention to how local rules arrangements shape participation, and in turn, offers specific entry points to promote more inclusive decision-making processes.

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## **1. Introduction**

Starting roughly in the 1980s, amidst calls for more democratic and transparent governance arrangements and a growing recognition of the rights and roles of local communities in managing their shared natural resource systems, many governments across the Global South began to implement decentralization reforms that granted communities greater decision-making rights over their forests, water, wildlife and fisheries (Agarwal, 2001; Agrawal, 2007; K. P. Andersson et al., 2006; Larson & Soto, 2008; Meinzen-Dick, 2007; Ribot, 2003). To date, community-based arrangements for natural resource management, and more recently, climate adaptation have continued to evolve as NGOs and governments consider how to partner with indigenous and local communities in conservation and sustainable development (Armitage et al., 2020; Berkes & Folke, 1998; Bryan & Behrman, 2013; Chowdhoree et al., 2020; Karim & Thiel, 2017; Omukuti, 2020).

A rich body of theory and research in rural development and natural resource management suggests that when local stakeholders are included in decision-making processes, in addition to being more democratic and just, the resultant decisions are more likely to be respected and may better address local social, economic and environmental needs and conditions (Berkes & Folke, 1998; DeCaro & Stokes, 2008; Dietz et al., 2003; Engle & Lemos, 2010; Gupta et al., 2015; Karim & Thiel, 2017; Lockwood, 2010). In resource management, specifically, scholars have highlighted the links between recognizing local rights and collective decision-making autonomy and successful conservation and livelihood outcomes (K. Andersson & Gibson, 2007; Dietz et al., 2003; T. M. Hayes, 2006; Ostrom, 1990; Persha et al., 2011).

Recognizing the rights of local and indigenous communities in their own development and resource management is fundamental for 'just' sustainability (Agyeman et al., 2003; Armitage et al., 2020; Gupta et al., 2015; Mcleod et al., 2016). Centering communal decision-making in resource management, however, does not guarantee that said decisions will be democratic, inclusive, or equitable (Agrawal & Gibson, 1999; Bryan & Behrman, 2013; Cleaver, 2017; Cooke & Kothari, 2001; Larson & Soto, 2008; Ribot, 2003).<sup>2</sup> While not negating the value of participation, scholars and practitioners caution against assuming that communal decisions are necessarily inclusive or equitable as power dynamics, cultural beliefs and traditional norms may favor local elite, and exclude women, poorer or less educated community members, lower castes, or other traditionally marginalized groups from communal decision processes and livelihood benefits (Agarwal, 2001; Baland & Platteau, 1999; Bryan & Behrman, 2013; Cooke & Kothari, 2001; Lund & Saito-Jensen, 2013; Pandolfelli et al., 2007; Sapkota et al., 2018).

In international development more broadly, and within resource management specifically, the inclusion of traditionally marginalized individuals, specifically women, has long been a topic of concern for scholars and practitioners alike (Agarwal, 2001; Agrawal & Gibson, 1999; Miller & Razavi, 1995; Rathgeber, 1990). Prior reviews have explored the role of women in forest management, providing key insights into how women use forests and engage in forest management activities (although not necessarily decisions), as well as the barriers they face (Leisher et al., 2016; Mai et al., 2011; Nunan & Cepić, 2020). Work by Agarwal has been instrumental in understanding how women participate in

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<sup>2</sup> Note, the challenges of participatory decision-making are not unique to local communities as inclusive and transparent collective decision-making is a struggle for all (Ostrom PNAS 2007; Bell and Reed 2021; Theesfeld 2017).

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community forestry decisions and potential avenues, namely quotas, for increasing participation (Agarwal, 2001, 2010, 2015). Nonetheless, although scholars and practitioners cite the importance of programs and policies to increase the inclusion of women (and at times other marginalized groups) in resource management and community decisions (Beaman et al., 2012; Cook et al., 2019; Grillos, 2018; McDougall et al., 2013; Miller & Razavi, 1995), it remains unclear, how policies have been implemented and the degree to which they address the barriers women and other marginalized community members may face.

As NGOs and governments look to partner with communities and support local decision-making rights, communities are often at the forefront in the challenging task of governing their complex social-ecological systems. Scholars of community resource management have documented both the importance of communal decision-making rights, and the problems that stem from elite capture and discrimination (Agrawal & Gibson, 1999; Coleman, 2009; Cox et al., 2010; T. M. Hayes, 2006; Ostrom, 1990; Persha et al., 2011; Persha & Andersson, 2014). Thus, a critical question for community leaders and practitioners alike, is not whether communities should have rights to manage their resource systems, but rather, how to identify and support communal decision-making processes that are inclusive of diverse voices, transparent, and just.

Here, we tackle one piece of this question by offering a diagnostic approach to identify how communal governance characteristics shape if and how distinct community members participate in collective decision-making forums. The objectives of our analysis are to advance our understanding of local governance elements that external organizations or community leaders themselves might tweak to facilitate more inclusive decision-making (Theesfeld et al., 2017).

To do so, we apply the Institutional Analysis and Development (IAD) framework (Ostrom 1990) in conjunction with Agarwal's participation typology (2001) to a review of the literature on barriers to, and interventions to support, participatory decision-making in community resource management. Our review includes studies from forests, water, fisheries, and climate adaptation and focuses specifically on participation (attendance, voice, perceived influence) in communal decisions (see Agarwal 2001). We did not limit the review to the participation of specific groups, but rather sought studies that examined participation of various socioeconomic and demographics in a community. We use the IAD framework to contextualize the environmental, community, and institutional factors identified in the specific studies, paying particular attention to the role of specific rule arrangements in shaping access to and level of participation in forum decision-making forums. Our analysis points to a set of oft overlooked governance institutions that shape communal decision-making spaces and in turn offer specific opportunities to promote more inclusive decision-making processes.

In the following, we discuss how our application of the IAD framework builds on theories in institutional analysis and work on participation, and then explain how we apply the framework to diagnose barriers to and opportunities for enhancing participation in communal decision-making spaces. We then present the methods we used to systematically review the literature, highlight some of the key findings from that review, and present how the identified barriers and interventions map along the IAD framework.

## **2. Theoretical Approach & Framework**

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The IAD framework was developed by Ostrom and colleagues as a means of identifying a set of universal building blocks or categories that can help us understand human interactions in a variety of contexts (Ostrom, 2005). To understand common-pool resource management, scholars have often applied the IAD framework to understand how biophysical conditions, community characteristics, and institutions, namely norms and rules, influence resource use and management outcomes (Basurto & Nenadovic, 2012; Coleman, 2009; Cox et al., 2010; C. C. Gibson et al., 2000; Persha et al., 2011). While institutions (e.g. norms and rules), are often central to the analysis of community resource management outcomes, few scholars have used the IAD to understand the factors that influence the communal rule-making process itself (T. Hayes & Murtinho, 2023; Theesfeld et al., 2017).

Here, we use the IAD framework to assess how a set of communal decision-making rules influence participation, taking into account the influence of biophysical, community, household and individual attributes. At the heart of the IAD framework are the action situations; the social spaces where individuals and organizations interact, engage in discussions, make rules, mediate conflicts (amongst other interactions) (Ostrom, 2011). In our analysis, our action situation of interest are the decision-making forums where community members make collective decisions about access, use, and management of their shared resource systems (Schlager & Ostrom, 1992). Our work builds on theoretical and empirical research on how rules influence participation in decision-making processes to provide a concrete set of rule arrangements that leaders and practitioners can use to identify institutional tweaks to enhance who is able to participate and the level of their engagement (Agarwal, 2010; Coleman & Mwangi, 2013; Crawford & Ostrom, 1995; T. Hayes & Murtinho, 2023; Theesfeld et al., 2017).

## **2.1 Linking rule arrangements to participation.**

Our outcome of interest is if and how traditionally marginalized sectors of a community engage in communal resource management decisions. Scholars of planning and rural development have long questioned how communities engage in public decisions and offer well-established frameworks to devise and assess participatory planning processes (Agarwal, 2001; Arnstein, 1969; Bell & Reed, 2022; Cornwall, 2008; Pretty, 1995). These frameworks, while pivotal in helping planners and other external actors think critically about how to engage with respective community members in decision-making processes, do not necessarily interrogate how communities themselves make decisions. In contrast, work by Agarwal (2001) is specifically oriented to assessing degrees of involvement in forest management decisions within villages or communities. Agarwal's typology (2001) considers the form of participation starting at nominal participation (simple membership) and builds from passive participation, active participation, to ultimately interactive or empowering participation where one's voice can influence the group's decision. Their work offers a gendered perspective that can easily be adapted to assess how a range of marginalized identities are included in or excluded in natural resource management decisions. On our study, we draw on Agarwal (2001) to define and assess inclusion based on the ability of diverse members of a community (gender, race, ethnicity, age, wealth, etc.) to hold leadership positions, attend, and influence communal decisions in resource management.

To assess how rules influence participation in local decision-making, we start with Crawford and Ostrom's proposed set of institutions that shape social interactions (Crawford & Ostrom, 1995; Ostrom, 2005) and propose a modified set of rules that directly influence membership, voice, and power in the decision-making environment. Ostrom and Crawford propose that seven types of rules affect how individuals interact in an action situation: position, boundary, choice, aggregation, information, payoff,

and scope. In the main, these rules define positions available (e.g. member or leader), eligibility requirements for having the respective positions, what a person in a position must, may, or must not do and the, how decisions will be made, the information that must or must not be made available, as well as the benefits and costs for a specific action (see Ostrom and Crawford chp. 7 in Ostrom 2005 for further description).

Theesfeld et al (2017) used the seven generic rule types to compare more participative and less participative decision-making a set of Thai community planning processes. Their findings pointed to how rules regarding entry and exclusion, information, and aggregation can influence different levels of participation in community development and planning committees (Theesfeld et al., 2017). Similarly, work on factors influencing women's participation in community forest decisions points to quotas for women in leadership positions (position and boundary rules) and how more open membership rules may increase women's' participation in forest management (Agarwal, 2010; Coleman & Mwangi, 2013).

In our analysis, we focus on four of the seven generic rule types as we consider those to be most direct in defining who can participate and how they can participate in a communal decision-making processes: (1) entry and exit rules; (2) choice rules; (3) aggregation rules; and (4) information rules.<sup>3</sup>

*Entry and exit rules* (boundary rules) define the eligibility criteria for who can participate and/or be a leader in communal decision-making and the process by which a person may be selected to participate, or in turn, asked to leave their position (for example be selected as leader).

*Choice rules* involve a range of possible decision-making rights. For participation, particularly important choice rules are agenda setting, and decisions surrounding meeting time and place (Coulter et al., 2019; Ostrom, 2005; Patnaik, 2021).

*Aggregation rules* determine how a communal decision will be made (e.g., unilaterally, voting, consensus, or other decision-process).

*Information rules* dictate the information available to participants. In the case of decision-making, important pieces of information include knowing meeting times, places, topics, and transparency in rule-making and budgetary decisions.

While position rules can create or reduce the number of positions available for participation, we are most concerned with rules that define the eligibility for holding those positions, rather than the number of positions per se. Likewise, scope rules fall outside the realm of this analysis as they are more directed at outcomes, rather than shaping the decision-process itself (Ostrom, 2005).

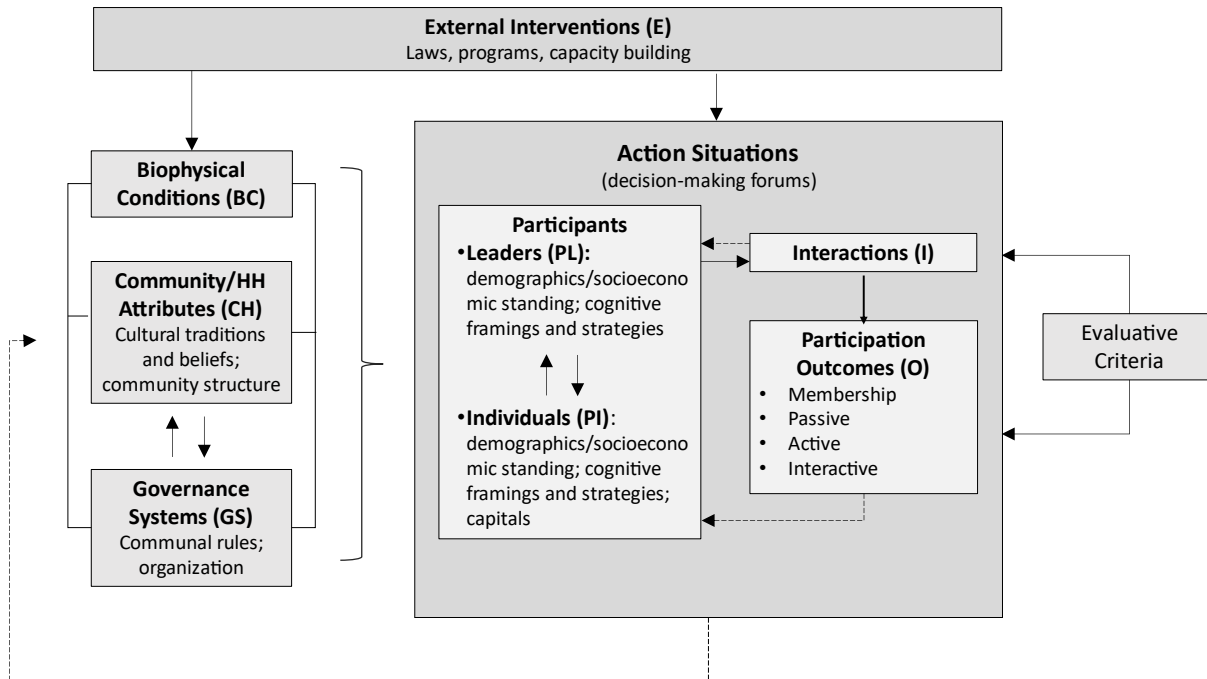
## **2.2 Application of IAD Framework to assess barriers and solutions to participation**

Figure 1 illustrates our approach to applying the IAD framework to assess participation. In our analysis, we are interested in the forums where communities make resource management decisions. While this may involve informal gathering spaces, our review pays particular attention to participation in formal forums, such as communal assembly meetings or subcommittees where individuals intentionally make decisions about how they will use and manage their shared resource systems.

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<sup>3</sup> Note, we have slightly modified the categories for simplification.

**Figure 1: Our approach: Institutional Analysis and Development (IAD) Framework to diagnose barriers and assess solutions, adapted from Ostrom (2011).**



We evaluate our participation outcomes by considering how specific individuals (e.g., women, less educated, lower caste, etc.) engage in the communal decision-processes. We use a modified version of Agarwal’s typology (2001) to define participation and code each of the respective studies in the review (see figure 1). In considering the degree of participation, we first considered the level of membership that the study examined; whether it focused on general participation in a community meeting, and/or whether the study examined participation in a leadership position or executive committee. Following Agarwal’s typology, we then examined the level of participation; (i) passive, or only attending and listening, (ii) active—expressing their opinion, and (iii) interactive—where the individual influences the group’s decision.<sup>4</sup>

As shown in figure 1, in addition to the attributes of the individuals participating in the decision-making arenas, participation in communal decision-making processes may also be influenced by the broader communal context, specifically, the biophysical conditions, household and community attributes, characteristics of the communal governance system, in addition to external interventions (policies and programs) that may shape participation by defining specific institutions and/or influencing an individual’s assets and knowledge. Previous research suggests community size, heterogeneity, trust, and geographic location may influence the ability of households to come together to address collective action problems (Agrawal, 2007; C. C. Gibson et al., 2000; Poteete & Ostrom, 2004). Likewise, community

<sup>4</sup> We recognize that this does not include all of Agarwal’s categories (2001). We did not find any studies that focused on consultative participation. Furthermore, while some studies looked at an individual’s participation in forest management or monitoring activities which could be considered activity specific participation, in this study we were specifically interested in how an individual participation in collective decisions, not management activities.

cultural and religious beliefs and traditions can shape communal and household attitudes toward who should be leading community decision-making processes and who has a right to attend and voice their concerns (Agarwal, 2001; Coulter et al., 2019).

Characteristics of the governance system include the organizational structures (e.g., leadership committees; women's groups) in a community and the rule-arrangements that dictate decision-making processes: (1) entry and exit rules; (2) choice rules; (3) aggregation rules; and (4) information rules.<sup>5</sup> In our review of the literature, we focus on how community and household beliefs interact with the characteristics of the communal governance systems, namely the organizational structures and rule arrangements, that, in turn, create barriers for participation, particularly from traditionally marginalized community members. We then map how external interventions identified in the literature directly address each of these respective categories of barriers.

### **3. Methods**

#### **3.1. Selection of studies**

Our review examined studies of local participation in community resource management decisions. Given the history of community management of forests, water, and to a lesser extent fisheries, we chose to focus on those specific systems (Leisher et al., 2016; Nunan & Cepić, 2020). In addition, recognizing the increasing interest in community-based adaptation to climate change (Bryan & Behrman, 2013), we also sought studies that examined communal decision-making processes for climate adaptation.

We identified studies for the review based on a structured literature survey in Web of Science and complimented this initial search with a snowball method that included relevant citations from the initial document search. In Web of Science, we combined pairs of keywords from two groups, one related to participation (participation, decision, IAD framework) and the other related to the focus of the study (forest, water association, fisheries, community-based climate adaptation). As we are interested in understanding the barriers that continue to limit participation as well as more recent interventions, we constrained the search for articles from 2010 to present (August 2023). The initial search resulted in 756 articles for forest, 367 for water association, 1201 for fisheries, and 284 for community-based climate adaptation. The first two authors then filtered these lists by reading the abstracts, and when necessary, the full studies, to ensure that the studies met the following inclusion criteria: (i) article is based on empirical evidence, (ii) examines community collective decision-making processes in forest, water and fisheries management, or community-based climate adaptation, (iii) focuses on lower- and middle-income countries, and (iv) addresses participation of a traditionally marginalized group(s), focusing on specific characteristics such as gender, class, socioeconomic standing, education, caste, etc. After reading and coding the first set of studies, we then used the snowball method to include articles from relevant citations in those studies. The final sample includes 59 studies.

The first two authors coded the 59 studies included in this review. Key categories pertinent to this analysis included the population assessed in the study (women, class, caste, etc.), the methods, how participation was assessed (based on our modified version of Agarwal 2001), barriers (if identified), and the intervention (if assessed) (please see appendix A for a full list of selected studies and how they were

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<sup>5</sup> Note, we have slightly modified the categories for simplification.



coded). To ensure consistency, the coded barriers, levels of participation, and interventions for all studies were verified independently by both the first and second authors.

### **3.2. Study Limitations**

A couple of caveats to note in our study. First, our study is not an exhaustive review of studies on participation in resource management. Rather, we were interested in understanding communally organized decision-making forums, specifically for decisions in forest management, water management and fisheries. Thus, we did not include regional multi-stakeholder forums or decision-making forums led by outside governmental or non-governmental agencies. Second, our original intent was to understand inclusive participation more broadly than gendered participation (e.g., ethnicity, wealth, socioeconomic status, caste, etc.). The majority of the studies we identified, however, focus on women. Thus, the barriers and governance mechanisms used to support more inclusive participation may be best suited to gender considerations. Third, in focusing on communal decision-processes and not those coordinated by outside organizations, we had hoped to identify if there were internal communal governance processes that might serve as models for community leaders wishing to support more inclusive decision-making. In our review, however, we found that studies focus on external interventions, rather than internal governance mechanisms. Finally, we want to recognize that this is an initial review of the studies. Studies were only included if they were published in a peer-reviewed journal in English between 2010 and August 2023. Furthermore, our studies are limited to resource management decision-making processes and by the initial search word terms that we employed.

## **4. Findings & Analysis**

### **4.1 Overview of Studies**

Our review identified 59 relevant articles. Of these, 58% focused on forest management, 25% on water management, 12% on fisheries, and 5% on climate change adaptation. Most studies (56%) examined communities in Asia, namely Nepal (22% of all studies) and India (19%). This was followed by studies in Africa (42%), mainly in communities in Kenya (10% of all studies). The fewest studies were conducted in Mexico, Central and South America (17%).<sup>6</sup>

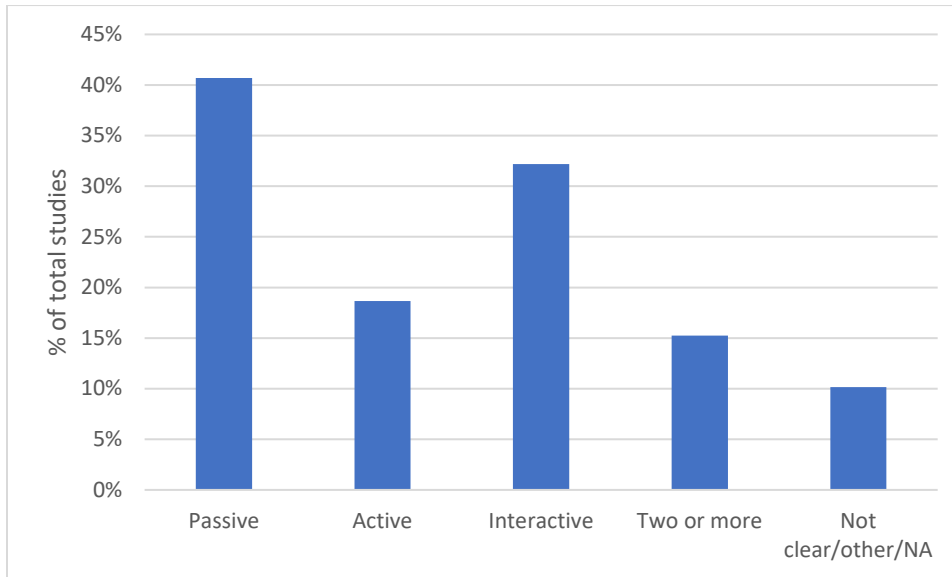
The majority of studies (68%) focused solely on the participation of women, 24% included women in intersection with other sociodemographic characteristics (ethnicity, caste, poverty, etc.), and just 8% of the studies examined multiple characteristics (gender, wealth, caste, education) that could influence participation. To assess participation, almost half of the studies (46%) assessed the role of a specific group (e.g., women, lower caste) in a leadership position in the community, as compared to simple membership or presence in a community meeting. With respect to methods, most studies (46%) used qualitative methods (including the use of focus groups, semi-structured interviews, and participatory action research), with some (20%) combining qualitative methods with surveys findings. The remaining studies used quantitative methods (including regression models) and one used field experiments.

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<sup>6</sup> These percentages do not add up to one hundred as some articles examined several countries and regions of the world.

Using Agarwal's (2001) participation typology, we found that most studies analyzed passive participation or presence in a meeting or leadership position (see figure 2). Only 32% of studies analyzed if participants had voice and influence in decision-making (interactive participation). Only 15% of the studies considered more than one level of participation.

**Figure 2. Levels of participation analyzed in studies.**



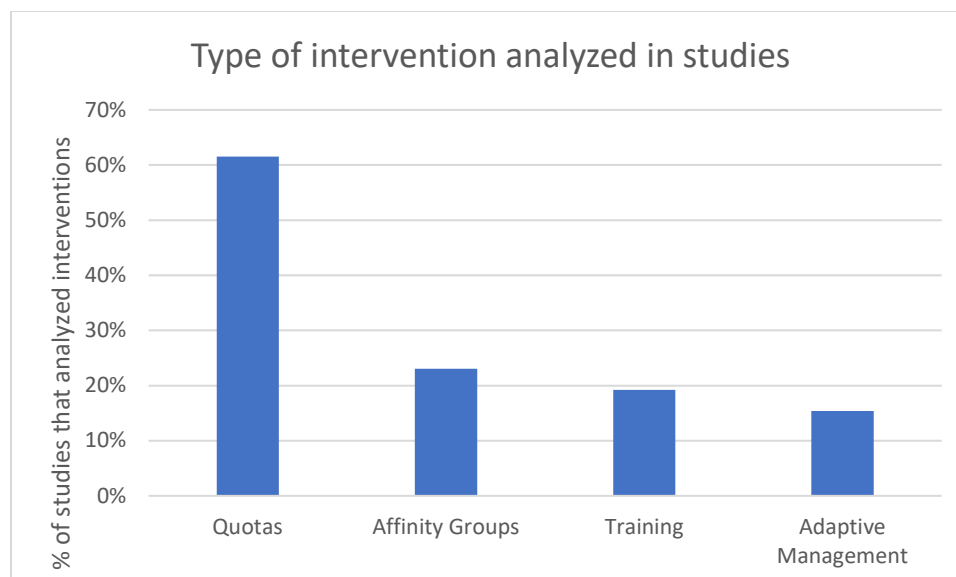
In considering participation, most articles (44%) analyzed the barriers to participation, 8% analyzed interventions to overcome these barriers, 36% analyzed both, and 12% analyzed other aspects including the benefits of inclusive participation, the characteristics of participants and participation processes. Barriers to participation focused largely on communal beliefs and norms about a particular group's role in public decision-making and how that structured leadership and decision-making processes (please see section 4.2.1 for a description of all barriers to participation).

As shown in figure 3, studies most often considered four broad types of governance interventions to promote more inclusive participation: quotas (62%), affinity groups (23%), specific training (19%) and adaptive governance interventions (15%).<sup>7</sup> Quotas were the most common intervention identified in our review, and the only intervention that directly addresses decision-making rules. Most of the quota studies (62%), were in India and/or Nepal. All quota studies considered gendered representation, however, one study also examined how quotas influenced the representation of poorer households and Dalits and Janajatis (indigenous nationalities) in community forestry executive committees in Nepal (Devkota, 2020).

**Figure 3. Type of interventions analyzed in studies.**

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<sup>7</sup> Note, the interventions are not mutually exclusive, and some papers examined more than one intervention.



Many of the interventions fall under the broad umbrella of capacity building. Affinity groups, namely women’s groups, were often recommended as a governance mechanism to build leadership skills, confidence, and a collective voice in communal decision-making forums, although relatively few studies directly assessed their influence on participation (Agarwal, 2015; Das, 2014; Guillaume, 2017; Lucungu et al., 2022; Mandara & Niehof, 2017; Mello & Schmink, 2017; Patnaik, 2021; Siripurapu & Geores, 2016). Targeted training programs on the skills or assets needed for participation (communication skills, income, civic education) often supported a specific group’s participation (Baker-Médard et al., 2023; Das, 2014; Grillos, 2018; Mello & Schmink, 2017). Lastly, a set of studies examined the use of adaptive management approaches to promote more inclusive and accountable governance processes (Cronkleton et al., 2021; Evans et al., 2019; McDougall et al., 2013). These studies used Participatory Action Research (PAR) methods to work with community members to reflect community governance and participation, envision what inclusive spaces would look like, create plans, and assess those plans (Cronkleton et al., 2021; Evans et al., 2019; McDougall et al., 2013).

#### **4.2 Analysis: Mapping Barriers and Interventions with the IAD**

In the following, we first discuss the primary barriers identified in the literature and align them within the IAD categories (see Table 1). We then map the principal interventions (quotas, affinity groups, training, and adaptive management approaches) to identify how these interventions address these barriers (see Table 2) and discuss the strengths and weakness of these approaches as documented in the reviewed literature.

##### **4.2.1 Participation Barriers**

Table 1 provides examples of the barriers identified in the literature and illustrates how we coded the barriers in accordance with categories within the IAD framework (see appendix B for a list of citations for these barriers). Please note that the categories are interactive, not linear, as barriers may be mutually

reinforcing. For example, in our review, while few studies examined the biophysical conditions (BC, table 1) that influenced participation, some did note the challenges of being physically isolated due to distance, poor transportation systems, and how this isolation was at times further reinforced by community gender roles that confined women to their homes (Das, 2014; Khandker et al., 2020).

Not surprisingly, the most frequently identified barriers were the lack of diversity in leader demographics and socioeconomic attributes (PL1, table 1). Forty-six percent of the studies identified male and elite leaders as a barrier to broader participation. Relatedly, the cultural traditions and beliefs in the community and the respective households (CH1) and power relations within the community (CH2) were frequently found to limit individual participation in communal resource management decisions (Baynes et al., 2015; Coulter et al., 2019; Guillaume, 2017; Patnaik, 2021). Many studies noted that traditional norms often relegate women to the private (household) sectors of society and discourage, and at times prohibit or punish, women from participating in public forums (Adams et al., 2018; Angula et al., 2021; Baynes et al., 2019; Dasthagir, 2021; Giri & Darnhofer, 2010; Guillaume, 2017; Khandker et al., 2020; Lucungu et al., 2022; Mukherjee et al., 2017; Nixon & Owusu, 2017; Patnaik, 2021; Samndong & Kjosavik, 2017; Yami, 2013). In addition, studies identified how cultural beliefs about the characteristics needed to be a leader further disadvantaged marginalized groups. For example, women, Dalit, and lower-class persons were often perceived by others not to have sufficient knowledge to participate in natural resource governance decisions and to lack attributes such as authority, public speaking skills and social connections that were needed to be a leader (Hannah et al., 2021; Hyle et al., 2019; Lama et al., 2017; Mukherjee et al., 2017).

These cultural beliefs and traditions can, in turn, influence an individual's assets and perceptions of their abilities or rights to participate (PI, table 1). Studies found that, in addition to citing time, and lack of skill or interest as reasons for non-participation, women often feared public shaming or punishment, lacked confidence in their own knowledge, and questioned whether they belong in public spaces (Adams et al., 2018; Baker-Médard et al., 2023; Coulter et al., 2019; Dasig, 2020; Girard, 2014; Guillaume, 2017; Imburgia et al., 2021; Lama et al., 2017; Nagahama et al., 2022; Nixon & Owusu, 2017; Nunan & Cepić, 2020; Yami, 2013).

Power relations and roles supported by cultural traditions and beliefs are often reinforced by the governance systems (GS, table 1) that fail to provide traditionally marginalized groups organizational spaces where they can gather to identify their collective interests, and an institutional process by which they can participate in communal decisions (Coulter et al., 2019; Guillaume, 2017; Hannah et al., 2021; Patnaik, 2021; Yami, 2013). In many cases, rule arrangements were often implicit barriers, although few studies explicitly examined the rules. Rules that *restricted entry* (GS1) were the most frequently identified institutional barriers. Common-eligibility criteria that restricted participation were land or home ownership (often restricts poor and women), and association fees required for participation (Adams et al., 2018; Coleman & Mwangi, 2013; Imburgia et al., 2021). In addition, several authors pointed to how missing or vague rules about the selection process for leadership positions allowed for current leaders to dictate selection (Giri & Darnhofer, 2010; Nagahama et al., 2022; Saito-Jensen et al., 2010). For example, in their study of the selection of women leaders for community forestry committees, Murer and Piccolo (2022) found that names were first nominated by a male leader. This leader purposefully nominated women that lacked experience and time, and therefore did not challenge male power over the forestry committee.

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Similarly, the review found that a lack of *choice rules* (GS2, table 1) and clear processes for how collective decisions would be made (*aggregation rules*) (GS3), allowed a select few to retain control over meeting times and places, the topics to be discussed and the decision-processes (Coulter et al., 2019; Guillaume, 2017; Khandker et al., 2020; McDougall et al., 2013; Murer & Piccoli, 2022; Patnaik, 2021; Saito-Jensen et al., 2010). One study noted how communities used an ill-defined “handclapping approach” to vote, making it difficult to challenge the leaders’ decisions (Murer & Piccoli, 2022). In their assessment of participation in community-based adaptation projects in Senegal, Patnaik (2021) discusses how women perceived that the meetings were specifically designed only for passive participation. The men would make and announce the rules, and then ask for opinions from the rest of the community, but with the expectation that comments would be limited to those in support. Similarly, studies found that some leaders used informal strategies to limit participation such as intimidating, belittling, or ignoring an individual or group if they felt that they were questioning their authority (Baker-Médard et al., 2023; Coulter et al., 2019; Evans et al., 2017; Guillaume, 2017).

Lastly, while our review did not identify any studies that specifically analyzed rules about *information* sharing (GS4, table 1), several studies found that lack of information on meeting times and places and elections processes was a barrier to participation (Adams et al., 2018; Chattopadhyay et al., 2022; Coulter et al., 2019; Giri & Darnhofer, 2010; Larson et al., 2015; Nixon & Owusu, 2017; Ward et al., 2018).

**Table 1: Participation barriers mapped with IAD Framework**

IAD* Category and Barrier to Participation	Examples <sup>+</sup>
BC - Biophysical Conditions	
BC1 - Physical isolation	Distance to meeting spaces or time involved in travel to meet with leaders may limit participation.
CH - Community and Household Attributes:	
CH1 - Norms and beliefs about a group's societal role and responsibilities	Tradition that women should be in the private sphere (home) and not involved in the public sphere. Belief that a particular group, for example Dalit, women and/or less educated do not have leadership attributes or skills.
CH2 - Power relations and Patriarchy	Tradition that women should not speak up when men are present. Men/husbands prohibit women from attending or talking in meetings via physical, social and/or psychological threats.
CH3 - Community size	Higher participation in mid-sized groups (not too small or too big).
GS - Governance Systems: Rules	
GS1 - Entry rules: Restrict eligibility and selection process to participate	Attendance and participation in water user associations is restricted to homeowners. Leadership positions chosen after male leader nominates potential candidates.
GS2 - Choice rules: Agenda setting, meeting time and place decided by few.	Elite men maintain control of meeting by deciding the issues that will be discussed.
GS3 - Aggregation rules: Lack of clarity on how to collective decision made (e.g., vote, consensus)	Decision made by leadership committee or select few; voting done by clapping.
GS4 - Information rules: Lack of rules on communicating with public on meetings, decisions, etc.	Community members lack information who can participate in meetings and how elections work.
GS - Governance Systems: Organization	
GS5 - Marginalized groups lack ability to coordinate, lead, and act collectively	Lack of women's groups; lack of motivation of marginalized groups to organize; inability to agree on shared goals.
GS6 - Lack access to decision-making spaces	Some groups do not have access to informal decision-making spaces, or to spaces they can call their own.
PL – Participants: Leaders	

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PL1 - Lack of leader demographic and socioeconomic diversity

Leadership tends to be male and elite dominated spaces that limits breath of opinion and knowledge in collective decisions. Lack of diverse role models.

PL2 - Leaders use power to maintain status quo

Intimidate and belittle: "you don't know enough". Exclude or ignore a particular group in meetings if leaders feel that their authority is being questioned.

PI – Participants: Individuals

PI1 – Demographic & Socioeconomic standing

Most commonly demographic and socioeconomic attributes studied is exclusion of women and Dalit.

PI2 - Low self-confidence, fear of social risks, and retribution

Perceive a lack confidence that they have skills/knowledge; women fear that they are neglecting their household responsibilities. Shame voicing opinions; fear of conflict; self-withdraw from meetings.

PI3 - Lack of skills, financial resources, and time

Lack of skills (technical process, governance, leadership, accounting) from formal or informal education. Lack of time due to domestic burdens. Lack of financial resources needed to participate/lack of economic power.

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+ See appendix B for a list of citations for each identified barrier.

#### **4.2.2 Mapping Interventions to Barriers**

To understand how interventions are addressing the various barriers, we map the broad categories of intervention studied in the literature along the previously identified barriers (see Table 2). As shown in Table 2, we distinguish if the intervention *directly* addresses a barrier, for example by explicitly changing a rule or providing resources intended to improve participation, or *indirectly* influences a barrier as part of spillover effects or changes that would be presumed to occur over time (see table 2).<sup>8</sup>

Quotas, for example, *directly* address entry rules (GS1, table 2) by defining the eligibility requirements for a certain number of leadership positions. In redefining entry rules, quotas also *directly* change the composition of the leadership committee (PL1). The assumption is that over time, quotas will *indirectly* promote greater diversity by changing how traditionally marginalized constituents see their role in decision-making processes (PI1 and PI2), and at the community level by changing traditional beliefs about a particular group's role in society and the respective governance processes (CH1 and CH2) (Agarwal, 2010; Beaman et al., 2012; Dahlerup, 1988; Kalaramadam, 2018; Kanter, 1977; Murer & Piccoli, 2022).

In our review, studies presented mixed findings on the ability of quotas to support more inclusive decision-making. Several studies found that quotas can increase the representation of women (and other designated groups) in leadership committees (Agarwal, 2010; Cook et al., 2023; Devkota, 2020; Giri & Darnhofer, 2010; Hannah et al., 2021; Leone, 2019; Murer & Piccoli, 2022). Studies also indicated how, over time, quotas contributed to changes in community perceptions of women in leadership positions and their participation in decision-making (Giri & Darnhofer, 2010; Hannah et al., 2021; Mandara & Niehof, 2017; Patnaik, 2021). Some also found that more women in leadership encouraged other women to consider leadership positions, attend meetings and voice their concerns (Agarwal, 2010, 2015; Patnaik, 2021).

Authors also noted how quotas alone are not sufficient. As shown in table 2, quotas are narrow in scope. While they may dictate that a minimum number of leadership positions must be held by persons with particular demographic or socioeconomic characteristics, they do not stipulate how leaders will be chosen nor do they address any additional rules that shape decision-making environments, or the capacities of individuals to engage. Study findings from our review point to the limitations of changing only the entry rule, without addressing other decision-making rules, traditional power-relations, or the skills needed to participate in governance decisions. For example, several studies found that community members lacked basic information about eligibility criteria, and how leaders were selected, with elite leaders, at times, controlling the selection process (Devkota, 2020; Hannah et al., 2021; Lama et al., 2017; Murer & Piccoli, 2022; Nunan & Cepić, 2020). In some cases, women or other traditionally marginalized persons were accepted into leadership positions only as 'token' members without any decision-making rights, at times because they were not perceived to be legitimate leaders, and at times, because some women themselves struggled with confidence and skills to fully participate in governance processes (Devkota, 2020; Hannah et al., 2021; Lama et al., 2017; Murer & Piccoli, 2022; Nunan & Cepić, 2020).

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<sup>8</sup> Note, table 2 shows how the interventions map out in broad strokes; the specific interventions studied often vary in the degree to which they address the respective barriers.



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**Table 2. Mapping how interventions can influence the barriers to participation.**

IAD* Category and Barrier to Participation	Quotas	Affinity Groups	Training	Adaptive Management
BC - Biophysical Conditions				
BC1 - Physical isolation				
CH - Community and HH Attributes				
CH1 - Norms and beliefs about groups societal role and responsibilities	Indirect	Indirect	DIRECT	DIRECT
CH2 - Power relations and patriarchy	Indirect	Indirect	Indirect	DIRECT
CH3 - Community size				
GS - Governance Systems: rules				
GS1 - Entry rules: Restrict eligibility and selection process to participate	DIRECT			
GS2 - Choice rules: Agenda setting, meeting time and place decided by few			Indirect	Indirect
GS3 - Aggregation rules: Lack of clarity on how to collective decision made (e.g., vote, consensus)				
GS4 - Information rules: Lack of rules on communicating with public on meetings, decisions, etc.				
GS - Governance Systems: organization				
GS5 - Marginalized groups lack ability to coordinate, lead, and act collectively		DIRECT	DIRECT	DIRECT
GS6 - Lack access to decision-making spaces				DIRECT
PL – Participant: Leaders				
PL1 - Lack of leader demographic and socioeconomic diversity	DIRECT			
PL2 - Leaders use power to maintain status quo				
PI – Participant: Individuals				
PI1 - Demographic & socioeconomic standing	Indirect			
PI2 - Low self-confidence, fear of social risks and retribution	Indirect	Indirect	DIRECT	DIRECT
PI3 - Lack of skills, financial resources, and time			DIRECT	DIRECT

\*Institutional Analysis and Development

Affinity groups, in contrast to quotas, do not address rules, but rather, *directly* address the organizational capacity of a group (GS5, table 2). Affinity groups, such as women's groups, are intended to provide spaces for traditionally marginalized individuals to identify common interests, establish a collective voice and confidence to speak up, and serve in leadership positions. These groups are at times paired with some sort of skill-building opportunities (PI2) (Baker-Médard et al., 2023; Das, 2014; Mello & Schmink, 2017). Affinity groups in and of themselves do not change the institutional arrangements that structure decision-making processes. Nonetheless, by establishing a shared voice and power in numbers, the hope is that these groups will (*indirectly*) enable their members to challenge traditional beliefs and power relations and to participate more fully in communal resource management discussion (CH1 and CH2) (Agarwal, 2015, 2023; Lucungu et al., 2022; Mandara & Niehof, 2017; Mello & Schmink, 2017).

Studies in our review, and more broadly on the role of women's groups in participation, suggest that while said groups may be effective at increasing women's voices on certain issues in decision processes (Brody et al., 2015; Guillaume, 2017; Patnaik, 2021; Prillaman, 2023), it is questionable whose interests within a group are advanced, and the extent to which a group's presence results in their systematic inclusion in resource management decisions (Agarwal, 2015; Das, 2014; Díaz-Martin et al., 2023; Lucungu et al., 2022; Siripurapu & Geores, 2016). For example, Guillaume (2017) and Patnaik (2021) found that women living in communities with strong history of social capital and organized women's groups had greater participation in community discussions as women felt more empowered to speak and respected, although, younger, less educated and minority women tended to have less confidence to speak up. Similarly, studies on how gender composition influences decision-making point to how traditionally marginalized groups, even when organized, may lack the political power and assets needed to influence larger, mixed-group community decisions (Baker-Médard et al., 2023; Mwangi et al., 2011; Suna et al., 2011). Scholars highlight the need to attend to the internal organizational dynamics within groups, as well as the institutional arrangements that shape who participate in broader communal decision processes (Agarwal, 2015; Das, 2014; Guillaume, 2017).

Lastly, training and adaptive management approaches were often part of multipronged interventions that targeted several barriers. While training interventions traditionally are more narrowly focused, *directly* working to support the skills and confidence of traditionally marginalized groups to participate in communal decision-making forums (PI2 and PI3, table 2); some also *directly* address societal norms around participation by including trainings to the men and/or broader community on the importance of different voices in the decision process (Baker-Médard et al., 2023; Grillos, 2018). Like affinity groups, the assumption is that if individuals have the skills to participate, and their participation is recognized as important, they will be able to voice their opinions and influence the decision-making processes.

Adaptive management approaches also tap into the participation barriers in various places (Cronkleton et al., 2021; Evans et al., 2019; McDougall et al., 2013). The adaptive management interventions reviewed *directly* addressed traditional beliefs and norms by asking participants to reflect on how their beliefs and decision-processes might exclude or marginalize certain groups and to envision what inclusive spaces would look like. They also provided decision-making spaces for traditionally marginalized community members to come together and voice their concerns. Ideally, these social learning processes result in changes to rules that create more inclusive decision-making spaces (Cronkleton et al., 2021; Evans et al., 2019; McDougall et al., 2013). The studies reveal, however, that rule change and more inclusive decision-making are not a given, but are dependent on broader

community and leader buy-in, and may require extensive time commitments (Cronkleton et al., 2021; Evans et al., 2019).

In considering the components of successful training or adaptive governance interventions, several authors noted the importance of *directly* addressing societal norms by including leaders and current decision-makers in the process and intentionally framing how more inclusive processes would benefit all to (Baker-Médard et al., 2023; Cronkleton et al., 2021; Evans et al., 2019; Grillos, 2018; McDougall et al., 2013). For example, McDougal et al.'s (2013) work on a multi-year adaptive management project in Nepal to increase engagement of women and the poor in community forestry decision-making found that through a series of facilitated reflections on their governance processes, visioning, planning and self-monitoring, the community forestry groups in the study restructured their governance arrangements. In contrast, Evans et al (2019) used a similar adaptive collaborative model and found that while it opened space for women to voice their opinions and concerns, this did not necessarily result in sustained governance changes to increase transparency and inclusivity. The authors noted that leaders sometimes felt threatened by the tool, and, in turn, failed to make changes or legitimize the process.

## **5 Conclusions**

### **5.1 Assessing the Intervention Gaps**

No single intervention is expected to address all barriers. However, by using the IAD framework to align the different interventions along the respective barriers we can see areas that are most frequently directly targeted, their presumed indirect impacts, and additional governance points of entry. We find that interventions have often targeted the confidence and skills needed for individuals to participate in collective decision-making processes. Some training and adaptive management approaches may also directly target community norms and power relations that shape who is involved in decision-making. It is less clear, however, how frequently or systematically interventions target the rule arrangements that shape participation communal resource management decisions.

In considering the governance system barriers, the analysis shows that the rule arrangements that shape decision-making are often overlooked. While authors often pointed to how traditional beliefs and cultural norms limited participation, few explicitly considered how beliefs and norms are translated into rule arrangements that shape a decision-making environment. While in some cases, community norms are explicitly stated in a rule (such as entry restrictions that require land ownership thereby limiting poorer community members and women), in many cases the absence of an explicit rule allows for more informal communal norms in their place.

In our review, quotas were the only intervention that directly addressed a participation rule. Quotas were also the most-often studied intervention to support participation, and globally, gender quotas are one of the most commonly used policy tools to increase the number of women in leadership positions (Beaman et al., 2012; Kalaramadam, 2018; Murer & Piccoli, 2022). The IAD analysis and studies reviewed illustrate, however, that although quotas can help define entry rules, more attention is needed to the other rules that shape decision-making rights. Specifically, the rule arrangements defined by Ostrom and Crawford (Ostrom 2005, pp 186-214), highlight the need to address who has the right to make *choice rules* that determine what issues are discussed, and similarly, the stipulation of the *aggregation rules* that decide disparate opinions will be heard and accounted for in resource management decisions. Likewise, the articles reviewed pointed to how rules that shape how *information* about governance

processes is shared, and how it is gathered from the distinct community members is critical for supporting inclusive decision processes.

We recognize that rulemaking (a decision process in itself) is not easy (Basurto & Coleman, 2010; Dietz et al., 2003; Knight, 1992; Ostrom, 1990). Previous research on communal resource management, and the studies here, highlight the importance of the participation of key stakeholders for rule legitimacy and compliance (Cronkleton et al., 2021; DeCaro & Stokes, 2008; Evans et al., 2019; C. Gibson et al., 2003; McDougall et al., 2013). While this may seem like a Catch-22 as rule creation for more inclusive participation requires a participatory process, the barriers and interventions mapped along the IAD offer insights into where and how to facilitate tweaks for a more inclusive governance environment. Namely, the analysis of the barriers points to the importance of assessing how the current leaders perceive participation, and potential threats from more inclusive processes, as well as restrictions based on broader communal norms and power dynamics. Studies of more successful capacity building interventions highlight how the interventions can recognize current leader interests and broader community resistance by using a framing strategy that emphasizes the benefits of more inclusive decision-making, and by ensuring that those that might be resistant are included in the capacity building and rule-making processes (Baker-Médard et al., 2023; Cronkleton et al., 2021; McDougall et al., 2013). For example, Baker-Médard et al. (2023) discuss how an intervention to support participation of women fishers was strategically framed to emphasize the utilitarian and ethical benefits of women's participation, and how they intentionally invited key men to the workshops who thereby provided greater legitimacy for the gender equity initiatives.

## **5.2 Future Directions**

In considering lessons and future directions, our review and subsequent analysis offers the following. First, in mapping out the barriers and interventions along the IAD framework, our analysis suggests the need to pay more attention to rule arrangements that shape decision-making. It also suggests that a potential point of entry for organizations wishing to support more participatory processes is to use the rule typology and lessons from the adaptive management interventions to promote institutional changes, and constructive governance spaces for inclusive decision-making.

Second, our review indicates the need for future research to better understand how the micro-governance conditions, and respective interventions shape decision-making over time and geographic place. We have well documented the barriers; we have less empirical evidence, however, on how micro-level governance conditions and specific interventions promote more inclusive environments. For example, while affinity groups, specifically women's groups, were frequently cited as a beneficial intervention, we lack systematic empirical analyses that examine when and how said groups influence participation in resource management decisions. Likewise, although quotas have been applied throughout the world (Murer & Piccoli, 2022), most studies of quotas on resource management have been in India and Nepal.

Related to the scope of studies and interventions, our review indicates that more research is needed on the inclusion of a broader array of community members. Participation of women is critical in natural resource management. Work on participation in resource management, however, points to how women are not the only disadvantaged group and that even within gender, there are divisions based on class, race, wealth, and other individual characteristics. More than two-thirds of the studies focused solely on

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the participation of women. Here, we argue that greater attention to the rule configurations that shape participation can help identify not only how women may be marginalized, but also how rules may support, or limit participation of all community members given their respective socio-economic and demographic characteristics.

Finally, we encourage more research on what we can learn from successful communities. The original intent of our review was to understand the micro-governance conditions found in communities that were successful in participatory decision processes. As noted, participatory decision-making is a struggle for all. While external interventions can be important in facilitating more inclusive processes (Cronkleton et al., 2021), we may be missing lessons of organic initiatives that could support us all in our decision-making processes.

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**Appendix A: List of selected studies**

Please contact first author for Excel spreadsheet.

**Appendix B: List of Barriers with corresponding cites.**

<b>IAD Category</b>	<b>Subcategory</b>	<b>Barrier</b>	<b>Examples</b>	<b>Cites to articles included in review</b>
<b>Biophysical Conditions</b>		Physical isolation	Distance to meeting spaces or time involved in travel to meet with leaders may limit participation.	Chattopadhyaya et al. 2022; Das 2014; Lama et al. 2017; Khander et al. 2020
<b>Community and Household Attributes</b>	Cultural traditions and beliefs	Norms and beliefs about a group's societal role and responsibilities	Tradition that women should be in the private sphere (home) and not involved in the public sphere	Guillaume 2017; Giri & Darnhofer 2010; Lucungu et al 2022; Patnaik 2021; Baynes 2019; Samndong 2017; Mukherjee et al 2017; Adams et al 2018; Nixon & Owusu 2017; Khandker et al 2020; Dasthagir 2021; Murer and Piccoli 2022; Hyle et al 2019; Yami 2013; Nagahama et al 2022; Nunan & Cepic 2020; Kwok et al 2020; Baker-Medard et al 2023; Angula et al 2021
			Belief that a particular group, for example Dalit, women and/or less educated do not have leadership attributes or skills	Lama et al 2017; Imburgia et al 2021; Hannah et al 2021; Hyle et al. 2019; Mukherjee et al 2017; Evans et al 2017;
	Power relations and Patriarchy	Tradition that women should not speak up when men are present	Yami 2013	
	Community structure	Community size	Men/husbands prohibit women from attending or talking in meetings via physical, social and/or psychological threats Higher participation in mid-sized groups (not too small or too big)	Guillaume 2017; Evans et al 2017; Patnaik 2021; Hyle et al 2019; Imburgia et al 2021; Yami 2013; Khandker et al 2020; Coulter et al 2019 Chattopadhyaya et al. 2022;
<b>Governance Systems</b>	Communal rules-in-use	Entry rules: Restrict eligibility and	Attendance and participation in water user associations is restricted to homeowners	Guillaume 2017; Saito Jensen et al. 2010; Giri and Darnhofer 2010; Satayal et al. 2020; Coleman and Mwangi 2013; Murer and Piccoli 2022; Adams et al. 2018; Khander

Organizational Capacity	selection process to participate	Leadership positions chosen after male leader nominates potential candidates	et al 2020; McDonald 2019; Samndong 2017; Imburgia etal 2021
	Choice rules: Agenda setting, meeting time and place decided by few.	Elite men maintain control of meeting by deciding the issues that will be discussed	Patnaik (2021); McDougal et al. 2020; Guillaume 2017; Coulter etal 2019; Khander et al. 2020; Lama etal 2017; Hyle et al. 2019
	Aggregation rules: Lack of clarity on how to collective decision made (e.g., vote, consensus, leader)	Decision made by leadership committee or select few; voting done by clapping	Murer and Piccoli 2022; Saito-Jensen et al; 2010; Patnaik 2021
	Information rules: Lack of rules on communicating with public on meetings, decisions, etc.	Community members lack information who can participate in meetings and how elections work.	Chattopadhyya et al. 2022; Giri & Darnhofer 2010; Ward etal 2018; Nixon & Owusu 2017; Coulter etal 2019; Larson etal 2015; Adams et al. 2018
Marginalized groups lack ability to coordinate, lead, and act collectively	Lack of women's groups; lack of motivation of marginalized groups to organize; inability to agree on shared goals	Guillaume 2017; Yami 2013; Coulter etal 2019; Hannah etal 2021; Patnaik 2021	
Lack access to decision-making spaces	Some groups do not have access to informal decision-	Yami 2013 ; Guillaume 2017; Das 2014	

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			making spaces, or to spaces they can call their own	
<b>Participants: Leaders</b>	Demographics and socioeconomic standing	Lack of leader demographic and socioeconomic diversity	Leadership tends to be male and elite dominated spaces that limits breath of opinion and knowledge in collective decisions. Lack of diverse role models.	Adams etal 2018; Adjei etal 2023; Agarwal 2010; Agarwal 2015; Benjamin 2010; Coleman etal 2013; Cook etal 2023; Dasthagir 2021; Devkota 2020; Evans etal 2019; Ghandi etal 2020; Girard 2014; Guillaume 2017; Hannah etal 2021; Hyle etal 2019; Imburgia 2021; Kahsay etal 2021; Lama etal 2017; Larson etal 2015; Leone 2019; Mandara etal 2017; McDougall etal 2013; Mukherjee etal 2017; Murer and Piccoli 2022; Nagahama etal 2022; Nixon etal 2017; Saito-Jensen et al 2010; Yami 2013;
	Cognitive framings and strategies	Leaders use power to maintain status quo	Intimidate and belittle: "you don't know enough" Exclude or ignore a particular group in meetings if leaders feel that their authority is being questioned	Guillaume 2017; Evans etal 2017; Coulter etal 2019; Baker-Medard etal 2023 Guillaume 2017; Yami 2013; Evans 2017
<b>Participants: Individuals</b>	Demographics and socioeconomic standing	Lack of diversity in broader participation	Most commonly demographic and socioeconomic attributes studied is exclusion of women and Dalit	All studies examine at least one demografic characteristic
	Cognitive framings and strategies	Low self-confidence, fear of social risks, and retribution	Perceive a lack confidence that they have skills/knowledge; women fear that they are neglecting their household responsibilities Shame voicing opinions; fear of conflict; self-withdraw from meetings	Guillaume 2017; Lama etal 2017; Patnaik 2021; Hyle etal 2019; Adams etal 2018; Imburgia etal 2021; Coulter etal 2019 Guillaume 2017; Adams etal 2018; Yami 2013; Khandker etal 2020; Ragsdale etal 2022; Evans etal 2017
	Capitals	Lack of skills, financial	Lack of skills (technical process, governance,	Lama etal 2017; Samndong 2017; Hyle etal 2019; Adams etal 2018; Imburgia etal 2021; Chattopadhyay etal 2022; Khandker etal 2020; Nixon and Owusu 2017

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	resources, and time	leadership, accounting) from formal or informal education	
		Lack of time due to domestic burdens	Guillaume 2017; Lama etal 2017; Adams etal 2018; Nixon & Owusu 2017; Imburgia etal 2021; Yami 2013; Coulter etal 2019; Nagahama etal 2022; Nunan & Cepic 2020; Baker-Medard etal 2023; Dasig 2020
		Lack of financial resources needed to participate/lack of economic power	Samndong 2017; Khandker etal 2020; MacDonald 2019; Dasthagir 2021; Coulter etal 2019; Nagahama etal 2022