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Ethical value networks, metabolic rift and sustainability in Mexican and Chilean avocado production. The cases of Uruapan and Quillota-La Cruz

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Abstract. The increase in avocado consumption has led to an expansion of monoculture areas and the exacerbation of environmental, social and cultural impacts in avocado-producing territories. The industry has promoted strategies that seek to legitimize production through the discourse of good business practices and sustainable certification processes. This strategy detracts attention from the physical-natural transformations and economic, social, cultural and political conflicts associated with expanded avocado production. In this context, the objective of this paper is to analyze how the central discourses of narratives on sustainability in the avocado industry create spaces for the reproduction and accumulation of capital. Based on the approaches of ethical value networks and metabolic rift, a comparative analysis of two case studies in conducted for Uruapan, Michoacán in Mexico and Quillota-La Cruz, Valparaíso in Chile. The results show that both case studies present socio-economic deficiencies, with significant losses of vegetation cover, alterations in the hydrological cycle and soil erosion problems, which are invisible in the narrative on sustainability being upheld by the industry, thus exacerbating the metabolic rift of society–nature relations.

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1. Introduction

Avocado production has grown significantly in recent years, rising from 1.8 million metric tons in 1990 to 8.2 million tons in 2020 (FAOSTATS, 2022). This growth is primarily explained by the increased demand from the United States, Europe and, recently, China (Alarcón-Cháires, 2018), where consumers have sought to buy avocados, which have recently been recognized as a superfood due to their multiple benefits for human health (Borhe et al., 2021).

However, the magnitude of adverse impacts in areas where avocados are grown has also increased (Denvir et al., 2022). The literature on the subject examines various impacts including relating to biodiversity, soil, deforestation, use of insecticides and fertilizers, land dispossession from Indigenous communities, violence and criminal groups, and the widespread use of hydrological systems, among others (Panez-Pinto et al., 2018; Ilka & Panez, 2020; Denvir et al., 2022; Subercaseaux et al., 2025).

In response, the avocado industry has deployed strategies, among other actions, to certify its production according to sustainability standards. Within the framework of the discussion on sustainability; green, ecological or ethical consumption; labels and certification processes; and fair trade (Varul, 2016), it has sought to extend the responsibility of consumers in environmental and social issues (Connolly & Prothero, 2008; Murray et al., 2022). In doing so, the industry alludes to the diverse forms of environmental sustainability, labor rights, protection of the livelihoods of small producers, and legal protection of the areas of origin of products (Murray et al., 2022).

This research seeks to question this, under two theoretical proposals that refer to ethical value networks (Murray et al., 2022) and to metabolic rift (Foster, 1999; Napoletano et al., 2019; Hidalgo et al., 2023). We believe that these two concepts allow us to deepen the discussion on how capital creates sustainability strategies designed to publicly legitimize its growth under environmentally responsible production standards while in fact hiding the real physical-natural transformations in production areas and the social, cultural, political and economic conflicts in the communities that inhabit these territories.

Based on these two theoretical proposals, this research seeks to look more closely at the subject based on the following question: How do sustainability strategies create spaces for the reproduction and accumulation of capital and stress, which magnifies the metabolic rift in society–nature relations?

For this purpose, the cases of Uruapan in Michoacán in Mexico and Quillota-La Cruz in Valparaíso, Chile are analyzed and compared. These cases share the following:

1. A leading role in the global production map and the high spatial concentration of production. Mexico has 27.7% of the world's avocado production, and, in particular, the state of Michoacán accounts for about 80% of avocado production in this country (Denvir et al., 2022). In Chile, although it only supplies 1.9% of the world's production-export, 67% is concentrated in the Valparaíso Region, where Quillota-La Cruz is located;
2. A strong productive identity around the avocado. Commercial avocado production in Mexico began in the state of Michoacán (Dorantes et al., 2004), and, given the phytosanitary barriers in place, it is currently the largest avocado exporter to the United States (Denvir et al., 2022). Uruapan is proclaimed as the world's avocado or "green gold" capital. In Chile, the Quillota Valley has historically been the main avocado-producing area in the country (ODEPA, 2018), and both Quillota and La Cruz call themselves the avocado capital of Chile (LQE, 2019);
3. Growing socio-environmental conflicts related to severe impacts on biodiversity. In Mexico, there have recently been problems of violence and drug trafficking (Ornelas, 2018). Meanwhile, Chile has seen conflicts associated with access to drinking water, drought, loss of biodiversity and repression of organizations opposed to the avocado industry (Madariaga et al., 2021).

This article comprises five chapters. After the introductory chapter, the second chapter presents the methodology, outlining this work's methods, data and study area. The third chapter presents the results of both case studies. The fourth chapter discusses these

findings based on the theoretical discussion. Finally, the fifth chapter presents the main conclusions.

2. Research materials and methods

This paper has a qualitative and quantitative research design, based on a methodology that uses the case study to carry out a comparative analysis between Quillota-La Cruz area in Chile and Uruapan in Mexico. Analytical categories derived from the literature on ethical value networks (Murray et al., 2022) are discussed and adapted to the reality of each case, so as to not only allow us to understand the dynamics of each of the areas analyzed but also to establish commonalities and differences in the trends within the avocado industry and in its links with the territories where production is located.

2.1. Study area

Quillota-La Cruz is administratively made up of two municipalities, both belonging to the Valparaíso Region of central Chile. The two communes have a combined surface area of 380.2 km^2 (38,000 hectares) and are located in geomorphological units of marine or fluvial-marine plain, transverse ridges, fluvial or alluvial sedimentation plains and coastal mountain range. It has a Mediterranean climate with winter rainfall and coastal influence. The average annual maximum temperature is 21.1°C and the average minimum is 7.9°C. Precipitation is heaviest in June, with an accumulated 100.9 mm (see Fig. 1).

The municipality of Uruapan is located in the state of Michoacán in the south-west of Mexico (see Fig. 1) and has an area of 1,015.952 km^2 (101,595.2 hectares). Its territory is part of the main mountainous system of the state, which is the transverse volcanic mountain range composed of rugged terrain that includes mountains, hills, plateaus and plains. The municipality belongs to the hydrological region of the Balsas and to the basins of the Tepalcatepec-Infiernillo and Tepalcatepec Rivers. It also belongs to the sub-basins that form part of the Cupatitzio, La Parota, Itzicuaro, Paracho-Nahuatzen and Bajo Tepalcatepec Rivers. The average temperature in Uruapan ranges between 24°C and 28°C, although the minimum temperature in January can reach 7°C. Its population is 356,786 people. Agriculture occupies more than 1 million hectares of land in Michoacán, including products such as maize, limes and avocado (Henderson, 2017) (see Fig. 1).

2.2. Data

The data used were collected using methods of research design combining data from three sources of information: 1) satellite image processing of the study areas, 2) processing and analysis of economic, environmental and social statistics databases, and 3) review of scientific literature, official documents and gray literature, mainly from the press and social networks.

Specifically, satellite images of the study area were processed and analyzed to calculate the area of avocado plantations in constant growth. This process was carried out using ArcGIS 10.8 software and with vectorial coverage information from the ODEPA - CIREN Fruit Cadastre in the Chilean case. The information is available at the following website: https://catastro-fruticola-inicio-esri-ciren.hub.arcgis.com/. In the Mexican case, the vectorial coverage was generated from the digitalization of images from Google Earth and then exported and transformed into shapefield with the spatial processing software used.

In addition, the analysis involved the use of different economic, environmental and social databases from the CASEN Socioeconomic Characterization Survey of the Chilean Ministry of Social Development, The National Forestry Corporation (CONAF) in Chile, and the Municipal Institute of Planning in Uruapan, Michoacán (IMPLAN) in Mexico.

Finally, we did a review of official documents, including legal documents and evaluation of reports, as well as press material, such as newspapers and social networks. This decision is justified on the grounds that the gray literature represents a source of information that comprises a wealth of media articles and social media posts on the avocado industry, thus providing a rich and untapped source of information available for analysis.

2.3. Analysis

This information was grouped into four dimensions of analysis, which have been adapted from the discussion on ethical value networks of Murray et al. (2022). The work of Murray et al. (2022) represents a valuable input for our understanding of the dynamics of each case study, as well as their comparison. They propose three analytical categories that they call "ethical constellations", in order to delve into the multidimensional implications that exist in the functioning of industries such as the wine industry and their territorial impact. In particular, the dimensions they propose are threefold. First is justice, which refers to the human relations involved

Fig. 1. Study area: Uruapan, Michoacán, México and Quillota-La Cruz, Valparaíso, Chile
Source: own elaboration.

in production, emphasizing equity and transparency in the distribution of resources among producers, exporters and workers. Second is sustainability, which relates to concerns about reducing environmental damage, harmful use of land and water, resource depletion and carbon emissions. Third is the cultural dimension, which refers to the geographic origin of production and its products. Geographic origin can be treated as an indication of quality; it evokes unique environmental, social and cultural characteristics associated with places; and it differentiates value and specifies authenticity.

In this paper, and based on the above, we propose an adaptation of the analytical categories proposed by Murray et al. (2022), in order to discuss comparatively the two proposed case studies. Accordingly, we establish four categories or dimensions of analysis. The first corresponds to the avocado industry in order to explore the characteristics in terms of production area, its variation over time and other economic data. Second, we propose a social category as a proxy for the justice dimension of Murray et al. (2022), in order to explore the social and demographic characteristics, access to basic services and quality of life of the population living in avocado-producing territories. Thirdly, we propose an environmental category, as a proxy for the sustainability dimension of Murray et al. (2022), in order to explore how deforestation and the occurrence of fires generate a negative impact on the ecosystem. This variable has been linked to the growth of avocado plantation area in the literature, so it is used in this work to address the environmental dimension. Fourthly, we propose a cultural and specifically identity dimension, as a proxy of the origin dimension of Murray et al. (2022), to refer to the local identity of avocado-producing territories and how this process is positioned in local development plans and sustainable certification strategies that seek to position avocado in the national and international market, as well as its valorization.

It is important to point out that this research does not seek to analyze all the variables or dimensions involved in the dynamics of avocado-producing territories, but rather to offer a different view, based on the proposal of ethical value networks and their adaptation to the two case studies analyzed in this paper. It is possible that there are dynamics associated with specific variables that are not addressed in this paper. In addition, it is important to emphasize that this proposal is a prism through which to observe the physical and social transformations of avocado-producing territories and therefore in no way

Table 1. Dimensions of analysis, variables and relationship with SDGs

Dimension	Subdimension	Variables
Industry	Surface area and production	Plantation area (Ha) Production (Ton) Exports (Ton)
Social	Housing	Overcrowding Access to basic services in housing
	Poverty	Poverty level
	Water resources	Access to safe drinking water (% living without access to safe drinking water)
Environmental	Vegetation	Deforestation Wildfires
Cultural	Social, environmental, and cultural characteristics	Local Identity Certification processes National, regional and local plans for the sustainability, enhancement and use of resources

Source: authors own elaboration

represents the only approach to observing them. The literature features different approaches that enrich the analysis of these territories, and this proposal is one more way to deepen it. Finally, we believe it is relevant to compare cases that share characteristics regarding the avocado industry but that differ in magnitude of production and in positioning (i.e., positioning at the global level, not at the national level, given that both are historical centers of national avocado production).

3. Research results

3.1. The avocado industry

Avocado production is shaped by Mexico's globally predominant role. It is the leading producer, with 2,442,944 tons of avocado by 2021, representing 27.7% of international production (FAO, 2021) (Fig. 2). For its part, Chile is among the top ten avocado-producing countries. In 2021, Chile recorded a production of 169,031 tons, equivalent to 1.9% of global production (FAO, 2021) (Fig. 2).

As for the trend shown by avocado production over time, the data show that this industry has experienced a significant increase in Chile in recent years. In 2002, the surface area occupied by avocado plantations was 21,435 ha; however, by 2020, it had risen to 30,143 ha (ODEPA, 2002; ODEPA, 2020). Currently, avocado production is concentrated in the country's central area, specifically in the Valparaíso Region, with 67.4% of Chile's production (ODEPA, 2020). On the other hand, in Mexico, the avocado production area was 259,769 hectares in 2021, 70.6% of which is concentrated in Michoacán, where the studied area of Uruapan is located (SIAP, 2022).

3.2. Spatio-temporal distribution of avocado production

In Quillota-La Cruz, the area occupied by avocado plantations was 3,546 hectares in 2020 (Quillota = 1,866 ha and La Cruz = 1,680 ha). This value reflects a slight decrease compared to the 4,055 hectares recorded in 2002 (Quillota = 2,061 ha and La Cruz = 1,994 ha) (ODEPA, 2020). As for avocado production for 2022–23, the data show 17,247 tons, broken down into 10,295 tons in Quillota and 6,952 tons in La Cruz (Avocado Committee, 2023). Regarding avocado exports, for 2022–2023, a total of 9,560 tons is registered, broken down into 5,707 tons in Quillota and 3,853 tons in La Cruz (Avocado Committee, 2023).

The area occupied by avocado plantations in the municipality of Uruapan has increased steadily since 2010. That year, it was 12,459 hectares, whereas in 2021 it was 17,490 hectares (SIAP, 2021). As for avocado production, the data show a notable increase in recent years, from 61,791 tons in 2003 to 237,656 tons in 2018.

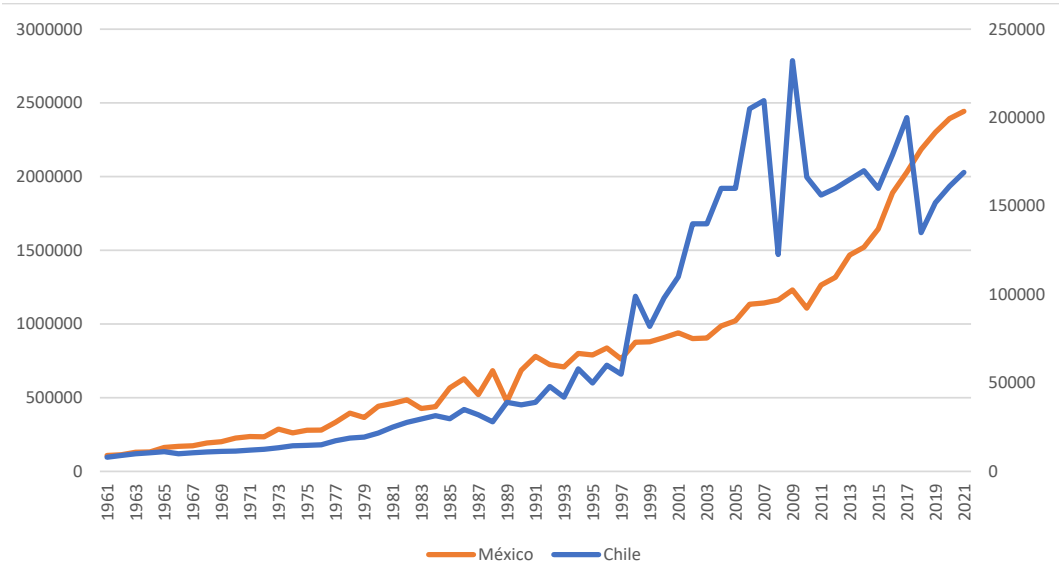

Fig. 2. Avocado production (ton) in Mexico (left y-axis scale) and Chile (right y-axis scale)
Source: Prepared by the authors based on FAO, 2022

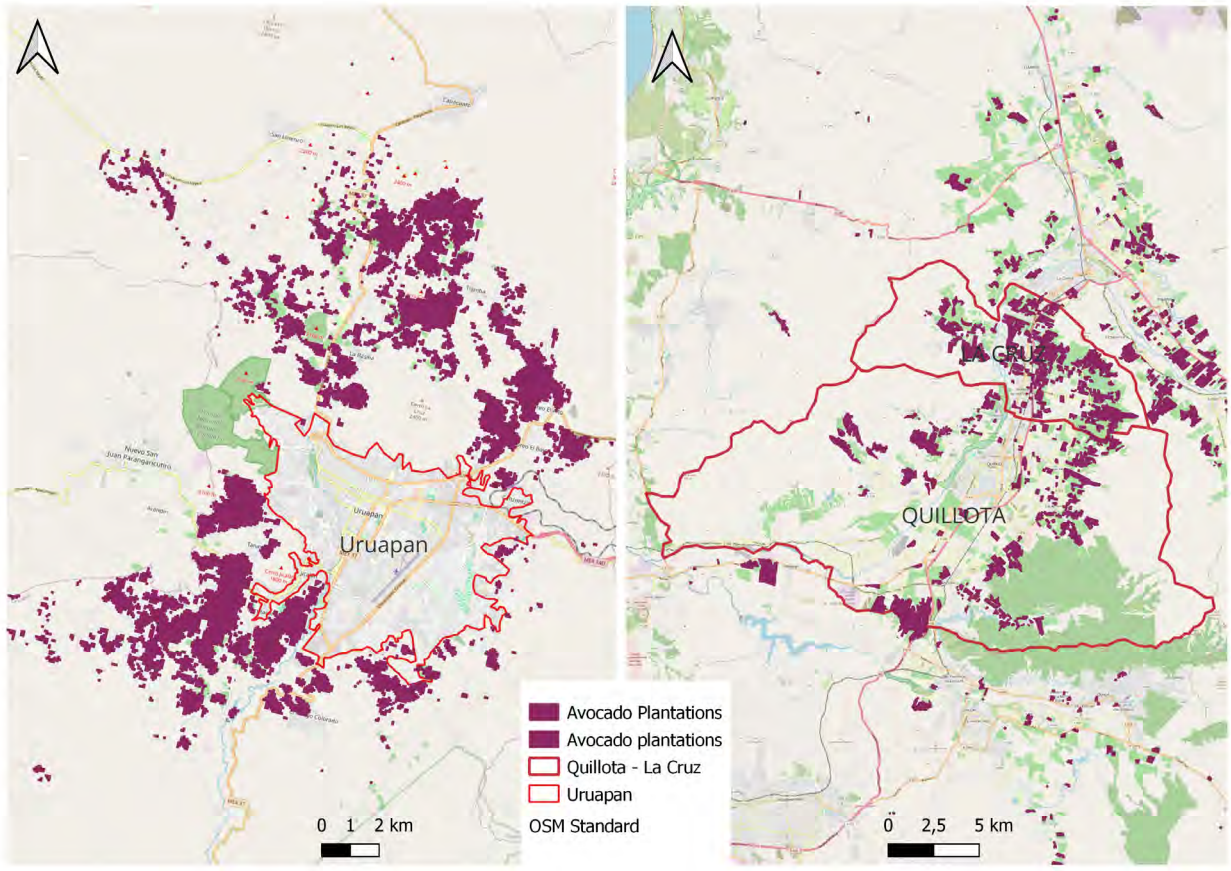

Fig. 3. Avocado plantation area in Uruapan, 2017, and Quillota-La Cruz, 2020
Source: Prepared by the authors based on the Fruit Cadastre of the V Region of ODEPA, 2020; IMPLAN Uruapan (2021)

As a complement, Figure 3, based on the processing of satellite analyses and vector coverage of the avocado plantation area, shows the distribution in Uruapan for 2017 and Quillota-La Cruz in 2020.

3.3. Approaches to social, environmental and culture in the avocado industry

The first dimension of analysis proposed is the social dimension, as a proxy for justice, understood as those characteristics that focus on the human relations involved in the production, emphasizing aspects such as equity and transparency of producers and workers. In this sense, for employment characteristics, the data show that, in Quillota-La Cruz, there are 3,368 workers in the avocado industry, comprising 5.9% of the total number of workers engaged in avocado-production-related work in the Valparaíso region. For working conditions, particularly the type of work, the data show that 73.8% have a permanent job, and 20.4% do not have a work contract (CASEN, 2022). In Michoacán, around 388,000 direct and indirect jobs depend on avocado production (Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria, 2020). However, the jobs generated by the industry are characterized by precarious labor benefits, low wages and unsafe working conditions for workers (*La Jornada*, 2023).

With respect to poverty levels, the data showed that 15.2% (16.9% nationally) of the inhabitants of Quillota-La Cruz were living in poverty in 2022 (CASEN, 2022), whereas, in Uruapan, the total was 42.1% in 2020, with 8.02% in extreme poverty (IMPLAN Uruapan, 2021) (See Table 2). In the same vein, the data highlight that, in Quillota-La Cruz, 1.73% of inhabitants do not have access to basic services, 5.4% are enduring overcrowding in their homes, and 5.3% of their homes do not have access to drinking water (CASEN, 2022). In Uruapan, in 2020, 13.4% of the inhabitants did not have access to basic services in their homes, 25.8% lived in overcrowded housing, and 5.7% of the homes did not have drinking water services (Table 2).

The dimension that addresses environmental issues, as a proxy for sustainability, is understood as concerning reducing environmental damage, the harmful use of land and water, the depletion of resources, and carbon emissions. An indicator that illustrates this is the loss of vegetation, particularly native forests. The data for

Quillota-La Cruz indicate that, in 2013, 46% of the surface area was native forest, but, by 2020, this had decreased to 23.6%. In the case of Uruapan, since 2001, there has been a gradual increase in the loss of forest area. In 2001, the cumulative forest loss area was 140.2 hectares, a figure that increased to 14,189 hectares by 2018 (IMPLAN Uruapan, 2021). This has contributed to the disturbance of the hydrological cycle and increased soil erosion (IMPLAN Uruapan, 2021) (Table 2).

Forest fires in the area have gradually increased in recent years. Between 2010 and 2020, 322 forest fires were recorded in Quillota, with 2020 being the peak, with 49 fires (CONAF, 2021). The total area affected during this period was 1139.72 hectares (CONAF, 2021). In the case of Uruapan, data show that there were 64 forest fires in 2016, affecting 944 hectares (INEGI, 2017) (See Table 2). By 2023, the state government reported receiving 80 complaints of forest fires caused by land use changes for avocado cultivation (*El Economista*, 2023).

The third dimension of analysis is the cultural dimension, as a proxy for geographical origin. This is understood as the geographical origin of the production and its products. It is associated with indicating quality, with evoking special environmental, social and cultural characteristics associated with places, and with differentiating, valuing and specifying authenticity. The important thing here is to address the avocado industry in the study areas from a historical perspective, looking at its origins and local identity, as well as its certification processes, plans and programs at different scales in sustainability, management and use of water, and fair trade, among others.

In the case of the Quillota-La Cruz area, this zone has positioned itself in Chile through its relevance in avocado production. The avocado is one of the most traditional fruits of this area, and both Quillota and La Cruz have tried to position themselves as the national avocado capital. This is reflected in what is stated by the leading authority of the commune of La Cruz, who calls this city the national avocado capital of Chile, where "the green gold identifies each person who lives in La Cruz" (LQE, 2019). Quillota has made similar pronouncements about itself, declaring itself to be "the main avocado-producing city in the country" (LQE, 2019) and that one of the three lines of identity that the city possesses is avocado production and agricultural activity (LQE, 2019).

A similar situation is observed in Uruapan. This city has positioned itself as an important center of avocado production, not only in Mexico but also worldwide, being called the "avocado capital of the world" or the "world capital of green gold" (Donaguacato, 2023). This

Table 2. Comparison of variables analyzed in the case studies

Variable	Description	Quillota-La Cruz, Chile	Uruapan, Mexico
Surface (ha)	Area of avocado plantations in hectares (ha)	3,547	17,49
Production (ton)	Avocado production tons	17,247	237,656
Exports (ton)	Avocado exports in tons	9,560	NI.
Poverty	% of the population living in poverty	15.2	42.1
Access to basic services	% population without access to basic services in their housing	1.73	13.4
Overcrowding	% of the population living in overcrowded housing	5.4	25.8
Access to water	% of the population without access to water in their homes	5.3	5.7
Deforestation	% or ha of forest plantation area	NI.	14,189
Wildfires	Number of forest fires	49	64
	Area affected by forest fires (ha)	106.5	944

Source: Prepared by the authors based on the Avocado Committee (2023), ODEPA (2020), CASEN (2022), and IMPLAN Uruapan (2021)

is associated with the city's toponym, whose meaning refers to the place where everything blooms, which is also related to the tributaries provided by the Cupatitzio River. Recently, however, it has also been called the violence capital of Mexico due to the actions of various organized crime groups that have extorted money from avocado producers (El País, 2023). For criminal groups, the avocado industry has become one of their main targets by seizing orchards, charging rent or "derecho de piso", clearing forest areas for planting, and theft or hijacking of transport units, with the theft of 4,274.4 tons reported in 2020, an economic loss of 182,187,200 million pesos (Macías, 2022).

As for the role of sustainability in the avocado industry, it is possible to identify several narratives that have emerged from inside the industry associated with the positive characteristics of avocados and sustainability initiatives. In the case of Chile, the Avocado Committee, which is the leading association for avocado companies, emphasizes the nutritional characteristics of avocados, stating that "they are tasty, nutritious, good for you, and have antioxidants" (Avocado Committee, 2023). On production, they state that it is "increasingly sustainable and that they have managed to adapt to climate change" (Avocado Committee, 2023) and are introducing initiatives to minimize the environmental and social impact of their activities, arguing that "sustainability is a relevant issue" (Redagrícola, 2022).

In the case of Mexico, companies are incorporating different initiatives linked to sustainability strategies. In this regard, and within the framework of organic avocado production, there are commitments to the health of people and the environment, having production focus "on a solid ecological outline" (Donaguacato, 2023). Core elements in production are also proposed, such as social responsibility, and respect and care for the planet, among others. For its part, the Association of Avocado Producers and Packers and Exporters of Michoacán, A.C. (APEAM), the leader in the avocado exporting industry (Sánchez & Sánchez, 2021), has established a Green Agenda for avocado production in recent years, proposing a sustainable cycle, with sustainable and environmentally responsible practices (APEAM, 2023).

4. Discussion and conclusion

Based on the results of the previous chapter, using the lens offered by the ethical value networks and the analysis categories proposed in this work, and following Murray et al. (2022), different discussion points are presented below.

For the social dimension, the results obtained can be linked to the literature that supports this work in that they i) offer evidence of how globally relevant avocado-producing areas considering the delivery of food inputs for different international markets; ii) present characteristics that, in general, speak of an area with socio-economic deficiencies in the population (Balanzas, 2014); and iii)_feature elements that are linked to unfair aspects in the avocado production network (Bidwell et al., 2018).

Regarding the environmental dimension and the analysis of environmental damage in production, the results presented largely align with the abundant literature that has discussed the negative impacts on avocado-producing territories globally (Panez-Pinto et al., 2018; Denvir et al., 2022). Aspects associated with ecosystem destruction, deforestation and biodiversity loss are addressed in the literature (Napoletano et al., 2019; Denvir et al., 2021) and are linked to what is shown in these case studies, incorporating new evidence regarding the transformation produced by the avocado industry.

Along the same lines, but focusing on the metabolic rift proposal, it is possible to distinguish how human actions transform nature in Uruapan and Quillota-La Cruz, thus broadening the discussion on how capitalist processes lead societies to alienate humans from the rest of nature (Hornborg et al., 2013). The argument put forward by Foster (2000) regarding the constant expansion of capital and the consequent accumulation of capital and ever-increasing scale of production is visualized in these cases, in which production has increased steadily over time to respond to the increase in demand for avocados and to reach new, increasingly distant and diverse global markets (Clark & Foster, 2009). This has resulted in a growing rupture between humans and nature, further magnifying the metabolic rift and causing irreparable fissures in the process of interdependence between humans and nature (Saito, 2020).

Finally, in reference to the cultural dimension that serves as a proxy for the geographical origin dimension proposed in the discussion on ethical value networks (Murray et al., 2022), the results presented in the previous chapter show that both Quillota-La Cruz and Uruapan have developed strategies to position themselves as leaders in avocado production – nationally in the former and globally in the latter. These strategies come not only from the private sector and the avocado industry but also from the public sector, as well as the local government in each city. Likewise, these initiatives show the local value of the products in terms of the history of the product's emergence and the associated identity, as well as being a source of pride for the inhabitants of these cities.

One aspect linked to this is related to the dominant narratives in the discourses from the public sector and mainly from the avocado industry. In this regard, it was possible to see how discourses associated with the nutritional characteristics of avocados are made and that their production is developed following sustainable standards with environmentally responsible practices. At this point, organic avocado production becomes relevant; the industry proposes it as a niche that allows the industry to address commitments to people's health and the environment. These elements are related to what the literature states about the different strategies and narratives laid out by companies in the avocado industry to position their production under sustainable certification standards, appealing to concepts such as sustainability, responsibility and ethics (Varul, 2016). However, as Napoletano et al. (2019) state, and the authors of this article concur, these conceptions of sustainability in avocado production further distance society's relationship with nature, but with profoundly adverse impacts on the territories where the product is grown and produced.

It is possible to conclude that, firstly, both Mexico and Chile are important players in the world avocado export map, where the shipping of this product to markets such as the United States, Europe and China stands out. Secondly, they are important players in avocado production, which, over time, has seen a sustained increase in volume produced and area planted, as well as in the spatial concentration of activity.

In both cases, by adopting the theoretical and conceptual approach of ethical value networks and adapting the categories of social, environmental and cultural analysis, it was found that elements of each category in fact related to arguments supporting each value network. This paper argues that this represents a valuable element to critically visualize how the transformations in avocado production are taking place in Mexico and Chile but also offers different perspectives to analyze this in other parts of the world.

In line with this, but referring to the metabolic rift proposal, the interpretation here is that both the results and the subsequent discussion of the results provide an answer to the objective and research question initially posed in this work. Specifically, this work shows how capital develops strategies that render invisible the physical and natural transformations in production areas and the social, cultural, political and economic conflicts in the communities that inhabit these territories. These strategies, based on certification processes and sustainable, responsible and ethical production schemes, have gained relevance not only in avocado production but also in other sectors and areas of the economy in both countries and in Latin America in general, thus further intensifying the metabolic gap in these territories.

Finally, as mentioned above, it is important to emphasize that this research offers a prism through which to observe the transformations in avocado-producing territories, and not the only way to analyze them. In this sense, we believe that it is relevant to broaden this discussion to other territories, as well as to connect the discussion with other theoretical and conceptual approaches that allow us to enrich what has been discussed so far. This should permeate not only the academic discussion, but also the political dimension referred to by decision-makers and the formulators of policies and plans at various geographical scales.

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