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Mismatches in the coffee value chain: from basic needs to hedonistic lifestyles—experiences from Brazil, the Democratic Republic of Congo, and Switzerland

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The coffee value chain (VC) faces several social-ecological challenges. Material resources and value creation are unequally distributed with a higher concentration at the end of the VC, mostly among multinational companies located in the global North. Companies and organizations of the global North dominate discourses and design and apply sustainability initiatives in origin countries, raising questions of legitimacy and impact. For sustainability initiatives to be successful, it may be necessary to involve different actors of the VC in decision-making processes and to better understand their views, needs, and priorities. In this study, we included different standpoints represented in 10 case studies of different coffee VCs to explore what matters for different actors in Brazil, the Democratic Republic of Congo (DRC), and Switzerland. We adopted a mixed methods approach and conducted (1) focus group discussions with rural workers, *metayers*, (a type of sharecropper), farmers, and management/office staff of cooperatives and plantations in Brazil and DRC, (2) interviews with plantation owners and cooperative/company managers in Brazil and DRC, and (3) online surveys with roasters and consumers in Brazil, DRC, and Switzerland. We found a strong mismatch of the different perceptions of the different actors. Farmers strive for a dignified quality of life, plantation owners and cooperative/company managers for better economic conditions, rural workers for better working conditions, roasters for a great drinking experience, and consumers for pleasure and a hedonistic lifestyle. Our findings underline the importance of including diverse standpoints in coffee sustainability efforts, particularly those of rural workers and smallholders.

KEYWORDS

coffee production, coffee consumption, sustainability initiatives, standpoint theory, participation, inclusion

1 Introduction

Despite extensive efforts in recent years to improve the sustainability of coffee, it still has a high environmental footprint and many farmers and workers continue to live in precarious conditions (Sachs et al., 2019; Panhuysen and Pierrot, 2020; Cordes et al., 2021; Barreto Peixoto et al., 2023). In most cases, coffee production fails to meet environmental and social sustainability goals and does not provide farmers with a living income (Cordes et al., 2021; Panhuysen and de Vries, 2023; Bureau D'analyse Sociétale D'intérêt Collectif, 2024). The situation of rural workers is even more precarious and forced or slave-like labor is common (Pinedo Caro, 2020; Cordes et al., 2021; Panhuysen and de Vries, 2023; Sigrist et al., in press). And this, while on the consumption side, coffee became a sophisticated product with lifestyle character (Roseberry, 1996; Samper and Quiñones-Ruiz, 2017; Bermúdez et al., 2022). Urban consumers, especially in the global North, are increasingly looking for unique, esthetically pleasing consumption experiences (Lannigan, 2020). One might assume that the growing demand for enjoyment and quality, or in other words, for specialty coffee[1], would also lead to a growing demand for environmental and social sustainability. However, studies have shown that this is not necessarily the case (Rosenberg et al., 2018; Jacobi et al., 2024).

One of the reasons for the persistence of this challenging situation is that decision-making and discourse-framing power, material and financial resources, and value creation in coffee value chains (VC) are unequally distributed, with a higher concentration at the end of the VC, or in other words, among multinational companies located in the global North (Grabs and Ponte, 2019; Bermúdez et al., 2022; Panhuysen and de Vries, 2023; Purwanegara et al., 2018; Bureau D'analyse Sociétale D'intérêt Collectif, 2024). This asymmetric distribution of power and value creation is exemplary for global VCs. Advanced economies in the global North significantly benefit from the appropriation of resources and labor from the global South through unequal exchange and trade practices that still follow the structures of colonial economies (Hickel et al., 2022).

Sustainability standards intended to improve environmental and social outcomes of agrifood chains are often imposed unilaterally on coffee origin countries (Raynolds et al., 2007; Samper and Quiñones-Ruiz, 2017; Grabs and Ponte, 2019). Multinational companies, NGOs, and international experts set the standards without necessarily involving farmers, workers, and consumers (Giovannucci and Ponte, 2005; Raynolds et al., 2007; Fuchs et al., 2009; Bennett, 2017; de Bakker et al., 2019; Meemken et al., 2021). As a result, these standards mainly reflect the interests of companies and institutions based in the global North, while administrative burdens and costs are often shifted to farmers and organizations in the global South (Giovannucci and Ponte, 2005; Hatanaka et al., 2005; Raynolds et al., 2007; Fuchs et al., 2009; Samper and Quiñones-Ruiz, 2017; Panhuysen and de Vries, 2023). Different scholars argue that involving farmers and other local actors in the definition and governance of sustainability standards would be critical for more legitimacy and that failure to do so results in standards being a hegemonic project with limited impact (Giovannucci and Ponte, 2005; Bennett, 2017; de Bakker et al., 2019; Wright et al., 2024).

A similar situation can be observed with agrifood sustainability assessments. They are also primarily developed by experts and offer limited opportunities for farmers to influence sustainability definitions and to be actively involved in the assessment (Schindler et al., 2015; De Olde et al., 2016; Slätmo et al., 2017). Several scholars argue that the reason why these assessment schemes have not led to a transformation of the food system toward more sustainable practices is that they are inflexible and farmers' contexts are not taken into account (De Olde et al., 2016; Slätmo et al., 2017). Involving a broad variety of actors would be important, because different actors have different views, needs, and priorities and impact is often subjective and depends on who is judging it (Ssebunya et al., 2017; Umaran et al., 2022; Newig et al., 2023).

As seen above, actors in coffee origin countries are generally not involved in decision-making processes around sustainability initiatives, and there seems to be a consensus that this should change if they are to be successful. However, this is rarely put in practice, and little is known about the different actors' views, needs, and priorities as well as their perceptions of sustainability. The only study that we found that looks at sustainability perceptions of a wider range of actors in the coffee VC, is a master's thesis that looks at sustainability perceptions of Vietnamese coffee farmers and Swedish coffee companies and coffee consumers (Kessler, 2024). They found that the different actors have different perceptions of what constitutes sustainable coffee, and that coffee quality plays an important role. However, they did not go much beyond the broad terms of environmental, social, and economic sustainability and did not include actors other than farmers in the origin country Vietnam.

We suggest that one way of exploring the different views, needs, and priorities of different actors is to apply the standpoint theory from feminist philosophy. The standpoint theory claims that knowledge is influenced by social position and that dominant groups often fail to critically examine their own advantages, leading to biased and less objective knowledge (Harding, 1992). Marginalized people and their experiences are often overlooked as subjects of knowledge and instead, those in power shape the policies and practices that affect their lives (ibid. 1992). Harding (1992) therefore argues that the lives of marginalized people should be the starting point for thought and research, and that different standpoints are needed in order to arrive at more objective knowledge.

Therefore, in this study we included different standpoints represented in ten case studies to explore what matters for different actors (rural workers, *metayers*[2], farmers, management/office staff, owners and managers, roasters, consumers) in coffee VCs in Brazil, the Democratic Republic of Congo (DRC), and Switzerland. Although both Brazil and the DRC produce the coffee species Arabica (*Coffea*

Abbreviations: DRC, Democratic Republic of Congo; FGD, focus group discussion; VC, value chain.

1 Specialty coffee is high quality coffee that scores at least 80 points on the Specialty Coffee Association' 100-point scale used to assess the sensory quality of roasted coffee.

2 A type of sharecropper who is allowed to grow crops on someone else's land in exchange for 1–2 days of free labor per week. A system known as the *metayage* system.

arabica) and Robusta (*Coffea canephora*), this study focuses on Arabica producing regions, as Arabica represents higher quality coffee and specialty coffee is predominantly made from this species. Brazil and the DRC are important coffee and specialty coffee origin countries. Brazil is the largest coffee producing country in the world (FAO, 2025) and the DRC, largely financed by multinational companies and specialty coffee roasters, is currently enhancing its infrastructure to produce specialty coffee amidst ongoing armed conflict (Richey and Ponte, 2021). Switzerland on the other hand, is a hub for coffee traders, with most coffee traders and industry giants present in the country (CBI, Center for the Promotion of Imports from developing countries, 2022; Hoinkes and Blumer, 2024). The following research questions guided this study: (1) What are the perceived sustainability challenges of VC actors in Brazil and the DRC?; (2) What are the perceived potential solutions to overcome sustainability challenges in Brazil and the DRC?; (3) What characteristics of coffee are important to coffee roasters and consumers in the three countries?; (4) How do coffee roasters and consumers in the three countries perceive sustainability?

2 Methods

2.1 Study design, sampling, and data collection

To answer the research questions, we used a multi-site mixed methods approach and adopted an interpretative or constructionist epistemological stance to account for the complexity and heterogeneity of coffee VCs (Johnson et al., 2007; Bryman, 2012). Between 2022 and 2024, we conducted (1) focus group discussions (FGDs), (2) interviews, and (3) online surveys with various actors of coffee VCs in Minas Gerais (Brazil), South Kivu (DRC), and Zurich (Switzerland). Table 1 provides a description about the different actor groups involved in the study.

TABLE 1 Description of actor groups involved in the study.

Actor group	Description
Rural workers	People employed by a coffee plantation or farm to perform manual labor in the coffee fields or in coffee post-harvest processing facilities, usually earning a minimum wage.
Farmers	Small- to medium-sized family farmers who either do all the work themselves or employ few people, usually on a temporary basis.
Metayers	A type of sharecropper who is allowed to grow crops on someone else's land in exchange for 1–2 days of free labor per week.
Management/office staff	People employed by a coffee cooperative or plantation who have clerical jobs or manage coffee production or post-harvest processing.
Plantation owners and cooperative/company managers	Decision makers: People who own medium to large plantations and employ several people on a permanent basis, or people who run cooperatives or companies.
Coffee roasters	People who work for a roastery. They know and represent the values and strategy of the roastery they work for.
Coffee consumers	People who consume coffee and attend coffee events or participate in coffee-related social media groups, typically coffee practitioners, specialists, and enthusiasts.

2.1.1 Focus group discussions and interviews with value chain actors in Brazil and the DRC

We selected the case studies for this study based on exploratory fieldwork in South Kivu (DRC), and Minas Gerais and São Paulo (Brazil), in 2022, as well as a value chain and stakeholder mapping process. We adopted a purposeful snowball sampling method with the aim to cover a diverse range of actors, settings and standpoints in the coffee VC (de Olivier Sardan, 1995; Palinkas et al., 2015). Table 2 shows an overview of the selected case studies in Brazil and the DRC and provides a short description about each case study. The two study regions in which the case studies were located are both Arabica producing regions.

To collect empirical data, we conducted FGDs and interviews with rural workers, farmers, management/office staff (hereinafter referred to as staff) of cooperatives and plantations, and owners and managers of cooperatives, plantations, and companies during two major data collection campaigns. One in South Kivu (DRC), in April and May 2023, and another in Minas Gerais (Brazil), from October to December 2023.

2.1.1.1 Focus group discussions

We worked with FGDs to generate in-depth, nuanced insights and explore complex issues from different groups (Nyumba et al., 2018). We conducted eight face-to-face FDG sessions with 9–11 participants (with one exception of 3 for case study B5) that lasted for 120–180 min (Table 3). To select the participants for the FGD we adopted a context specific combination of a purposeful criterion and maximum variation sampling technique (Palinkas et al., 2015). All participants had to have a direct link to one of the case studies, some years of experience in the coffee VC, and represent the diversity of the respective case study. For each FDG in both countries, we chose locations that were easily accessible, familiar to the participants, and where confidentiality could be ensured. Participation was voluntary and participants were not compensated apart from travel expenses. For each FGD, we invited 10–15 people to ensure a sufficient turnout.

Each FDG started with an icebreaker, a presentation round, and a short presentation of the research project. Then, the participants were asked to jointly define rules or norms for collaboration during the FGD. The FGD consisted of two main parts, a brainstorm about sustainability challenges that the participants are facing and a brainstorm about potential solutions to overcome sustainability challenges. The potential solutions were brainstormed in a general way and were not each linked to a specific challenge mentioned in the first part. Both parts included an individual brainstorming and a collective brainstorming. The participants first wrote down their individual thoughts on post-its and then presented them to the group. To ensure inclusivity, we provided assistants for non-literate participants. If the groups contained participants with different positions of power, such as farmers and staff of cooperatives, we split the group accordingly before discussing potential solutions to

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TABLE 2 Description of selected case studies in Brazil and the DRC.

Case study	B1: direct trade cooperative	B2: women's group	B3: social movement	B4: alternative specialty coffee plantation	B5: conventional specialty coffee plantation	D1: *metayage* plantation	D2: female-led cooperative	D3: established cooperative	D4: emerging cooperative	D5: local roastery
Location	South of Minas Gerais, Brazil					South Kivu, DRC				
Characteristics	Small, innovative, Fairtrade and partly organic certified cooperative with a focus on direct trade	Women's group of an innovative, Fairtrade and partly organic certified cooperative with a focus on family farming	Cooperative of a social movement fighting for land redistribution[a] and partly organic certified	Medium-sized, alternative specialty coffee plantation: partly organic, partly conventional	Medium-sized, conventional specialty coffee plantation	Large coffee plantation/ company linked to a multinational buyer and working with the *metayage system*[b]	Female-led family farming cooperative linked to a multinational buyer and entering the specialty coffee export market	Established family farming cooperative exporting specialty coffee, partly directly to roasters	Emerging family farming cooperative entering the specialty coffee export market	Small roastery serving the local market, expanding to all larger Congolese cities

[a]The social movement is struggling for the implementation of the agrarian land reform and for social justice through the occupation of uncultivated land from large landowners, claiming to guarantee the social function of the land, which is to produce food. They establish settlements and redistribute land to rural workers and persons living in urban peripheries for family farming. There is a law supporting this process. The 1988 post-dictatorship Constitution establishes that all agricultural land must be productive and respect the environmental and labor legislation. If these requirements are not met, land can be expropriated for the purpose of agrarian land reform (Fernandes, 2013; Dolce, 2020).

[b]The *metayage* system is a form of sharecropping system where *metayers* are allowed to grow crops on the plantation's land in exchange for 1–2 days of free labor per week.

overcome sustainability challenges in the second part of the FGD. In this part, the participants first grouped the potential solutions they came up with into groups representing the same topic. Then they discussed jointly why this potential solution is important, gave examples and wrote that down. During the FGD, we took notes and pictures to document the process.

2.1.1.2 Interviews

We conducted interviews about sustainability challenges and potential solutions to overcome sustainability challenges with the actor group *plantation owners and cooperative/company managers* for whom it was not possible to organize a FGD. The interview questions are provided in the Supplementary material 1 (section S1). In total, we conducted five semi-structured interviews in Brazil and the DRC. We conducted interviews with the plantation owners of the case studies B4 (female, 59 years), B5 (female, 60 years), and D1 (male, 59 years). Moreover, with the president of the cooperative of the case study D3 (male, 53 years) and with the manager of the case study D5 (female, 36 years). The face-to-face interviews took place in the interviewee's preferred location, which were offices, coffee shops, or bars and lasted for about 30 min. Due to unavailability, one of the interviews took place online. All interviews were recorded with a smartphone and then transcribed using the software Trint (Trint Limited, 2022).

2.1.2 Online surveys with roasters and consumers in Brazil, the DRC, and Switzerland

To better understand what characteristics of coffee are important to coffee roasters and consumers and what sustainable coffee means to them, we conducted online surveys. The online surveys captured these topics in a qualitative way using open-ended questions. We asked consumers in Brazil, the DRC, and Switzerland what traits a coffee should have to make them willing to pay higher prices. Furthermore, we asked them and Swiss roasters what words come to mind when they think of good coffee. To look at the perceptions of sustainability, we asked the consumers in all three countries and the roasters in Switzerland what words come to mind when they think of sustainable coffee and (if any) what impacts of coffee production concern them most. In total, 81 consumers in Brazil, 23 consumers in the DRC, 153 consumers in Switzerland, and 55 roasters in Switzerland responded to the online surveys (Table 4). The core of the survey was the same for consumers and roasters in all three countries (Supplementary material 2). Examples were adapted to the country, and the questions were reviewed with the co-authors for appropriateness to cultural norms. The survey was set up on the survey platform Eval&GO, in several languages, in Brazil in Portuguese and English, in the DRC in French, for Swiss consumers in German and English, and for Swiss roasters in German, French, Italian, and English. To respond to the survey, the respondents scanned a QR-code or opened a link on their smart phones or computers.

Participants of the consumer surveys were randomly selected from (specialty) coffee scenes, using stratified sampling. In all three countries, the consumers represent a stratum of people who attend coffee events or participate in coffee-related social media groups, typically coffee practitioners, specialists, and enthusiasts, i.e., people who determine current and future trends in coffee consumption (Bartoloni et al., 2022). More specifically, we approached consumers

TABLE 3 Overview of FGDs conducted in Brazil and the DRC.

Case study	Participants (*n*)	Actor group(s)	Location	Date
B1: direct trade cooperative	10 (3 women, 7 men)	Coffee farmers (8) and management/office staff (2)	Meeting room of the cooperative, Brazil	05.10.2023
B2: women's group	8 (8 women)	Coffee farmers (8)	Meeting room of the cooperative, Brazil	09.11.2023
B3: social movement	10 (5 women, 5 men)	Coffee farmers (5) and management/office staff (5)	Meeting room of the cooperative, Brazil	28.11.2023
B5: conventional specialty coffee	3 (1 woman, 2 men)	Rural workers (3)	Community Center, Brazil	09.12.2023
D1: *metayage* plantation	10 (6 women, 4 men)	*Metayers* (5) and management/office staff (5)	Community Center, DRC	12.05.2023
D2: female-led cooperative	11 (8 women, 3 men)	Coffee farmers (6) and management/office staff (5)	Meeting room of a guesthouse, DRC	02.05.2023
D3: established cooperative and D4: emerging cooperative	9 (5 women, 4 men)	Coffee farmers (9)	Meeting room of a guesthouse, DRC	04.04.2023
D3: established cooperative and D4: emerging cooperative	9 (1 woman, 8 men)	Management/office staff (9)	Meeting room of a guesthouse, DRC	03.04.2023

TABLE 4 Overview of online surveys conducted with coffee consumers and roasters.

Survey details	Brazilian consumers	Congolese consumers	Swiss consumers	Swiss roasters
Location, event	Festa do Café, Poço Fundo and Semana International do Café (SIC), Belo Horizonte	Survey shared in WhatsApp Groups of coffee practitioners, specialists, and enthusiasts	Swiss Coffee Festival, Zurich	Survey sent to 171 Swiss roasters by e-mail
Date	20–22.10.2023 and 10.11.2023	April to June 2023	07–09.09.2022	April to May 2023
Participants (n)[a]	81	23	153	55

[a]Number refers to number of people who completed the survey.

in Brazil and Switzerland at the coffee events *Festa do Café*[3], *Semana International do Café*[4] and Swiss Coffee Festival[5]. In the DRC, we approached consumers in three social media groups dedicated to coffee and development and with posters hung up in three coffee shops in Bukavu. Sociodemographic data about the consumers can be found in the Supplementary material 1 (section S2). To approach Swiss roasters, we contacted all 171 roasters in Switzerland where an e-mail address was available online.

2.2 Data analysis

Before starting with the qualitative analysis, we summarized the grouped post-its from the FGDs with the identified potential solutions, reasons, and examples, to maintain the grouping made by the participants. We used Microsoft Copilot (GPT-4o) to create a first summary that we then checked and edited manually. The prompt for creating the summaries and the manually edited summaries are provided in the Supplementary material 1 (sections S3.1, S3.2). This step was not necessary for the post-its with the identified challenges because they were not grouped and hence, could be analyzed individually. We analyzed the qualitative data of the FGDs, the interviews, and the online surveys with MAXQDA 2022 (VERBI Software, 2021). We inductively coded all qualitative data in two cycles. We first assigned the codes and then we re-coded to create thematic categories and find patterns (Saldaña, 2013). To show an overview of the codes and their relative importance, we created heatmaps with R Studio (R Core Team, 2024). The data were normalized by dividing the number of times a particular topic was mentioned by the total number of times all topics were mentioned during a FGD, interview, or survey.

3 Results

The results section is organized in four parts. First, we present the identified sustainability challenges in Brazil and DRC, then potential solutions to overcome them. Then, we show the

3 A regional event, mainly dedicated to coffee farmers and local consumers.

4 An event with many different actors of the coffee VC present: small-scale and large-scale coffee farmers, extension officers, roasters, the agribusiness, multinational companies, and coffee enthusiasts including a young, urban audience.

5 An event mainly for roasters and coffee practitioners, specialists, and enthusiasts including a young, urban audience.

characteristics of coffee that are important to roasters and consumers, and finally, the perceptions of sustainability among roasters and consumers.

3.1 Sustainability challenges of value chain actors in Brazil and the DRC

During the eight FGDs and five interviews, participants and interviewees identified the main general, environmental and social challenges they experience as an actor of the coffee VC. As can be seen in Figure 1, four groups emerged with similar response patterns: (1) farmers and staff of cooperatives in Brazil; (2) farmers, *metayers*, and staff of cooperatives and the *metayage* plantation in the DRC; (3) plantation owners and cooperative/company managers in Brazil and the DRC; and (4) rural workers in Brazil. The same response pattern emerged when looking at raw counts (see Supplementary Figure 1).

3.1.1 Sustainability challenges of farmers and staff of cooperatives in Brazil

Farmers and staff of the two fairtrade certified cooperatives (B1 & B2) in Brazil identified climate change and extreme weather events like hail, drought, and frost as the biggest challenge (Figure 1). Farmers of the women's group (B2) identified challenges with productivity and profit as similarly difficult, they specifically highlighted the high coffee production costs. Furthermore, they talked about challenging collaborations and interactions. There is a lack of interaction with society and hence, a lack of appreciation for the work of farmers. However, they also mentioned that farmers have to overcome themselves to improve the situation. The aforementioned groups (B1 & B2) also pointed out the lack of rural workers; it is becoming increasingly difficult to find workers willing to work on coffee farms. Most of the people working on small-scale coffee farms are seasonal workers from the north of Minas Gerais, and there are very few local workers. Farmers and staff of the direct trade cooperative (B1) additionally highlighted big challenges with the government and politics. They mainly mentioned the legislation and demanding laws for farmers, but also the lack of governmental support. Farmers and staff of the social movement (B3), on the other hand, identified other pressing challenges, such as the lack of good agricultural practices. The persons who participated in the FGD think that not enough farmers in the movement have adopted sustainable farming practices, such as organic farming and agroecology. Furthermore, they emphasized land use challenges and environmental degradation, mainly deforestation and the lack of access to water.

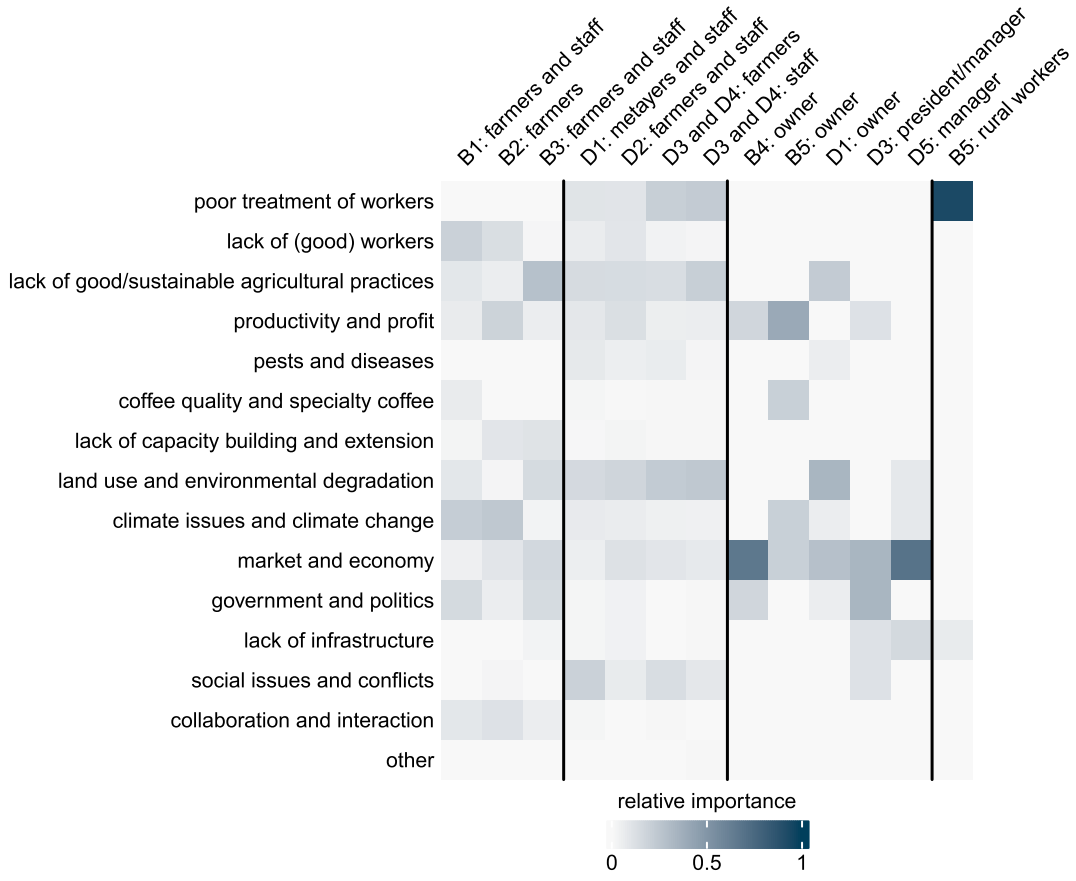

FIGURE 1
Sustainability challenges of VC actors in Brazil and the DRC. The y-axis shows the thematic categories that were mentioned during the FGDs. The x-axis shows each case study and the actor(s) who mentioned the topics during a FGD or interview. The values in the heatmap show the relative importance of the topics. The data were normalized by dividing the number of times a particular topic was mentioned by the total number of times all topics were mentioned during a FGD or interview.

Other challenges involve the market and economy: there is an insufficient market for the various products produced in the social movement (not only by coffee farmers and members of the cooperative), such as organic vegetables. In addition, products from farmers without official land documentation suffer from a lack of access to markets. Other identified challenges are related to the government and politics. The participants criticized the legislation and the failure of the Brazilian government to fully implement the agrarian reform to redistribute agricultural land.

3.1.2 Sustainability challenges of farmers, *metayers*, and staff of cooperatives and the *metayage* plantation in the DRC

Farmers, *metayers* and staff of cooperatives and the *metayage* plantation (D1, D2, D3, D4) in the DRC identified land use challenges and environmental degradation as the biggest challenge (Figure 1). This includes deforestation, but also erosion and low soil fertility, and for the case studies D1 and D2 waste management. *Metayers* and staff of the *metayage* plantation (D1) identified social issues and conflicts as even more challenging: population growth, poverty, armed and unarmed conflicts, but also youth unemployment, and the fact of producing coffee, but not being able to consume it. Farmers of the cooperatives D2, D3 and D4 also emphasized social issues and conflicts, they furthermore mentioned modernization as a challenge. Other identified challenges by all farmers, *metayers* and staff of the cooperatives and the *metayage* plantation (D1, D2, D3, D4) involve the lack of good agricultural practices. There is a lack of agricultural inputs and tools, good coffee varieties, and sustainable farming practices, such as the lack of incorporation of shade trees in coffee cultivation. The participants of the FGDs also talked about the old age of the coffee trees and the very low planting density that leads to low yields. Moreover, they talked about water pollution caused by agricultural activities that do not respect buffer zones near water bodies, or water pollution caused by the incorrect management of wastewater from coffee washing stations. Furthermore, farmers, *metayers* and staff of cooperatives and the *metayage* plantation (D1, D2, D3, D4) also mentioned the poor treatment of workers (employees and day laborers) as very challenging. Bad working conditions, such as low and insufficient wages up to no payment at all, the lack of health insurances and protective working equipment, and the lack of food during long working days. Finally, especially farmers and staff of the female-led cooperative (D2) identified productivity and profit and the market and economy as other big challenges. They mainly emphasized the lack of profit due to high production costs and low coffee prices, the lack of credits (from banks or coffee buyers) and capital to invest in coffee production and post-harvest processing, and the lack of liquid capital to pay for overhead costs of cooperatives (e.g., wages or transportation).

3.1.3 Sustainability challenges of plantation owners and cooperative/company managers in Brazil and the DRC

The plantation owners and cooperative/company managers in Brazil and the DRC all identified the market and economy as most important challenges (Figure 1). The two owners of the plantations (B4 & B5) in Brazil mentioned high production costs as very challenging. The owner of the conventional specialty coffee plantation (B5) in Brazil talked about the challenge to increase efficiency and competitiveness. The owner of the alternative specialty coffee plantation (B4) in Brazil mentioned the unequal distribution of profits between coffee producers (including themselves, a medium-sized plantation) and coffee traders and roasters. They also stressed the challenge, that doing things differently and focusing on ecological and social topics quickly becomes an economic disadvantage and they highlighted the lack of a market for products resulting from diversifying coffee production systems:

> "Financial sustainability [is the biggest challenge]. I think that would be the first. Because the cost of a farm is very high. […] Another big challenge is diversification, because diversification also means creating other businesses in the marketing area, because you can do a lot of things. But how do you turn that into value-added products? This type of activity is a big challenge. And I don't see how you can continue with a farm, with the land producing, if you don't go down that path, adding value to the products and also diversifying, since we're not going to just make coffee, the idea is not to just make coffee but be as diverse as possible. So, how do you transform all of this? Into a whole, with products coming from different processes, and create a market for all that. I think creating a structure that commercializes this is challenging, but I think it's the way forward, you know." (female, 59 years, owner B4)

For the owner of the *metayage* plantation (D1) and the managers of the cooperative and the local roastery (D3 & D5) in the DRC, the main economic challenges are the low coffee prices, the lack of marketing for Congolese coffee, the unequal distribution of profits between coffee producers/farmers and coffee traders and roasters, and the lack of capital to invest in coffee post-harvest processing and access to viable credits (from banks or coffee buyers):

> "One thing is certain: there is still no adequate funding. It's complicated. So, we take money from Europe, we take a lot of money from Switzerland too. We take out loans there. So, we always sign tripartite contracts, we draw up tripartite contracts between the [coffee] buyer, the lenders, and us. Those are the tripartite contracts we sign. Why? Because we don't have access to financing here in Congo. Our interest rates are between 2 and 3% per month, which means we have an interest rate of 36% per year. It's suffocating, no, it's suffocating." (male, 53 years, president D3)

The owner of the conventional specialty coffee plantation (B5) in Brazil additionally mentioned climate risks and producing specialty coffee as challenging. The owner of the alternative specialty coffee plantation (B4) in Brazil, on the other hand, highlighted the high taxes. The president of the established cooperative (D3) in the DRC also mentioned high taxes, lack of governmental support in terms of access to credit and financial guarantees, and more generally, the government and politics of the country as a major challenge (e.g., the enforcement of laws). Moreover, the low coffee productivity, population growth, and a poor road infrastructure. The owner of the *metayage* plantation (D1) in the DRC additionally highlighted land use challenges and environmental degradation, like the lack of waste management and deforestation:

> "In the region I think the first challenge is that there are so many environmental issues. The challenge is that in this region, there has been a lot of deforestation, first due to an influx of refugees.

> When the refugees arrived, they cut down many trees, and many did not replant. There is no longer a systematic policy of replanting trees, but now with coffee, we see that there is a dynamic with climate change, effects such as longer sunshine or rainy seasons, so we see the effect of a lack of trees." (male, 59 years, owner D1)

Furthermore, challenges around the lack of good agricultural practices, such as the low planting density, the lack of good varieties that are resistant to climate change and to pests and diseases, and the pollution caused by organic waste and water from coffee washing stations. Finally, the manager of the local roastery (D5) in the DRC highlighted the poor infrastructure, such as the lack of a stable electricity supply, which poses challenges for coffee roasting.

3.1.4 Sustainability challenges of rural workers in Brazil

The rural workers of the conventional specialty coffee plantation (B5) in Brazil spoke almost exclusively about the poor treatment of workers on coffee farms (Figure 1). They mentioned the very high physical and mental workload on workers and the authoritarian relationship between employers and workers. The rural workers reported that this manifests itself in a lack of appreciation of workers, a lack of respect, empathy, dialogue, and also a lack of incentives. They also pointed to low and insufficient wages, a lack of protective working equipment, and poor transportation by the employer to bring rural workers from the small town to the plantation. In the region of case studies B4 and B5, rural workers rarely live on the plantations where they work, there is no public transport, and workers do not have the means for private transport.

3.2 Perceived solutions to overcome sustainability challenges in Brazil and the DRC

The solutions to overcome sustainability challenges identified in the eight FGDs and five interviews can be broadly categorized into three groups, each with similar response patterns: (1) farmers, *metayers* and staff of cooperatives and the *metayage* plantation in Brazil and the DRC; (2) plantation owners and cooperative/company managers in Brazil and the DRC; and (3) rural workers in Brazil (Figure 2). The same response pattern emerged when looking at raw counts (see Supplementary Figure 2). Participants brainstormed possible solutions in a general way, they did not link each specific solution to a specific challenge they mentioned.

3.2.1 Perceived solutions of farmers, *metayers* and staff of cooperatives and the *metayage* plantation in Brazil and the DRC

Farmers, *metayers* and staff of cooperatives and the *metayage* plantation in Brazil and the DRC most often mentioned solutions to overcome sustainability challenges related to good/sustainable agricultural practices, to capacity building and extension, to the market and economy, to productivity and profit, to having a dignified quality of life, and to human and environmental health (Figure 2).

All but one of the FGD groups came up with solutions related to good/sustainable agricultural practices. In the DRC, an identified solution was to improve fertilization and hence soil fertility. Farmers, *metayers* and staff of the case studies D1 and D2 talked about improving fertilization as crucial for the future. Farmers of the female-led cooperative (D2) in the DRC mentioned that a solution would be to enhance agricultural productivity and soil fertility through the application of organic fertilizers and compost. And that this should be done in order to improve the living conditions of farmers.

Other perceived solutions related to good/sustainable agricultural practices were the provision of agricultural inputs, better control of pests and diseases, producing high-quality coffee, implementing regenerative agriculture, or promoting agroecology and organic farming. Farmers and staff of the direct trade cooperative (B1) in Brazil mentioned regenerative agriculture as possibility to produce high-quality coffee and ensure economic and ecological sustainability. They said that regenerative agriculture should optimally prevent the use of aggressive agrochemicals, deforestation, and water pollution, and reduce production costs, leading to higher incomes and more ecology. Farmers and staff of the social movement (B3) in Brazil, on the other hand, mentioned agroecology and organic farming as important to ensure human and environmental health. They said that agroecology and organic agriculture should be promoted and supported through specialized technical assistance, extension, public incentives, and technological advances in regard to organic inputs, to ensure human and environmental health and resistance to industrial agrochemicals.

Almost all groups also mentioned solutions related to capacity building and extension. The farmers of the established and emerging cooperatives (D3 & D4) in the DRC mentioned that trainings about agricultural practices and capacity budling of coffee farmers would be essential to eradicate poverty, enhance productivity, and ensure financial stability. Farmers and staff of the social movement (B3) in Brazil mentioned education and professional trainings (e.g., trainings about food processing, agricultural inputs, environmental issues) as crucial to empower rural communities. They emphasized that these trainings should be adapted to local realities, promote cultural activities, and aim to ensure income stability and the future of rural life by providing opportunities for the youth and preserving cultural heritage.

Solutions to overcome sustainability challenges related to the market and economy were mentioned by eight groups. Farmers of the established and emerging cooperative (D3 & D4) in the DRC emphasized that fair coffee pricing and market access would be essential to eradicate poverty, ensure agricultural development and educational advancement in the region.

Seven groups mentioned solutions related to productivity and profit. Farmers of the women's group (B2) in Brazil mentioned productivity and profitability as crucial to achieve a dignified quality of life for everyone. They said that productivity and profitability should be enhanced through the adoption of resistant coffee varieties, the production of bio-inputs, access to field experiences, assisted experiments, and exchanges, better coffee prices, and more recognition in the market.

The described solutions to overcome sustainability challenges were never mentioned for their own sake but were always seen as a means of satisfying basic needs, human and environmental health, and ultimately achieving a dignified quality of life. Most groups explicitly mentioned these topics as a solution for the current challenges. *Metayers* of the *metayage* plantation (D1) in the

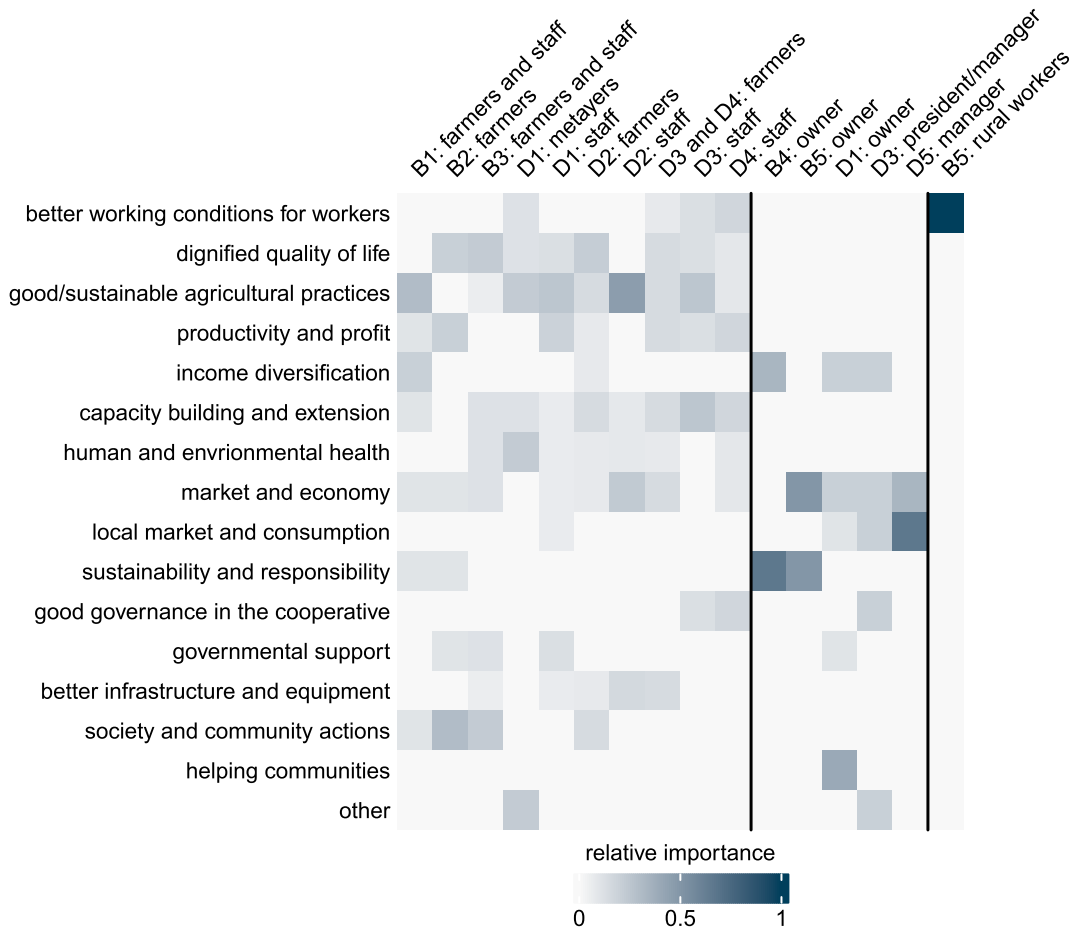

FIGURE 2
Perceived solutions to overcome sustainability challenges in Brazil and the DRC. The y-axis shows the thematic categories that were mentioned during the FGDs. The x-axis shows each case study and the actor(s) who mentioned the topic during a FGD or interview. The values in the heatmap show the relative importance of the topic. The data were normalized by dividing the number of times a particular topic was mentioned by the total number of times all topics were mentioned during a FGD or interview.

DRC said that governmental regulations and community awareness should be implemented to prevent uncontrolled deforestation and promote reforestation to protect the environment, which also protects human life, and biodiversity. Farmers and staff of the social movement (B3) in Brazil said that quality of life, dignity, and health should be enhanced through improved basic infrastructure, like better housing, access to clean drinking water in rural areas, proper waste management, and the mechanization of production.

3.2.2 Perceived solutions of plantation owners and cooperative/company managers in Brazil and the DRC

Plantation owners and cooperative/company managers in Brazil and the DRC most often mentioned solutions to overcome sustainability challenges related to the market and economy, income diversification, local market and consumption, and to sustainability and responsibility (Figure 2).

The owner of the alternative specialty coffee plantation (B4) in Brazil aims at finding a market for products from a more diversified coffee production, while the owner of the conventional specialty coffee plantation (B5) in Brazil wants to be as profitable as possible while complying with government environmental laws and third-party certification:

> "We are always trying to increase the number of high-quality bags, of specialty coffee, we are always trying to increase it, more and more each year. And we try to reduce costs and expenses so that we can make a bigger profit. We train our employees better, each one in their own sector, so that we can be more effective. With both field and administrative activities. […] So, we try to practice agriculture that is, well, conventional, but still within all the norms and certifications [Rainforest Alliance], right? That doesn't harm the environment or what people are going to consume." (female, 60 years, owner B5)

The owner of the *metayage* plantation (D1) in the DRC is striving for greater vertical integration (e.g., own coffee milling) and wants to become a leader in coffee production, also regarding ecological and social aspects. The president of the established cooperative (D3) in the DRC wants to promote and market Congolese coffee and strengthen local actors in the coffee VC, e.g., with establishing a network of Congolese coffee cooperatives. Currently, most coffee is exported, which

leads to long VCs and a high dependency on the political situation, traders and roasters. Therefore, the manager of the local roastery (D5) in the DRC wants to gain independence from international prices by promoting the local market and local coffee consumption:

> "First of all, we must no longer rely on exports. As I said, the people who preceded us in the sector had an export mindset. But when you work for local processing and consumption, there you take up the challenge of industrialization, of coffee produced locally in the DRC. So, we are working more for local consumption and awareness. We also need to get young people interested in joining the sector, as well as women, and encourage women to coffee tasting and organize training sessions on roasting and barista skills. All of this can help because you will be working to increase domestic coffee consumption. And what will that save you from? Having the price of your coffee set by international players." (female, 36 years, manager D5)

Furthermore, the owner of the *metayage* plantation (D1) and the president of the established cooperative (D3) in the DRC mentioned income diversification as a possibility to overcome current challenges. While the owner of the *metayage* plantation (D1) wants to diversify the income from the plantation, the president of the established cooperative (D3) wants to diversify the income with ecotourism around coffee.

In Brazil, both owners of the specialty coffee plantations (B4 & B5) in Brazil also mentioned solutions around sustainability and responsibility. The owner of the alternative specialty coffee plantation (B4) said that they want to be economically and socially sustainable, while maintaining ecological diversity on the farm and the owner of the conventional specialty coffee plantation (B5) said that they want to do a serious job with responsibility.

3.2.3 Perceived solutions of rural workers in Brazil

All potential solutions identified by the rural workers of the conventional specialty coffee plantation (B5) in Brazil are related to achieving better working conditions (Figure 2). They want higher wages, better tools, more material incentives, more respect for job roles to avoid overload and reduce psychological pressure by giving workers more autonomy and less constant supervision. They stressed that it would be important to foster a workplace of empathy, respect, and understanding among employers and colleagues. This would then lead to more trust and encourage asking questions and sharing opinions, so that tasks could be assigned with consideration for feasibility and availability, and less authoritarianism.

3.3 Characteristics of coffee that are important to roasters and consumers

Most consumers in all three countries stated that coffee should offer a great drinking experience to make them willing to pay higher prices (68 Brazilian consumers, 17 Congolese consumers, 104 Swiss consumers). A table with the number of people who mentioned a specific topic during the respective survey and heatmaps showing the relative importance and raw counts are provided in the Supplementary Table 1 and Supplementary Figures 3, 4. Some Swiss and Brazilian consumers also mentioned that coffee with a higher price should be sustainably produced (18 Swiss consumers, 1 Brazilian consumer) and fairly traded (38 Swiss consumers, 4 Brazilian consumers), although, like all the other stated traits, to a much lesser extent than they mentioned the drinking experience. The drinking experience includes sensorial aspects such as taste, aroma, flavor, and mouthfeel. One Swiss consumer wrote that coffee with a higher price should be: "*Intense in flavor, slightly chocolaty, definitely Fairtrade or similar*" (male, 21 years), one Brazilian consumer wrote: "*Fruity, sweet-bodied, usually coffees with citrus sensory note*" (anonymous), and one Congolese consumer wrote: "*Good aroma. Good balanced taste. Little acidity*" (male, 45 years). The answers were similar when consumers and roasters were asked to think about good coffee. They all mainly mentioned things that are related to the drinking experience and furthermore, to emotional states, feelings and lifestyle. Figure 3 provides an overview of the topics consumers and roasters mentioned when asked what good coffee is. The same response pattern emerged when looking at raw counts (see Supplementary Table 2 and Supplementary Figure 5).

For Swiss roasters the drinking experience was the most mentioned attribute of a good coffee (30 Swiss roasters), while consumers in all three countries mostly mentioned things related to emotional states, feelings and lifestyle (50 Brazilian consumers, 15 Congolese consumers, 103 Swiss consumers). A Brazilian consumer wrote that good coffee is: "*Comfort, flavor, joy, trem bão (Brazilian Portuguese expression commonly used in Minas Gerais to refer to something good or positive)*" (male, 36 years), for a Congolese consumer: "Boosting the nerves" (male, 37 years), and for a Swiss consumer: "*Relaxation, pleasure, a moment for me*" (female, 30 years). The production of coffee and the actors involved in the coffee VC were rarely mentioned. These results are backed by multiple-choice responses about what factors inform the consumers' purchase decision (see Supplementary Figure 6). In all three countries, the most mentioned attribute was taste, followed by flavor profile and aromas, and price. As can be seen in Figure 3, sustainability and responsibility, traceability and transparency, and labeling and fair trade were almost not mentioned at all.

3.4 Perceptions of sustainability among roasters and consumers

When consumers and roasters were asked to think specifically about sustainable coffee, different terms came up. As can be seen in Figure 4, everyone, but especially Brazilian and Congolese consumers mentioned attributes linked to production and processing techniques, like using a minimum amount of chemical inputs, mixed production systems, or coffee that is produced on family farms (24 Brazilian consumers, 8 Congolese consumers, 20 Swiss consumers, 17 Swiss roasters). The same response pattern emerged when looking at raw counts (see Supplementary Table 3 and Supplementary Figure 7).

A Congolese consumer wrote that sustainable coffee is: "*Coffee from practices that respect the rational management of natural resources and limit the use of chemicals*" (male, 31 years), and a Brazilian consumer: "*Planted and harvested by smallholders. Recycling of the coffee grounds*" (female, 30 years). Brazilian and Congolese consumers also often mentioned things related to the environment and nature (14 Brazilian consumers, 8 Congolese consumers). A Brazilian consumer wrote that sustainable coffee is: "*Coffee produced*

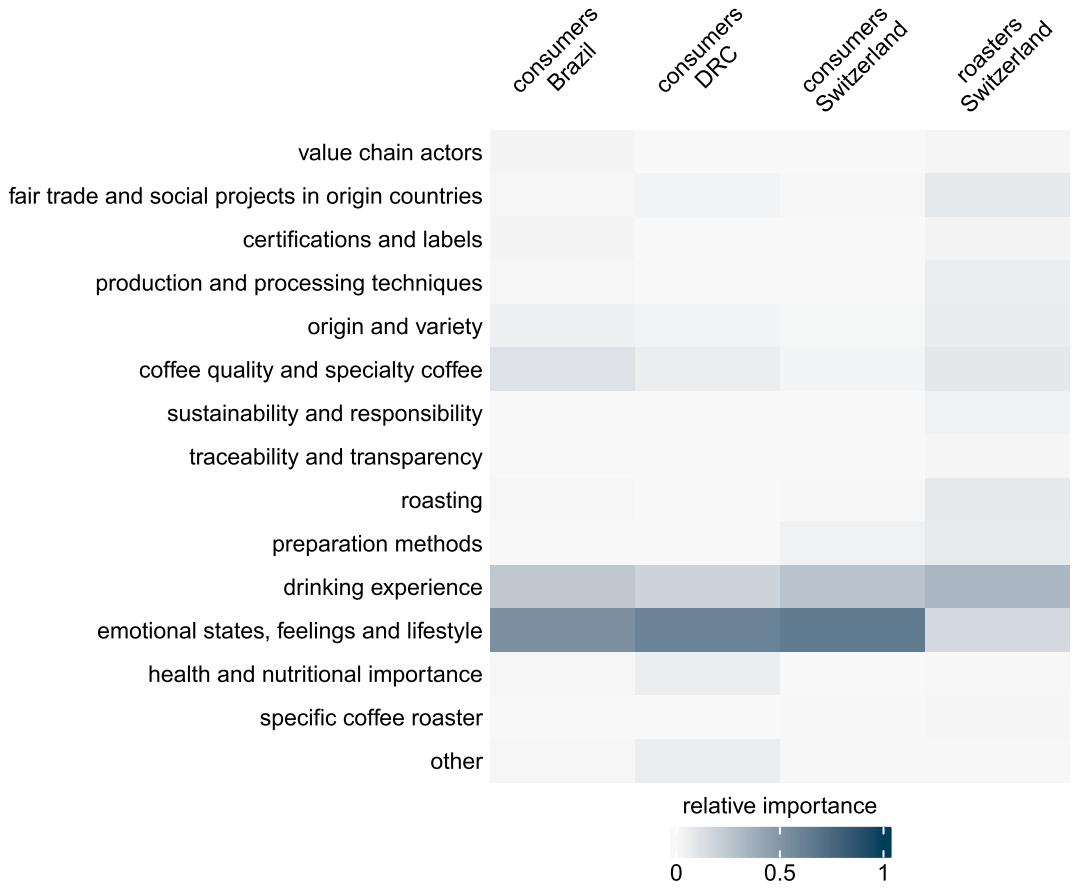

FIGURE 3
Consumer and roaster perceptions of good coffee. The y-axis shows the thematic categories that were mentioned during the surveys. The x-axis shows the actors who mentioned the topic during the surveys. The values in the heatmap show the relative importance of the topic. The data were normalized by dividing the number of times a particular topic was mentioned by the total number of times all topics were mentioned during the survey with one of the four groups.

without destroying nature" (female, 37 years). Swiss roasters and consumers, on the other hand, mostly associated sustainable coffee with fair trade and social projects in origin countries, and thus with fair prices for farmers (59 Swiss consumers, 35 Swiss roasters). A Swiss consumer wrote that sustainable coffee should comprise: "*Fair trade, minimum wages and more for workers abroad*" (female, 31 years). Certifications and labels seem to have a bigger importance for Swiss roasters and Congolese consumers than for Swiss and Brazilian consumers. One Swiss roaster wrote that sustainable coffee is "*Organic, Fairtrade, CO2 Neutral; Our certifications [the certifications they use]*." Lastly, some consumers and roasters (8 Brazilian consumers, 16 Swiss consumers, 2 Swiss roasters) also wrote that it is very difficult to produce sustainable coffee, and one Swiss roaster linked sustainable coffee with coffee that has a bad quality and taste: "*No words, as I try it first and then evaluate, usually sustainable coffees taste worse than others, with a lot of acidity*." The results about sustainability perceptions are backed by multiple-choice responses about most important traits of ecological and fair coffee (see Supplementary Figures 8, 9).

When directly asked, environmental and social impacts of coffee production seem to concern roasters and consumers. Most consumers and roasters mentioned to be most concerned about the ecological impacts of agriculture (21 Brazilian consumers, 4 Congolese consumers, 36 Swiss consumers, 15 Swiss roasters). A table with the number of people who mentioned a specific topic during the respective survey and heatmaps showing the relative importance and raw counts are provided in the Supplementary Table 4 and Supplementary Figures 10, 11. Especially Brazilian consumers (17), and to a lesser extent everyone else (2 Congolese consumers, 8 Swiss consumers, 7 Swiss roasters), mentioned to be most concerned about the application of pesticides. Many Swiss roasters also mentioned climate change (15). Swiss consumers seem to be equally concerned about social issues, 37 consumers mentioned issues like the exploitation of workers and farmers, low or unfair coffee prices, and an unequal distribution of profit. Nine Congolese consumers, on the other hand, mentioned to be positive about the future and mostly see positive impacts of coffee production. Furthermore, mainly Swiss roasters and Congolese consumers also mentioned concerns around prices, the market and the economy. For example, two Swiss roasters mentioned transportation and other costs, one roaster price dumping, one low prices in supermarkets, and three supply chain issues. Two Congolese consumers mentioned to be concerned about the coffee market in general, one about the coffee export, and one about the certification of Congolese products and the GDP of the country.

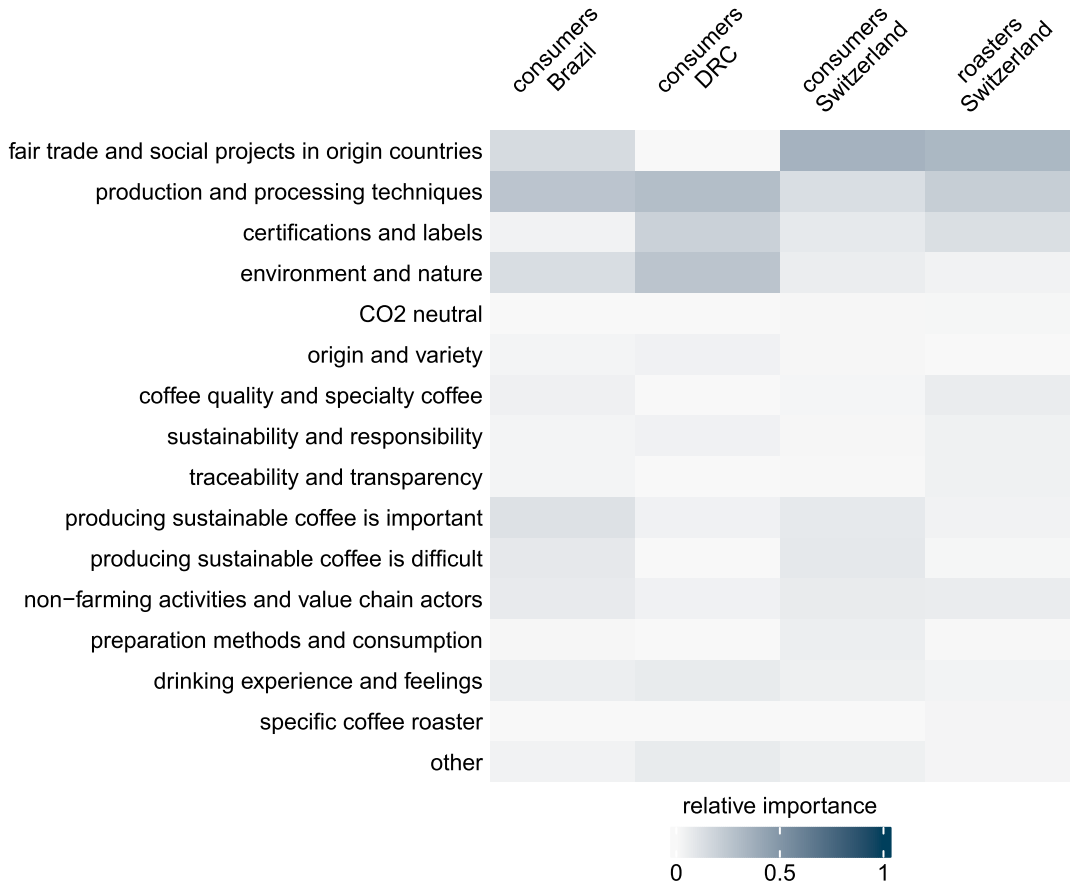

FIGURE 4
Consumer and roaster perceptions of sustainable coffee. The y-axis shows the thematic categories that were mentioned during the surveys. The x-axis shows the actors who mentioned the topics during the surveys. The values in the heatmap show the relative importance of the topics. The data were normalized by dividing the number of times a particular topic was mentioned by the total number of times all topics were mentioned during the survey with one of the four groups.

4 Discussion

Through this study, we showed the different standpoints of different actors in the coffee VC. We found a strong mismatch between the different perceptions of different groups of actors with different positions of power and carrying out different activities along the VC, regardless of the country. Our results suggest that farmers strive for a dignified quality of life, plantation owners and cooperative/company managers strive for better economic conditions, rural workers strive for better working conditions, roasters strive for a great drinking experience, and consumers strive for pleasure and a hedonistic lifestyle.

4.1 Views, needs, and priorities of different actors in the coffee value chain

We found that farmers and staff of cooperatives in both countries consider human and environmental health as well as having a dignified quality of life to be the reason for all proposed solutions to improve the current situation. This is no surprise considering all the inequalities along the coffee VC and the existential threats, like incomes below the poverty line, food insecurity, and health risks, that farmers and rural workers are facing (Grabs and Ponte, 2019; Sachs et al., 2019; Cordes et al., 2021; Panhuysen and de Vries, 2023).

In both countries, we found that plantation owners and cooperative/company managers do not have the same perceptions about challenges and solutions as rural workers, farmers, and staff of cooperatives and the *metayage* plantation. They mostly prioritize economic and political issues such as the market, production costs, taxes, and infrastructure. Environmental and social issues appear to play a less important role for plantation owners and cooperative/company managers than for farmers and staff of cooperatives and the *metayage* plantation. This is interesting considering that farming activities ultimately depend on environmental conditions. One reason for this could be that the owners and managers of our case studies have adopted a productionist worldview of agriculture that prioritizes technocratic and economic solutions to the detriment of environmental concerns; rooted in a view of nature as mere resource to be exploited (Bawden, 2006; Simon, 2006; Page and Witt, 2022). Furthermore, in both countries the plantation owners and cooperative/company managers did not talk about working conditions, even though they all employ people.

However, in the FGDs with farmers and staff of our case studies in the DRC and in the FGD with rural workers of our case study in Brazil, we found that working conditions in the coffee VC are a pressing issue in both of our study areas. Bad working conditions in coffee production are also widely discussed in literature (Pinedo Caro, 2020; Cordes et al., 2021; Panhuysen and de Vries, 2023; Sigrist et al., in press). In line with our findings, Sigrist et al. (in press) found that

family farmers and rural workers in the South of Minas Gerais are the most marginalized actors of the coffee sector in the region. They found that power asymmetries between large coffee cooperatives and coffee companies and rural workers favor physical suffering and abuse of rural workers, discrimination, inadequate remuneration, and insecure seasonal work arrangements, whether formal or informal. Big players with financial and material resources exercise symbolic and political power over smaller, less privileged players (Sigrist et al., in press).

The main finding of the consumer and roaster survey is that the coffee drinking experience and the emotional states, feelings and lifestyle associated with coffee consumption matter most to them. Consistent with other literature, coffee is seen as a lifestyle product (Roseberry, 1996; Samper and Quiñones-Ruiz, 2017; Bermúdez et al., 2022). We found that it is not only coffee consumers in the global North who are looking for sophisticated and pleasurable consumption experiences, but also consumers in Brazil and the DRC (Lannigan, 2020).

Although sustainability plays a certain role for consumers and roasters, our findings align with other studies that suggest that coffee enthusiasts and specialists are primarily concerned with organoleptic coffee quality, taste and pleasure (Guimarães et al., 2019; Bartoloni et al., 2022).

4.2 Limitations and generalizability

The two main limitations of this study are the low representation of rural workers and the consumer selection bias.

Only three out of the fifteen rural workers invited to the FGD attended. One reason for this low turnout was probably that the FGD took place on a Saturday morning. This time had been agreed with the workers in advance because it was unfortunately not possible to conduct the FGD on the coffee plantation (their workplace) for two reasons. First, the employer did not allow such a discussion during working hours. Second, we could not have ensured confidentiality in the possible presence of the employer. Further research should focus on how to better reach the marginalized group of rural workers, bearing in mind their long working days and limited autonomy over these. One possibility could be to remunerate workers for their participation. However, all three participants were highly motivated and committed to reflecting on the situation of all rural workers on the plantation and therefore we consider their feedback as representative.

Our consumer sample in all three countries is biased toward rather young people from the middle to upper-middle classes who are coffee practitioners, specialists, and enthusiasts (mean age Brazilian consumers: 31.6; mean age Congolese consumers: 33.9; mean age Swiss consumers: 34.3). We selected this stratum because they determine current and future coffee trends (Bartoloni et al., 2022). However, this means that we did not represent the perspectives of mainstream consumers. It would be interesting to see whether our results would be the same for mainstream coffee consumers. Those who consume lower-quality coffee are probably more focused on price-performance, although taste, pleasure, and lifestyle are also likely to play a role, given the social and ritual nature of coffee consumption (Garner, 2015; Samoggia and Riedel, 2018).

In general, considering the similarity of our findings across different countries despite their structural differences, we hypothesize that they are also valid for other countries. Furthermore, our findings regarding actors in origin countries are likely to be applicable to lower-quality Robusta coffee VCs. Our findings may be even more pronounced there because Robusta coffee farmers and workers face more precarious livelihoods (Adong et al., 2024) and the market is even more consolidated and dominated by multinational companies (Wright et al., 2024; Oviedo-Rodríguez et al., 2025). Robusta is primarily traded as an undifferentiated commodity, which intensifies market pressure and vulnerability for farmers and workers (ibid.).

4.3 Implications for sustainability and justice in coffee value chains

The findings of our study underscore the urgent need for a more inclusive and participatory approach to decision-making and sustainability in coffee VCs. Our research reveals that the diverse and sometimes conflicting views, needs, and priorities of actors along the VC are deeply tied to and shaped by their lived experiences and social positions. This finding aligns with feminist standpoint theory, which argues that social positions significantly influence knowledge and that marginalized groups' lived experiences are essential for generating more objective and inclusive understandings of complex issues (Harding, 1992).

Previous research already called for greater farmer involvement in the definition and governance of sustainability standards in order to increase their legitimacy and effectiveness (Giovannucci and Ponte, 2005; Bennett, 2017; Wright et al., 2024). Our findings support this call and go further by highlighting that not all actors (rural workers, farmers, plantation owners, cooperative/company managers) in origin countries share the same views, needs, and priorities. While farmers and rural workers struggle to meet basic needs and strive for a dignified quality of life and better working conditions, plantation owners and cooperative/company managers prioritize economic and political concerns. This calls for bottom-up sustainability initiatives tailored to the needs of specific actors, rather than applying the one-size-fits-all approach of most initiatives today. Identifying which actors to involve and understanding their unique contexts and power positions is as important as their inclusion.

To achieve more sustainability and justice in coffee VCs, our findings call for a shift in how decisions are made, how value is distributed, and how coffee is marketed. Ensuring a dignified quality of life for farmers and rural workers is not only a matter of justice but also a prerequisite for achieving broader sustainability goals. A just compensation for farmers must be ensured to provide farmers and rural workers with a living income (Grabs and Ponte, 2019; Cordes et al., 2021; Bermúdez et al., 2022; Panhuysen and de Vries, 2023; Bureau D'analyse Sociétale D'intérêt Collectif, 2024) and the capacity to adopt sustainable agricultural practices[6]. Moreover, sustainability initiatives should reflect the diverse views, needs, and priorities of

6 At the time of writing this publication, the global coffee sector has undergone some disruptive changes, with coffee prices at record highs and coffee traders in turmoil. It remains to be seen whether the record high coffee prices will actually make a difference to farmers, or whether the negative effects of climate change outweigh the high prices. It also remains to be seen whether or not the crisis of the coffee traders will create the momentum for direct trading practices to transform the coffee sector.

actors, stop shifting administrative burdens and costs to origin countries (Giovannucci and Ponte, 2005; Hatanaka et al., 2005; Raynolds et al., 2007; Fuchs et al., 2009; Samper and Quiñones-Ruiz, 2017; Panhuysen and de Vries, 2023) and make more efforts to combine organoleptic coffee quality with environmental and social aspects (Rosenberg et al., 2018; Jacobi et al., 2024).

Future research should explore how sustainability initiatives and decision-making processes can better integrate different standpoints while addressing the structural inequalities and power asymmetries underpinning coffee VCs. Reimagining the coffee VC as a system that values and integrates the views, needs, and priorities of all actors is essential.

5 Conclusion

We found that less powerful actors in Brazil and the DRC have similar concerns, while in both countries the concerns differ from those of more powerful actors in the VC. As already suggested by Harding (1992) this calls for "starting off thought from the lives of marginalized peoples" (Harding, 1992, p.56), in our case smallholders and rural workers. In line with our findings, we conclude that large-scale farmers, farm leaders, or researchers cannot represent smallholders or rural workers in sustainability initiatives. Smallholders and rural workers need to represent themselves to achieve a sustainable and just transformation of coffee VCs, and to end the entrenched structures of former colonial economies.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found in the article doi: 10.6084/m9.figshare.27852468.

Ethics statement

The studies involving humans were approved by Ethics Commission of ETH Zurich EK-2023-N-24 and EK-2023-N-84. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written or oral informed consent to participate in this study. Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

Author contributions

BT: Validation, Writing – review & editing, Formal analysis, Investigation, Data curation, Project administration, Visualization, Software, Conceptualization, Methodology, Writing – original draft, Resources. MSi: Writing – review & editing, Conceptualization, Writing – original draft, Software, Validation, Project administration, Methodology. LS: Writing – review & editing, Writing – original draft, Validation, Conceptualization. DB: Writing – review & editing, Validation, Writing – original draft, Investigation. MSt: Investigation, Supervision, Writing – original draft, Writing – review & editing. GS: Validation, Writing – review & editing, Writing – original draft. SP: Supervision, Writing – review & editing, Writing – original draft. KK: Writing – original draft, Writing – review & editing. JJ: Writing – original draft, Methodology, Funding acquisition, Resources, Project administration, Conceptualization, Supervision, Writing – review & editing, Validation.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The authors declare that Gen AI was used in the creation of this manuscript. Generative AI was used to summarize topics written on post-its during focus group discussions (mentioned in the manuscript). Furthermore, generative AI was used as a help to create R code and for specific language edits.

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Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fsufs.2025.1623366/full#supplementary-material

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