



Research

# Using Q-methodology to bridge different understandings on community forest management: lessons from the Peruvian Amazon

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**ABSTRACT.** Community forest management (CFM) is promoted as a strategy to reach multiple development outcomes including the sustainable use of forest resources, forest conservation, poverty alleviation, and social equity through the devolution of rights to forest-dependent communities. Developing effective and equitable strategies to promote CFM requires consensus on its goals and the approaches for reaching those goals. Finding common ground among diverse actors involved in the promotion of CFM can be a challenge when their multifaceted expectations and beliefs are not explicitly enunciated or consciously expressed, obscuring contradictions, conflicting objectives, or even shared agendas. An initial step to reaching consensus would be to clarify the range of perspectives that exist to identify common ground and areas of divergent opinion. We report on an initiative applying Q-methodology as a means of identifying differing perspectives on CFM through interviews with 34 informants representing 6 stakeholder groups involved in the promotion of CFM in the Peruvian Amazon: Indigenous leaders, government policymakers, technicians from non-governmental organizations (NGOs), university professors, forestry students, and representatives of donor agencies. We found four different perspectives on what CFM should do: balance conservation with community rights, encourage capacity and enterprise development, technical oversight to protect forests on behalf of Indigenous communities, and support for grassroots Indigenous autonomy. These perspectives revealed differences in how conservation should be achieved and where balance between technical requirements, Indigenous environmental management, and stewardship practices should be favored. Despite different viewpoints, the perspectives also revealed shared understanding of CFM as a mechanism that could emphasize both supporting community rights and conservation goals. This example illustrates how Q-methodology can generate information on the range of perceptions underlying broad strategies such as the promotion of CFM that can facilitate dialogue around shared pathways and agendas.

**Key Words:** *Amazon; community forestry; conservation; development; forests; Indigenous peoples; Peru; Q-methodology*

## INTRODUCTION

Efforts to promote community forest management (CFM) are driven by diverse objectives, assumptions, and beliefs that shape the strategies and priorities underlying decision making. Community forest management initiatives are increasingly part of a trend to recognize and devolve rights over land and forest resources to communities (Pacheco et al. 2012). This has occurred within a broader process of decentralization and the promotion of more inclusive resource governance in forest-based initiatives often intended to address climate change (Edmunds and Wollenberg 2003, Agrawal et al. 2008, Cronkleton et al. 2011, Bowler et al. 2012). This trend is supported by growing evidence that maintaining forests under community management reduces deforestation more than other land regimes, including protected areas (Blackman et al. 2017, Schleicher et al. 2017, Garnett et al. 2018).

Using a broad utilitarian focus, community forest management can be defined as “forest use and governance arrangements under which the rights, responsibilities, and authority for forest management rest, at least in part, with local communities” (Hajjar et al. 2016:1358). However, CFM is a broad concept in practice with ambiguous definitions, competing agendas, and diverse practices reflecting multiple worldviews. Within the CFM literature, emergent themes include conservation, community rights, livelihoods, poverty alleviation, policy reform, enterprise development, legal compliance, and operationalization of Indigenous management practices (see, among many others, Sabogal et al. 2008, Molnar et al. 2008, Sears and Pinedo-Vasquez 2011, Gaviria and Sabogal 2013, Oldekop et al. 2013, Hajjar et al. 2016, Torres-Rojo et al. 2019). Efforts to support CFM are

likely inhibited by the lack of consensus around its goals, the strategies for reaching those goals, and the criteria that should be used to track success. Such consensus is elusive as long as underlying assumptions and expectations are not explicit and debated. However, the status quo leaves numerous pitfalls that could undercut CFM initiatives. This is particularly true in tropical forests in which histories of unequal access to land and resources, as well as weak or conflictive governance over natural resources, predominate.

We report on a test of Q-methodology (Stephenson 1953) to explore variation in how forest development proponents perceive CFM. We use the results to identify areas of common ground and divergent views among these CFM experts. Q-methodology combines qualitative and quantitative research methods for the systematic recording and comparison of the subjective perceptions held by participants on a single issue (Watts and Stenner 2012). This method allows for the identification of subgroups (factors) with similar perceptions among the participants and the identification of similarities and differences between those subgroups. Use of this methodology in the environmental social sciences has increased over the past decade (Albizua and Zografos 2014, Davies et al. 2016, Ormerod 2017). Q-methodology has also been applied to research on forest management to understand local perceptions on best management practices in specific local areas (Steelman and Maguire 1999, Rodriguez-Piñeros et al. 2012, Hugé et al. 2016). We present a novel approach to Q-methodology studies by applying it to understand views of CFM as a national policy project in Peru, rather than in a more specific local context.

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We focus on CFM in the Peruvian Amazon to explore diverse views that shape the promotion of local forest management. Because there are distinct approaches to CFM, implicit preferences need to be clear to plan a coherent and articulated national strategy to support CFM. For example, Peruvian agencies that deal with CFM include mandates to ensure legal compliance with forest policy such as The Supervisory Body of Timber Forest Resources, (OSINFOR for its initials in Spanish); to distribute conditional payments for forest conservation or sustainable use, such as the National Forest Conservation Program (PNCB for its initials in Spanish); and to define regulations for forest resource use, such as Peru's Forest and Wildlife Service (SERFOR for its initials in Spanish). These agencies interact with Indigenous communities, their representative organizations, and civil society groups lobbying for Indigenous rights. They also collaborate with donor agencies, NGOs, and academics promoting enterprise development, private sector engagement, environmental conservation, and gender-inclusive development.

For the analysis presented, we identified five hypothetical approaches to CFM through a literature review, expert interviews, and our experience in the field. Q-methodology was used to empirically prove whether these approaches could be observed and aligned with specific informant groups (e.g., representatives from government, civil society, or Indigenous organizations). We then quantitatively defined points of agreement or conflict among the observed approaches.

We interviewed 34 research participants representing 6 stakeholder groups involved in the promotion of CFM in the Peruvian Amazon: Indigenous leaders, government policymakers, technicians from non-governmental organizations (NGOs), university professors, forestry students, and representatives of donor agencies. Each informant sorted a set of statements based on how strongly they disagreed or agreed with each statement. The statements were synthesized from five hypothetical approaches to CFM identified through a literature review, expert interviews, and our experience in the field. Results from the Q-methodology revealed four perspectives on CFM that overlapped with the hypothetical approaches synthesized from our review but were more nuanced. These perspectives were: balance conservation with community rights, encourage capacity and enterprise development, protect forests for Indigenous communities, and support for grassroots Indigenous autonomy.

## LITERATURE REVIEW

Although CFM can take many forms, “the essence of the concept is the involvement of locally resident groups in aspects of forest management” (Baynes et al. 2015:227). These are situations in which “some degree of responsibility and authority for forest management [is] formally vested in the community” (Charnley and Poe 2007:301). This provides community inhabitants “the opportunity to meaningful participate in decision-making concerning forest in their region” (Teitelbaum 2017:9-10). Some definitions emphasize the sustainable and equitable management potential of these initiatives for benefit sharing outcomes (Padgee et al. 2006, Cronkleton et al. 2013, Cossio et al. 2014, Teitelbaum 2017). However, the examination of the literature also reveals different, and often conflicting, priorities about what CFM should do and how it should do it (see, for example, Hajjar et al.

2016 for a review of 643 CFM cases in 51 countries). Through the literature review, we identified five recurring themes: conservation and sustainable use, enterprise development, legal compliance, policy reform, and rights-based approach. Each theme emphasizes different problems requiring specific actions to achieve desired results in CFM (see Table 1). These themes are not mutually exclusive and more than one may appear together, but they are useful as interpretive “ideal types” (Weber 1952) to think through the different perspectives regarding CFM.

The first theme, conservation and sustainable use, posits that CFM should support sustainable forest management and climate change goals. It holds a joint strategy of priming traditional environmental knowledge and developing the capacities of communities for sustainable forest use, including an emphasis on non-timber forest products, to shift CFM's focus away from logging (see, e.g., Yadav et al. 2003, Lawrence et al. 2006, Durán-Medina et al. 2007, Hayes and Persha 2010). The desired result is for communities to profit from conservation-oriented CFM. The second theme, enterprise development, emphasizes improved community profits and community engagements with the private sector. The focus is on supporting communities to develop their own enterprises to better access markets and to have more equitable interactions with private-sector actors (see, among others, Pokorny et al. 2008, Gaviria and Sabogal 2013, Cossio et al. 2014, Gnych et al. 2020). The third, legal compliance, is based on the notion that legal regulations provide technical guidelines for well-conserved forests. The focus is on addressing defective law enforcement, which enables informal and unsustainable practices in community forests (see, e.g., Brunner et al. 1999, de Jong et al. 2008, Dlamini 2015, Lesniewska and McDermott 2014, Torres-Rojo et al. 2019). In this perspective, there is a need for better law enforcement and to strengthen community capacities to comply with regulations for more sustainable forest use and well-conserved forests. The fourth, policy reform, views the complex regulatory and bureaucratic processes involved in forest management as barriers to community involvement, forcing them into the informal sector. The solution is to transform the legal system to reflect local conditions and capacities, including community institutions, which will allow them to engage effectively in CFM without risking fines or abusive partnerships with private-sector actors (see, e.g., Molnar et al. 2008, Sears and Pinedo-Vasquez 2011, Cronkleton et al. 2012). Finally, the rights-based theme posits that CFM cannot succeed without recognition and respect for community rights, including participation and tenure rights (see, e.g., Pacheco et al. 2012, Baynes et al. 2015, Monterroso et al. 2017). Community forest management is seen as a potential tool to advance rights, which will allow communities to better manage their resources and to benefit from an approach to CFM that respects their priorities.

These five themes are illustrative of the range of perspectives at play in CFM. We used these as a starting point for comparison with the perspectives held by stakeholders and proponents of CFM in the Peruvian Amazon.

## COMMUNITY FOREST MANAGEMENT (CFM) IN THE PERUVIAN AMAZON

Peruvian policymakers have recognized the importance of CFM and the roles of Indigenous peoples for reducing deforestation and supporting climate change strategies, including Peru's

**Table 1.** Five approaches to community forest management (CFM).

Approach	Emphasis	Problem	Action	Result
Conservation and sustainable use	CFM supports sustainable forest management and climate change goals.	Mainstream commercial logging drives deforestation and degradation; Indigenous environmental stewardship practices and knowledge are not respected enough.	Communities are best geared to support sustainable forest management. Community forest management should deemphasize logging and include an equal emphasis on non-timber forest products.	Communities will profit from CFM while supporting conservation goals.
Enterprise development	Improved profits and alliances with the private sector.	Communities' weak capacity limits engagement with market and private sector.	Develop community enterprises and local capacities to better access markets and improve collaboration with private-sector actors.	Economic benefits provide incentives for CFM participation.
Legal compliance	Regulations provide guidelines for sustainable forestry. Enforcement to ensure compliance will improve forestry	Informality and the lack of legal compliance allows unsustainable use, forest degradation, and rampant corruption.	Law enforcement coupled with capacity development to ensure compliance and adopt sustainable practices.	Communities will follow technical standards for effective CFM and well-conserved forests.
Policy reform	Overly complex regulatory frameworks create difficult and costly barriers that are the key bottleneck to successful CFM.	Stakeholders do not understand the legal system /or are unable to comply; the legal system does not support formal forest use.	Legal system must be transformed to reflect how CFM and logging really happens; stakeholders need capacities developed to comply with forestry laws.	Norms adapted to community realities will allow them to engage effectively in CFM without risking fines or abusive deals with private sector.
Rights-based	Community forest management cannot succeed without recognition and respect for community rights, especially tenure rights.	Ensuring effective participation in CFM is challenged without clear rights; unclear forest and resource tenure negatively affect conservation outcomes and increase responsibilities for communities and community members.	Use CFM as a tool to advance and respect land, resource, and participation rights.	By recognizing, strengthening, and respecting local rights, communities will better manage their land and resources. They will benefit from CFM following their own priorities.

nationally determined contributions (NDCs; República del Perú 2018). However, there are different perspectives on what CFM is and how it should play a role in national policy. Community forest management in the Peruvian Amazon largely rests of one of its basic institutions: the *comunidad nativa* (native community). It is only since the 1970s that Indigenous Amazonian people in Peru have had formal access to these collective territories (Monterroso et al. 2017, Larson et al. 2018), which grant inhabitants inalienable collective rights that could not lapse and could not be seized. The recognition of collective titles encouraged social groups, which had commonly lived in small to medium-sized, kin-based groups, to move to a nucleated village model (Sarmiento Barletti 2016). Native communities also imposed a new governance system centralized in a president (the comunidad's legal representative) and a communal assembly, its main decision-making body that elects the president every two years. The assembly is commonly composed by all male and female heads of households.

Although residents were initially granted exclusive rights over their territories, subsequent legislative and constitutional changes classified forest resources as national patrimony (Monterroso et al. 2017). These changes meant that areas classified as forests within native communities could not be titled but instead were only granted under usufruct contracts (Larson et al. 2018). These changes created a co-management regime in which rights are partially devolved for forests but depend on government authorization and compliance with forestry laws for commercial use (Smith et al. 2003, Cronkleton et al. 2012, Gavaldá 2013). In 2000, the Forests and Wildlife Law (Law No. 27308) recognized

the role of local and Indigenous communities in CFM, setting the regulatory framework for their participation. The bureaucratic pathway toward formal logging was a lengthy, expensive, and highly technical process that created incentives for native communities to work and sell timber informally, risking sanctions that could make them ineligible for government programs (Salisbury et al. 2011, Sears and Pinedo-Vasquez 2011). A new forestry law, ratified in 2011, restructured state agencies responsible for overseeing the forestry sector and later introduced regulations that attempted to simplify bureaucratic processes and recognized multiple pathways for authorizing commercial forest extraction on community lands based on variable levels of intensity. However, persistent informality with timber extraction in the region continues to create challenges for governance in the forestry sector because between 60-80% of Peru's timber exports are extracted from areas where logging is not authorized (Environmental Investigation Agency 2018).

Currently, CFM in the Peruvian Amazon takes different forms, ranging from community-led initiatives to private-sector alliances with native communities (Cossío et al. 2014). To extract timber formally, communities must present a timber management plan prepared by an authorized forestry professional (*regente*) for approval from the regional government. Native communities sometimes collaborate with timber companies to develop management plans (Cossío et al. 2014), which relieves communities of the administrative burden in return for favorable access to timber for the company. These arrangements do not always function as intended, with the contracts used by companies

to launder illegally sourced timber leaving native communities with legal sanctions and fines (Environmental Investigation Agency 2018, Sierra Praeli 2018, Navarro Gomez 2019).

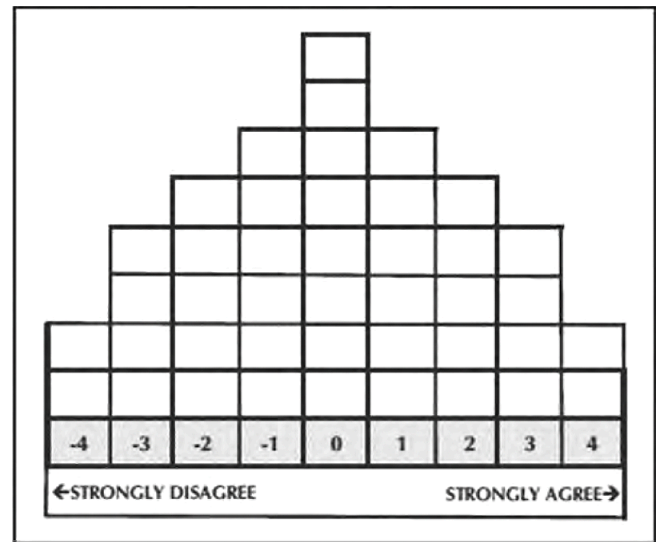
Despite the challenges, CFM is a mechanism supported by the Peruvian government. In 2010, the government created the National Program for Forest Conservation (*Programa Nacional de Conservación de Bosques*, PNCB), which leads a direct conditional transfer mechanism that pays native communities approximately 3\$USD for each hectare of forest enrolled in the program (Kowler et al. 2020). The mechanism is part of Peru's mitigation measures in its NDCs, which commit to reducing deforestation by at least 30%, with a total of 2.8 M ha of native communities under CFM by 2030 for the land use, land-use change, and forestry sector (República del Perú 2018). Although a wide range of actors promotes CFM within this favorable policy context, collaboration among different groups can be challenging. Distinct proponents and stakeholders emphasize different goals, adopt divergent strategies for reaching these goals, and use multiple criteria to evaluate success. Although CFM proponents have a shared agenda broadly, identifying differences and contradictions between the common ground is important for supporting effective CFM development. In what follows, we apply Q-methodology as a tool to better understand similarities and differences between these perspectives surrounding CFM.

#### METHODS: USING Q-METHODOLOGY TO EXAMINE PERSPECTIVES ON CFM

The purpose of this research was to reveal the different perspectives held by interest groups involved in CFM in Peru to identify areas of consensus and conflict for a more effective, equitable, and articulate approach to CFM in that country. Given previous experience using the method with participants in environmental multi-stakeholder platforms in Peru (Sarmiento Barletti et al. 2021), we applied this quantitative and qualitative research method for three main reasons: (1) to systematically compare the perspectives held by a group of actors regarding CFM in Peru, (2) to identify subgroups (factors) with similar perceptions within our research participants, and (3) to reach an understanding of the differences and similarities between subgroups to provide lessons for more effective CFM (Stephenson 1953, Watts and Stenner 2012).

In Q-methodology, participants receive a set of statements (a Q-set) with perspectives on a topic. A Q-set is derived from a larger collection of statements (a concurrence) that reflects a variety of views on the research topic; these come from different sources, including researchers' previous experiences, discourse on the topic, literature reviews, and peer reviews of the concurrence (Du Plessis et al. 2006). Participants are asked to review the Q-set and to sort all statements onto a matrix (a Q-grid; see Fig. 1) based on how strongly they agree (+4) or disagree (-4) with each statement. The exercise pushes them to refine and prioritize the statements by offering fewer options at each extreme. Once they complete the task, which produces a Q-sort, participants are interviewed to understand the reasoning behind their sorting. For example, asking why they strongly agreed or disagreed with some statements or how they interpreted specific statements. Every completed Q-sort represents a participant's perspective.

Fig. 1. Q-grid.



Q-methodology is a type of factor analysis that compares each participant's Q-sort as a variable to those of other participants to identify groups (factors) that represent "ideal" perspectives with similar variance (Kline 1994). The number of factors extracted from the data, and the number of participants grouped under each factor (its defining variables), come from a combination of statistical rules (for e.g., having at least 40% of explained variance; or that factors must have an Eigenvalue of at least 1) and the researcher's own criteria (Watts and Stenner 2012). However, not all informant/variables are matched to groups (factors) because not all exemplify, or (are not) typical of (a) factor because they are not significantly loaded to a factor (Watts and Stenner 2012). These individuals are excluded from the subsample used for the full analysis (the study variance). The factors are then analyzed to describe each group, to identify common views reflected in the rank order of different statements, and to compare the factors.

Our research is based on the application of Q-methodology to 34 participants from the following 6 actor types representing different stakeholders involved in CFM in the Peruvian Amazon, which we presumed would have distinct views: Indigenous leaders, government policymakers, technicians from non-governmental organizations (NGOs), university professors, forestry students, and representatives of donor agencies (see Table 2). Q-methodology studies work with a small number of participants because the statistical analysis, being an inverted factor analysis, does not rely on a large number of participants (McKeown and Thomas 1988). There should be two statements per participant and different groups (e.g., age, sector, profession) should be represented in the sample (Watts and Stenner 2012). We planned to interview six participants from each actor group; however, we had to reduce that number because of the pandemic, which required a virtual format. Only four Indigenous representatives had internet connections capable of running Q-sortware.



**Table 2.** Research participants.

Actor type	Male	Female
International cooperation (6)	5	1
NGO (6)	4	2
Indigenous organization (4)	3	1
University professors (6)	3	3
Forestry students (6)	1	5
Government (6)	5	1
Total (34)	21	13

We initially developed a concourse of 200 potential statements arranged around the 5 broad approaches to CFM observed in the literature review, semi-structured interviews with development specialists, and drew on experience from our team (see Table 1). We edited the concourse for clarity and to ensure that statements did not express extreme opinions. Similar statements were combined or, if redundant, eliminated. The concourse was then peer reviewed by three Peruvian CFM experts that were not interviewed for this research. We asked them to highlight statements that were unclear or too similar, suggest statements that could be eliminated, and propose new ones to fill gaps they thought were relevant. We then selected 8 statements from each of the hypothetical approaches to CFM to reach the final Q-set of 40 statements. The statements were tested with four other Peruvian CFM specialists (not included in this research) and edited for clarity following their feedback.

Because of safety protocols resulting from the COVID-19 pandemic, we used Q-sortware (<http://www.qsortware.net>), a software designed to implement Q-methodology online. Interviews were carried out in Spanish, the native language of all enumerators and most participants. Participants sorted the statements into a Q-grid, with the program recording results for analysis. Subsequently, in the post-sorting interview, we asked them how they had interpreted and ranked the statements on a scale of agreement (+4, +3), disagreement (-3, -4), or neutral (0).

All 34 Q-sorts were entered into KenQ analysis (<https://shawnbanasick.github.io/ken-q-analysis/>), an online platform for factor analysis. The analysis grouped participants with similar Q-sorts and produced a composite Q-sort that represented each group's average ratings. Different factor combinations were extracted and considered; four factors were selected following the range provided by specialist publications on Q-methodology (Watts and Stenner 2012, Eghbalighazijahani et al. 2013). This solution explained 67% of the study variance, i.e., the percentage of study variance in a factor analysis accounts for how much of the diversity of the data is captured by the model (considering all of the factors), each of the four factors had at least 5% of participants significantly loaded, and all had a composite reliability of more than 0.9 (see Table 3). Composite reliability is a measure of the strength of a factor calculated according to the number of participants that define the factor. Of 34 participants, 26 were significantly loaded to 1 of the 4 factors and thus were included in the analysis. A composite Q-sort was produced for each factor and used to compose narratives for the perspectives it described.

**Table 3.** Factor extraction.

	F1	F2	F3	F4
No. of defining variables (research participants)	9	11	3	3
Average reliability coefficient	0.8	0.8	0.8	0.8
Composite reliability	0.973	0.978	0.923	0.923
Explained variance	21%	21%	12%	13%

**RESULTS: FOUR PERSPECTIVES ON COMMUNITY FOREST MANAGEMENT (CFM) IN PERU**

There were 17 men and 9 women that were significantly loaded, or had a similar viewpoint, to 1 of the 4 factors: 9 in F1, 11 in F2, 3 in F3, and 3 in F4 (see Table 4). All actor types were well represented, each contributing four or five participants to the analysis (see Table 4). However, they were not evenly distributed across the factors. All government participants (four) fell under F3, and university professors (four) were under F1 and F2. The rest of the actor groups fell under different combinations of three factors: international cooperation under F1 (one), F2 (three), and F4 (one); NGO actors under F1 (one), F3 (two), and F4 (one); Indigenous actors under F1 (two), F2 (one), and F4 (one); and forestry students under F1 (two), F2 (two), and F3 (one).

**Table 4.** Characteristics of participants per factor group.

	Gender		Sector					
	Female	Male	Forestry students	Government	International cooperation	Indigenous organization	NGO	University professors
F1	4	5	2	0	1	2	1	3
F2	1	10	2	4	3	1	0	1
F3	1	2	1	0	0	0	2	0
F4	3	0	0	0	1	1	1	0
Total	9	17	5	4	5	4	4	4

We discuss the four ways of perceiving CFM in Peru represented by the four factors below, with references to statements and rankings (e.g., S1/+4) and contextualize that information with data from follow-up interviews. The rankings for each statement by factor are presented below (see Table 5). These perspectives are: CFM should balance conservation with support for community rights (F1), CFM should encourage capacity and enterprise development (F2), CFM should be a technical approach to protect forests in Indigenous communities (F3), and CFM should support grassroots Indigenous autonomy (F4).

**F1: CFM should balance conservation with support for community rights**

The F1 factor represents a perspective that balances conservation and community rights as principal indicators of CFM success (S1/+4; S25/+4). Conversely, this perspective strongly disagrees with the commercial use of forests and private sector management of forests (S4/-4; S38/-4). The composite scores for other statements fleshed out this pro-conservation, pro-community perspective. This factor emphasizes the promotion of forest regeneration (S5/+3) and payments for ecosystem services (S7/+2) but does not have a strong opinion on the retention of seed trees

**Table 5.** Rankings per statement. CFM = Community Forest Management.

N	Statement	F1	F2	F3	F4
1	Forest conservation should be the main indicator of CFM success.	4	-1	1	1
2	The retention of seed trees is key for CFM success.	0	1	3	3
3	Slash and burn agriculture is incompatible with CFM.	-2	-1	-1	0
4	Communities should use their forests for commercial purposes.	-4	-4	-4	-1
5	Community forest management should prioritize activities that promote forest regeneration.	3	2	3	2
6	Heavy machinery should not be used in CFM.	-3	-1	-2	1
7	Payment for ecosystem services should be prioritized in CFM.	2	1	2	0
8	Large-scale extractive activities should not be permitted in areas where CFM is practiced.	-1	-1	1	4
9	Forest laws and norms should be strictly followed in CFM.	1	2	0	-2
10	Community forest management follows the Forestry authority's guidelines.	0	0	0	-3
11	Government investment in CFM should prioritize law compliance.	0	0	1	-1
12	Regional governments should have complete decision-making power over CFM policies.	-3	-3	-1	-3
13	Communities that do not follow their management plans should be fined.	-2	-1	1	-2
14	Government investment in CFM should prioritize communities' capacity-development on laws and norms.	3	4	2	-1
15	Community forest management should only take place in titled communities.	-3	-3	0	-3
16	Communities should receive technical support for CFM.	3	3	4	0
17	Communities should demonstrate to the government that their CFM practices are environmentally sustainable.	0	0	1	-1
18	Forest management plans should be developed by technical professionals.	-1	0	-2	-2
19	Technical documents should guide forest use.	-1	2	2	0
20	There should be investment in advanced technology for CFM.	0	1	-2	-1
21	The government should mediate intra-communal negotiations for a successful CFM.	-2	-2	0	-3
22	Communities' traditional knowledge and practices assure a successful CFM.	1	0	-3	4
23	Communities should not be in charge of forest monitoring activities.	-3	-2	-1	-1
24	Communities should receive technical assistance for logging.	1	3	1	0
25	Respect for Indigenous rights should be the main indicator of CFM success.	4	0	-1	3
26	Food sovereignty should be the principal indicator of CFM success.	1	-2	-2	3
27	Community perceptions of well-being should be the main indicator of CFM success.	2	3	-1	2
28	The participation of women in CFM should be assured.	2	3	0	3
29	Communal assemblies should have decision-making power over CFM.	2	1	-3	2
30	The expenses communities incur to comply with the legal requirements for CFM should be paid by the government.	0	-2	-3	1
31	Indigenous community tenure rights should be strengthened through CFM.	2	1	4	2
32	The profits gained through CFM should only be used for goods or services that will benefit the entire community.	-2	-2	0	1
33	Profits should be the main indicator of CFM success.	1	-3	-1	-2
34	CFM should focus entirely on logging.	-2	-3	-4	-4
35	Communities should organize their own communal enterprises.	-1	2	-2	-2
36	The private sector and communities should establish partnerships.	1	2	2	0
37	The government should formally intervene as a referee in commercial transactions between private companies and communities.	-1	-1	2	1
38	Community forests should be managed by the private sector.	-4	-4	-3	-4
39	Communities should receive capacity development on commercial transactions with external actors.	3	4	3	2
40	Benefit distribution should be done according to the level of participation in CFM activities.	-1	1	3	1

(S2/0). Slash and burn agriculture is not considered incompatible with CFM (S3/-2), and there is no strong opinion on whether communities should demonstrate that practices are environmentally sustainable (S17/0). As an NGO representative argued:

*The [natural] resources are theirs. They should be setting the conditions to use them and how they should be used. (...) They have always managed their forests, what's needed is that their practices are reinforced and improved with some conservation and management techniques.*

The pro-community view is evident in the agreement that communities should receive technical support (S16/+3) and that investments should support community capacity development related to regulations (S14/+3) and commercial transactions (S39/+3). An informant from an international cooperation agency noted:

*Rather than impose ideas or practices, someone has to take [a supporting] role, advise them, and collaborate with them to set a pathway for sustainable forest use.*

For this perspective, regional governments should not hold decision-making power (S12/-3); instead, communal assemblies should (S29/+2). Another informant from an international cooperation agency responded that the legal framework is:

*either ambiguous or benefits external actors. If laws were to be modified, they should prioritize communities and conservation. And they should be seriously upheld—not just partially and not only for some.*

Furthermore, this perspective posits that CFM should not be limited to titled communities (S15/-3), and that communities should not be excluded from forest monitoring activities (S23/-3).

The viewpoint agrees that women's participation should be assured (S28/+2), and that the communities' perceived well-being should be an important indicator of CFM success (S27/+2). The support for Indigenous perspectives is evident in a university researcher's statement that:

*Indigenous Peoples have always extracted timber but not in the scale or for commercial ends like logging today. (...) Technical assistance is necessary, but it should start from intercultural dialogue; it may sound cliché but [it requires] going to communities and finding out how they manage their forest first and then giving them assistance and technology based on that rather than giving them technology to turn them into loggers. We may find that conservation or ecotourism is better, but it hasn't been tried yet.*

In general, this factor emphasizes how CFM supports community livelihoods and is an ecologically friendly approach. To that end, community rights should be strengthened to encourage sustainable use of the forest.

The F1 factor represents the viewpoint with the closest gender balance (five males and four females). Most of these participants were related to universities, either professors (3) or forestry students (2). The rest were spread across all other actor types except for government representatives (see Table 6).

**Table 6.** Highest and lowest Q-sort statements for F1. Note: CFM = community forest management.

N	Statement	Q-sort value
1	Forest conservation should be the main indicator of CFM success.	+4
25	Respect for Indigenous rights should be the main indicator of CFM success.	+4
5	Community forest management should prioritize activities that promote forest regeneration.	+3
14	Government investment in CFM should prioritize communities' capacity development on laws and norms.	+3
16	Communities should receive technical support for CFM.	+3
39	Communities should receive capacity development on commercial transactions with external actors.	+3
4	Communities should use their forests for commercial purposes.	-4
38	Community forests should be managed by the private sector.	-4
6	Heavy machinery should not be used in CFM.	-3
12	Regional governments should have complete decision-making power over CFM policies.	-3
15	Community forest management should only take place in titled communities.	-3
23	Communities should not be in charge of forest monitoring activities.	-3

**F2: Community forest management (CFM) should encourage capacity and enterprise development**

The F2 perspective focuses on developing capacities to support community enterprises. Government investments develop the capacity of communities to comply with the regulatory framework (S14/+4) and engage with the market (S39/+4). An

informant from an international cooperation agency explained that:

*communities [must] receive technical support to understand the legal norms related to CFM [because their] ignorance of norms results in their being fined [for informal logging by Peru's forest authority].*

Similarly, a forestry student noted that:

*[Indigenous] practices are oriented towards household consumption or local exchange, so their knowledge and practices are not adapted for intensive resources use, which is needed to engage with national or international markets.*

This group does not view commercial forest use as a priority (S4/-4), and profits should not be considered a main indicator of CFM success (S33/-3), but it does support community enterprises (S35/+2) and also has positive views of partnerships between communities and the private sector (S36/+2). However, the private sector should not manage communal forests (S38/-4) and CFM should not be limited to titled communities (S15/-3). For this view, CFM should take place without government interference because government actors should not intervene to mediate local negotiations (S21/-2), and regional governments should not control CFM decision making (S12/-3).

Still, this perspective supports legal compliance (S9/+2) and the use of technical documents to guide management decisions (S19/+2). It agrees that communities should receive technical assistance for forest management (S16/+3) and specifically for logging (S24/+3), but with the understanding that logging should not be the sole focus of CFM (S34/-3). A government actor argued that:

*the design of forest management plans should be led by technical specialists as they are trained to understand forest dynamics. A community member might be able to tell you 'yes, that plant regenerates quickly' but they understand time differently. Sometimes it's not clear what 'quickly' means.*

Governments, however, should not subsidize legal compliance (S30/-2).

In this viewpoint, community perceptions of well-being should be an indicator of CFM success (S27/+3). One government representative discussed this in terms of creating local ownership over an initiative by including local priorities in its planning and implementation:

*if people are happy, they will protect and care for the forest.*

Furthermore, there is an emphasis on the participation of women in CFM (S28/+3), but not for community participation in monitoring CFM (S23/-2).

The F2 factor predominantly represents the perspectives of men (10) from government (4) and international cooperation (3) agencies. The composition of this factor was diverse; it also represented the viewpoints of forestry students (2), a researcher (1), and an Indigenous organization representative (1; see Table 7).

**Table 7.** Highest and lowest rated statements for F2.

N	Statement	Q-sort value
14	Government investment in CFM should prioritize communities' capacity development on laws and norms.	+4
39	Communities should receive capacity development on commercial transactions with external actors.	+4
16	Communities should receive technical support for CFM.	+3
24	Communities should receive technical assistance for logging.	+3
27	Community perceptions of well-being should be the main indicator of CFM success.	+3
28	The participation of women in CFM should be assured.	+3
4	Communities should use their forests for commercial purposes.	-4
38	Community forests should be managed by the private sector.	-4
12	Regional governments should have complete decision-making power over CFM policies.	-3
15	Community forest management should only take place in titled communities.	-3
33	Profits should be the main indicator of CFM success.	-3
34	Community forest management should focus entirely on logging.	-3

**F3: Community forest management (CFM) should be a technical approach to protect forests in Indigenous communities**

For the perspective represented by F3, CFM is a technical approach to protect Indigenous communities and their forests. This viewpoint believes that communities should receive technical support for CFM (S16/+4), and that CFM will strengthen community tenure (S31/+4). Conversely, communities should not engage in the commercial use of their forests (S4/-4) or emphasize logging (S34/-4). Instead, forest management should emphasize seed retention (S2/+3), forest regeneration (S5/+3), and payments for ecosystem services (S7/+2).

Although this perspective places importance on protecting Indigenous communities, it does not agree that Indigenous knowledge and stewardship practices ensure successful CFM (S22/-3). Despite recognizing that:

*resources are owned by the community, [a forestry student explained forest management as] an external activity [over which communities can] have an opinion and get involved in the process [but not necessarily be central to it because] forest management is not a traditional activity for communities. Thus, technical assistance is necessary [because] communities should be part of the monitoring of logging but they should not be the only ones involved.*

Thus, CFM should be guided by technical documents (S19/+2) with participation from community members in monitoring exercises (S23/-1), and in the development of forest management plans (S18/-2). Although communities should participate in CFM, its success should not depend on how they perceive their well-being (S27/-1), on whether their rights are upheld (S25/-1), or on CFM's impact on food sovereignty (S26/-2).

In fact, communal assemblies should not have decision-making power over CFM (S29/-3) nor should communities create their own enterprises (S35/-2). This viewpoint perceives an over-emphasis on "community" in CFM. For example, benefit-sharing

should be based on the level of community member participation (S40/+3). As an environmental NGO interviewee noted:

*many NGOs make the error by distributing income from forestry activities equally among all the families in a community. Someone who does not participate [in a CFM initiative] should not receive the same share of the benefits as someone who does.*

Although community forests should not be managed by the private sector (S38/-3), communities should receive training to engage with the private sector (S39/+3), including partnerships (S36/+2). The government should act as arbiter of commercial transactions between these parties (S37/+2) and invest in capacity development on laws and norms (S14/+2), but it should not cover costs related to legal compliance (S30/-3).

The F3 factor represents the perspectives of two male NGO actors and one female forestry student (see Table 8).

**Table 8.** Highest and lowest rated statements for F3.

N	Statement	Q-sort value
16	Communities should receive technical support for CFM.	+4
31	Indigenous community tenure rights should be strengthened through CFM.	+4
2	The retention of seed trees is key for CFM success.	+3
5	Community forest management should prioritize activities that promote forest regeneration.	+3
39	Communities should receive capacity development on commercial transactions with external actors.	+3
40	Benefit distribution should be done according to the level of participation in CFM activities.	+3
4	Communities should use their forests for commercial purposes.	-4
34	Community forest management should focus entirely on logging.	-4
22	Communities' traditional knowledge and practices assure a successful CFM.	-3
29	Communal assemblies should have decision-making power over CFM.	-3
30	The expenses communities incur to comply with the legal requirements for CFM should be paid by the government.	-3
38	Community forests should be managed by the private sector.	-3

**F4: Community forest management (CFM) should support grassroots Indigenous autonomy**

The perspective represented by F4 emphasizes Indigenous rights and community control over CFM activities and downplays state oversight and legal compliance. This viewpoint agrees that traditional knowledge and environmental practices ensure CFM success (S22/+4) and that large-scale extractive activities should not be permitted where CFM is practiced (S8/+4). Furthermore, CFM should not focus on logging (S34/-4), nor should communal forests be managed by the private sector (S38/-4). Instead, CFM should emphasize the retention of seed trees (S2/+3) and activities that promote forest regeneration (S5/+2). Furthermore, CFM success should be based on respect for Indigenous rights (S25/+3), food sovereignty (S26/+3), and community perceptions of well-being (S27/+2); profits should not be an indicator of CFM success (S33/-2). In this perspective women's participation in CFM should be assured (S28/+3).



**Table 9.** Highest and lowest rated statements for F4. Note: CFM = community forest management.

N	Statement	Q-sort value
8	Large-scale extractive activities should not be permitted in areas where CFM is practiced.	+4
22	Communities' traditional knowledge and practices assure a successful CFM.	+4
2	The retention of seed trees is key for CFM success.	+3
25	Respect for Indigenous rights should be the main indicator of CFM success.	+3
26	Food sovereignty should be the principal indicator of CFM success.	+3
28	The participation of women in CFM should be assured.	+3
34	Community forest management should focus entirely on logging.	-4
38	Community forests should be managed by the private sector.	-4
11	Government investment in CFM should prioritize law compliance.	-3
12	Regional governments should have complete decision-making power over CFM policies.	-3
15	Community forest management should only take place in titled communities.	-3
21	The government should mediate intra-communal negotiations for a successful CFM.	-3

The F4 factor represents a perspective that agrees that communal assemblies (S29/+2), and not regional governments, should not have complete decision-making power over CFM. In addition, the government should not mediate intra-communal negotiations (S21/-3), and technical professionals should not develop management plans (S18/-2). In fact, government investment should not prioritize legal compliance (S11/-3) because it is not necessary for successful CFM (S9/-2). Generally, government actors need to be more patient in their support of Indigenous institutions. As argued by an NGO actor:

*if [a community] is asked to produce a report, they probably won't be able to. It takes time to do so and [the government] must be patient and tolerate delays and errors rather than just fine them and then force them to pay the fine. [The government] has to understand and give communities a chance, give them a warning first and see what can be done to adapt those processes to [Indigenous] governance institutions.*

Thus, communities that stray from their management plans should not be sanctioned (S13/-2). As an NGO representative noted:

*sometimes technical documents are too cold. You may have a good [technician] but they should be conscious of intercultural differences. They must understand that side. Not only say 'you can only cut 20 trees' but also have some flexibility. This kind of tolerance is needed (...) to involve community governance institutions in the process. There is no attempt to adapt technical documents to communal governance and interculturality.*

From this view, CFM should primarily serve the communities' livelihood needs and to that end, the government should support community rights rather than control their activities.

The F4 factor represents the perspectives held by two men and one woman from an NGO, an international cooperation agency, and an Indigenous organization (see Table 9).

## DISCUSSION

There are similar but nuanced perspectives among participants in our study. Statistically, all factors have strong correlations with at least one other factor (see Table 10). The F1 and F2 factors have similarities (0.67), as do F2 and F3 (0.57), and F1 and F4 (0.54). Conversely, the most acute difference is between F3 and F4 (0.21); the perspectives that represents those that believe CFM should be based on technical knowledge and those that posit that CFM should support grassroots Indigenous autonomy.

**Table 10.** Factor correlations.

	Factor 1	Factor 2	Factor 3	Factor 4
F1: Balance conservation with community rights	1	0.6724	0.4512	0.5374
F2: Capacity and enterprise development	0.6724	1	0.5682	0.4115
F3: Protect forests for indigenous communities	0.4512	0.5682	1	0.2115
F4: Support grassroots indigenous autonomy	0.5374	0.4115	0.2115	1

All perspectives support involvement by Indigenous communities in CFM and are against the idea of ceding their forests to the private sector. To a certain extent, this is not surprising given that informant selection focused on specialists conducting work related to CFM; however, there was significant variation in views. There are differences regarding the importance actors place on Indigenous people's rights. The F4 factor was the most concerned with rights (an all-female group with no university professors or government actors), followed by F1 (mainly university professors). In contrast, although F3 (mainly NGO actors and forestry students) supports community involvement, it deemphasizes local rights. This reveals a fine but important line between a functional view of what sees participation as a means to an end and views that value rights as a fundamental starting point for engagement.

In addition, the four factors emerging from the Q-method analysis show more nuance than the five hypothetical approaches to CFM synthesized in our initial literature review: enterprise development, conservation and sustainable use, policy reform, legal compliance, and rights-based.

### Learning from similarities and differences

To distill more comprehensive lessons, we reviewed statement rankings between the factor groups to tease out similarities (i.e., where there was uniform consensus to agree or disagree with the statements) and differences (i.e., groups that were conflicted in their combined agreement and disagreement with statements).

#### Common ground and potential consensus

Despite differences of emphasis, all four perspectives agreed on several statements. In terms of average rating, the highest level of agreement was for the statement that communities must receive capacity development to support commercial transactions (S39). This was followed by the statements that communities should receive capacity development for CFM (S16), that CFM should

strengthen community property rights (S31), and that forest regeneration should be a priority (S5) in CFM. All groups agreed that the participation of women should be ensured (S28) and that the retention of seed trees should be a priority (S2). Finally, all groups agreed that payments for environmental services should be prioritized (S7), that communities should receive technical assistance for logging (S24), and that communities and the private sector should establish partnerships (S36; see Table 11).

**Table 11.** Consensus disagreement with statements.

N	Statement	F1	F2	F3	F4
2	The retention of seed trees is key for CFM success.	0	1	3	3
5	Community forest management should prioritize activities that promote forest regeneration.	3	2	3	2
7	Payment for ecosystem services should be prioritized in CFM.	2	1	2	0
16	Communities should receive technical support for CFM.	3	3	4	0
24	Communities should receive technical assistance for logging.	1	3	1	0
28	The participation of women in CFM should be assured.	2	3	0	3
31	Indigenous communities' tenure rights should be strengthened through CFM.	2	1	4	2
36	The private sector and communities should establish partnerships.	1	2	2	0
39	Communities should receive capacity development on commercial transactions with external actors.	3	4	3	2

**Table 12.** Consensus statements.

N	Statement	F1	F2	F3	F4
3	Slash and burn agriculture is incompatible with CFM.	-2	-1	-1	0
4	Communities should use their forests for commercial purposes.	-4	-4	-4	-1
12	Regional governments should have complete decision-making power over CFM policies.	-3	-3	-1	-3
15	Community forest management should only take place in titled communities.	-3	-3	0	-3
18	Forest management plans should only be developed by technical professionals.	-1	0	-2	-2
21	The government should mediate intra-communities' negotiations for a successful CFM.	-2	-2	0	-3
23	Communities should not be in charge of forest monitoring activities.	-3	-2	-1	-1
34	Community forest management should focus entirely on logging.	-2	-3	-4	-4
38	Community forests should be managed by the private sector.	-4	-4	-3	-4

Similarly, the factors all disagreed with another set of statements. All groups strongly disagreed with private sector management of community forests (S38). There was also a high level of consensus across groups that CFM should not focus solely on logging (S34), and agreement that communities should not focus on commercial use of forests (S4). All factors disagreed with the statement that regional governments should control decision making over CFM policies (S12) and disagreed that CFM should be restricted to titled communities (S15). In terms of the external governance of CFM, none agreed that the state should mediate intra-community negotiations (S21). The factors also disagreed with the statement that communities should be excluded from monitoring activities

(S23). Furthermore, none agreed that only technical professionals should elaborate forest management plans (S18), which may be related to why all agreed that communities should receive technical support for CFM (S16; see Table 12).

*Disagreement between groups*

The F1 factor, composed mostly of university professors and forestry students, placed more importance on forest conservation (S1/+4) and respect for Indigenous rights (S25/+4) and is the only perspective that disagreed with the idea of technical documents guiding CFM activities (S19, F1: -1, F2: 2, F3: 2, F4: 0). The F2 factor, mostly composed of representatives of government and international cooperation agencies, placed the most importance on capacity development for communities, on laws and norms, (S14/+4) and on commercial transactions (S39/+4). The only perspective that disagreed with forest conservation as an indicator for CFM success (S1: F1/+3, F2/-1, F3/+1, F4/+1) and the need for communities organize communal enterprises (S35: F1/-1, F2/+2, F3/-2, F4/-2) was F2. Factors F1 and F2 were against having the government as a formal referee in commercial transactions (S37: F1/-1, F2/-1, F3/+2, F4/+1) and were in favor of allowing large-scale extraction activities (in the Peruvian Amazon, commonly hydrocarbons) in areas where CFM is practiced (S8: F1/-1, F2/-1, F3/+1, F4/+4).

The F3 factor strongly agreed that CFM should support community property rights (S31/+4), yet it was the only perspective that did not consider the respect of Indigenous rights as an indicator of CFM success (S25, F1: +4, F2: 0, F3: -1, F4: +3). Mostly composed of NGO actors, F3 is also the only perspective against granting full decision making power over CFM to communal assemblies (S29: F1/+2, F2/+1, F3/-3, F4/+2), against holding a community's own perception of well-being as one of the principal indicators of CFM success (S27: F1/+2, F2/+3, F3/-1, F4/+2), and F3 disagrees that traditional knowledge and practices will lead to a successful CFM (S22: F1/+1, F2/0, F3/-3, F4/+4). Furthermore, F3 is the only perspective that is neutral on carrying out CFM only in titled communities, whereas all the other factors disagree (S15: F1/-3, F2/-3, F3/0, F4/-3).

Made up of participants from NGOs, Indigenous organizations, and cooperation agencies, F4 is the only perspective that did not agree that the government should prioritize training communities about CFM norms (S14: F1/+3, F2/+4, F3/+2, F4/-1) or that heavy machinery should be used in CFM activities (S6: F1/-3, F2/-1, F3/-2, F4/+1). However, F4 is the only perspective that agreed that the government should cover the expenses incurred by communities to fulfill legal requirements (S30: F1/0, F2/-2, F3/-3, F4/+1; see Table 13).

**CONCLUSION**

We used Q-methodology to explore variation in perceptions of CFM goals to identify points of convergence and dissonance. Understanding this variation and finding areas of potential consensus is important for forestry planning. Governments are increasingly interested in CFM as a mechanism to devolve resource rights to communities, to relieve poverty and food insecurity, and to meet targets to reduce deforestation and mitigate climate change. The case examined revealed a range of perspectives on what CFM should do and how it should do it, noting that a common and articulated understanding is yet to be built. Consensus is needed to develop more effective and equitable

**Table 13.** Conflicting points of view.

N	Statement	F1	F2	F3	F4
1	Forest conservation should be the main indicator of CFM success.	4	-1	1	1
6	Heavy machinery should not be used in CFM.	-3	-1	-2	1
8	Large-scale extractive activities should not be permitted in areas where CFM is practiced.	-1	-1	1	4
9	Forest laws and norms should be strictly followed in CFM.	1	2	0	-2
13	Communities that do not follow their management plans should be fined.	-2	-1	1	-2
14	Government investment in CFM should prioritize communities' capacity development on laws and norms	3	4	2	-1
19	Technical documents should guide forest use.	-1	2	2	0
22	Communities' traditional knowledge and practices assure a successful CFM.	1	0	-3	4
25	Respect for Indigenous rights should be the main indicator of CFM success.	4	0	-1	3
26	Food sovereignty should be the main indicator of CFM success.	1	-2	-2	3
27	Community perceptions of well-being should be the main indicator of CFM success.	2	3	-1	2
29	Communal assemblies should have decision-making power over CFM.	2	1	-3	2
30	The expenses communities incur to comply with the legal requirements for CFM should be paid by the government.	0	-2	-3	1
37	The government should formally intervene as a referee in commercial transactions between private companies and communities.	-1	-1	2	1

strategies, and those conflicting interests need to be discussed in a transparent manner. We have offered an initial step by applying Q-methodology interviews to a set of CFM stakeholders to clarify these perspectives and identify common ground and disagreement. Our results have empirical and methodological lessons for the collaborative design and implementation of CFM.

We started this study by constructing five hypothetical approaches to CFM synthesized from a review of the relevant literature: enterprise development, conservation and sustainable use, policy reform, legal compliance, and rights-based, which were intended to cover a wide range of views about CFM. Our findings revealed a more nuanced combination of perspectives. The analysis defined four perspectives: CFM should balance conservation with support for community rights, CFM should encourage capacity and enterprise development, CFM should be a technical approach to protect forests in Indigenous communities, and CFM should support grassroots Indigenous autonomy.

Research participants agreed that CFM should place equal emphasis on supporting community rights and conservation goals, and that profits should not be a principal indicator of success. They also agreed that communities should participate in elaborating forest management plans and in monitoring mechanisms. They agreed that communities should develop capacities to engage with the private sector on better terms instead of the current business as usual, which too often allows companies to take a large share of the profits while leaving communities with the legal consequences and environmental impacts of logging. Within this proposal, government should play a supportive role,

assisting communities with capacity development and technical assistance. These areas of consensus could provide a point of departure for developing strategies to address the challenges driving informal logging and unjust extractive relationships. This would necessarily re-target the role of government in supporting Indigenous peoples in developing dignified and sustainable livelihoods from their forests by providing capacity development and a supportive regulatory framework. In doing so, this would support the government's climate ambitions and efforts to address economic poverty through payment for ecosystem services (PES) programs. Furthermore, this consensus could act as an early agenda for more effective engagement and collaboration by the actors promoting CFM in Peru and could act as a basis for regulatory reform to promote more effective and equitable CFM.

Identifying points of consensus is an important first step to improving CFM. However, this study also highlighted key differences in opinions between our factor groups that need to be acknowledged if not reconciled. Two of the four perspectives disagreed on the role of government as a referee in commercial transactions and in the granting of large-scale extractive investment in areas where CFM is practiced. Our study also reveals that there is no consensus over the importance of technical plans, the promotion of communal enterprises, the use of heavy machinery, the legitimacy of existing norms and sanctions related to CFM, and the importance of community rights. The government needs to be aware that there is little consensus on these matters; issues that might exacerbate conflicts in the future. It is important to promote dialogue on these topics to develop transparent and equitable policies.

Although some perspectives saw CFM as a technical pursuit, others placed more importance on the inclusion of Indigenous environmental management and stewardship practices. This difference is unsurprising given long-term efforts in conservation and development initiatives to balance scientific and Indigenous knowledges, and the challenges of finding pathways to operationalize Indigenous environmental knowledge and build it into relevant forest policy. Similarly, it is a challenge to find middle ground when balancing support for community rights and Indigenous autonomy with the need for environmental law enforcement and governmental oversight of commercial transactions. This difference informs the decades of political struggle by Indigenous organizations and their allies for rights recognition and for the right to expand their control over the resources in their territories. Their claims are strengthened by the growing evidence that maintaining forests under community management in the Amazon reduces deforestation more than other land regimes.

In methodological terms, our application of Q-Methodology allowed us to identify different viewpoints within a sample of key actors, offering a research method that can offer evidence to facilitate dialogue and support conflict management between CFM proponents. This is especially relevant given the recognition of the multi-stakeholder nature of CFM and other forest-based initiatives. Finding common ground among diverse actors involved in the promotion of CFM and similar initiatives can be a challenge when their multifaceted expectations and beliefs are not explicitly enunciated or consciously expressed, obscuring contradictions, conflicting objectives, or even shared agendas. As we have shown, CFM is a broad concept in practice, with



ambiguous definitions and multiple competing agendas that reflect distinct worldviews. Q-Methodology allows for the qualitative and quantitative comparative analysis of such diverse perspectives, granting us valuable access into how research participants conceive of a specific topic and how they construct such conceptions. The productivity of our application of Q-Methodology in Peru teases its potential as an approach to facilitate dialogue and improve collaboration in CFM and other similar conservation and development initiatives with such a variety of stakeholders, perspectives, and objectives.

*Responses to this article can be read online at:*  
<https://www.ecologyandsociety.org/issues/responses.php/13524>

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#### Data Availability:

*All relevant data are fully available upon request from the authors.*

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