Narratives of sustainable work in mining-affected communities: Gleaning a decolonial concept

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Abstract. *Conceptions of sustainable work advanced by United Nations bodies, including the ILO, promote the pursuit of green and inclusive economies. Through a decolonial-inspired narrative analysis of textual and audiovisual sources relating to mining-affected communities in Brazil and Canada, we examine how these mainstream conceptions are taken up and challenged on the ground. We analyse these narratives against several features that a decolonial conception of sustainable work might contain. While decolonial conceptions centre on care for people and the land, ecological dependence, reverence for life and reproductive work, mainstream notions of sustainable work are often instrumentalized to legitimize practices that are irreconcilable with decolonial visions.*

Keywords: *sustainable work, livelihoods, mining, extractivism, green jobs, decolonial approaches, Brazil, Canada.*

1. Introduction

In the mainstream discourse, especially at the international level, the notion of sustainable work[1] is associated with policy directives on the green economy and with sustainable development objectives. As articulated by different United Nations (UN) bodies, its most prominent expression tends to be work – or jobs – that are "decent" and "green". According to the ILO, these are jobs that "contribute to preserve and restore the environment" (ILO 2016) and foster "poverty eradication and social inclusion" (ILO 2015, 4; ILO 2012). A key feature of sustainable work, as expressed by the UN Development Programme, is that it promotes human development while "reducing or eliminating negative externalities that can be experienced over different geographic and time scales" (UNDP 2015, 37). This feature tends to militate against inclusion in this category of economic sectors and jobs that contribute to depletion of resources and to large-scale social and environmental burdens at the local and global levels, and for future generations. Yet, as we argue in this article, instrumentalization of mainstream conceptions of sustainability can legitimize economic practices that are irreconcilable with forms of work that are sustainable because they are grounded in care for people and land. Specifically, resource extraction and large-scale mining, especially when they involve so-called "critical" minerals, are often billed as both sustainable and a source of "green" jobs.[2] This is despite the well-demonstrated environmental and social violence of extractivism (Shapiro and McNeish 2021),[3] including its interference with other livelihood strategies and associated notions of what constitutes sustainable work.

The incongruity inherent in the notion of "green" mining (jobs) is representative of broader contradictions within the mainstream policy approaches to sustainability and their relation to work. On the one hand, many UN policies acknowledge that sustainable work is a wider set of practices that extend beyond "jobs and employment" to include care, volunteering and other forms of unpaid, non-market work (UNDP 2015). They also take account of diverse livelihoods, including those of traditional communities and Indigenous peoples (ILO 2019a), which are often interrelated with care of land and grounded in non-capitalist or hybrid economic and knowledge systems.[4] On the other hand, an emphasis on labour market integration and formalization (ILO 2019b), and on growth as integral to sustainable development, remains present even in policies that conceive work and livelihood in a more expansive way. While lauded for its emphasis on decent work and extending protections to the most vulnerable of workers, the ILO's formalization agenda has also been problematized for folding ever more people and livelihood strategies into the structures of capitalist production, the associated global (racialized and gendered) divisions of labour and ongoing colonial relations (Ashiagbor 2019). Likewise, scholars have critiqued the insistence on growth-based development for reifying what is in fact a key driver of unsustainability (Littig 2018; Rai, Brown and Ruwanpura 2019), some of them calling for developmental strategies that radically depart from the mainstream (Gudynas 2011; Kothari, Demaria and Acosta 2014).

Our article explores the current contradictions inherent in mainstream conceptions of sustainable work by examining how they are taken up on the ground in mining-affected

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[1] For a comprehensive mapping of this concept, see Herzog and Zimmermann (2025 – in this Special Feature).

[2] Since the 1990s, large-scale resource extraction has been promoted as a form of sustainable development by the mining industry (Bridge 1997) and international institutions (e.g. World Bank 1996). It is currently advertised as essential to climate action (Hund et al. 2020).

[3] Extractivism is a mode of accumulation imbricated with historical colonial projects related to land and natural resource appropriation, as well as appropriation of human capacities and knowledge (Machado Araoz 2023).

[4] The ILO Indigenous and Tribal Peoples Convention, 1989 (No. 169), and various associated policy guidance notes (e.g. ILO 2019a), attend to the specificity of Indigenous economies and see them as important sources of ideas for policies on sustainable development. However, the main emphasis is placed on ensuring decent work for Indigenous workers integrated into formal and informal labour markets.

communities and how they are challenged by other understandings and practices, especially those that emanate from marginalized perspectives. We are guided by counter-hegemonic theories that have been historically ignored in mainstream policies because they originated from subaltern subjects.[5] Non-western, Black and Indigenous knowledge traditions are exemplary of marginalized or counter-hegemonic perspectives, because they were subordinated to norms and ideas grounded in Eurocentric,[6] male, white knowledge systems. The epistemic dominance, or hegemony, of these systems has been key to maintaining and deepening hierarchies constructed along gender, racial and colonial axes that characterize the operations of modern capitalism(s) (Lugones 2008; Coulthard 2014). This same hegemony also shapes how labour, land and environmental conditions are articulated with each other (Zbyszewska and Maximo 2023) and, by extension, how sustainable work is conceptualized in mainstream policy. In order to appreciate how sustainable work could be understood otherwise, we must interrogate and decentre these dominant conceptions.

In this article, we propose to engage in such interrogation using a decolonial approach. Among counter-hegemonic theories, the decolonial approach offers a method that aims not only to add subaltern perspectives to the existing normative and regulatory categories (e.g. work), resulting in a mere appendix to mainstream conceptions. Such an approach also seeks a greater shift by making subaltern theories and practices central to restructuring meanings and normative frameworks (including those relating to work and sustainability), rather than merely adapting the latter to mitigate racial/colonial capitalism's worst excesses (Smith 1999; Gudynas 2011). A concept of sustainable work that is decolonial would be centred around features such as satisfying the needs of the community, integrating the inseparability of work and nature, and being regulated through collectively established criteria that aim to centralize the care of life – features that are consistent with the values of reciprocity that many subaltern perspectives express (Corntassel 2012; Coulthard 2014; Tzul Tzul 2015; Bispo dos Santos 2018). Ultimately, such a concept would be grounded, place-based and oriented around practices. Accordingly, it is likely to be understood and materialized in different ways.

To glean what current understandings are present on the ground, our article undertakes a preliminary analysis of different narratives on the meaning of sustainable work that we found to be operating in two communities where we are engaged in ongoing research: Antônio Pereira, in Brazil, and Sudbury, in Canada. Both communities have been historically affected by intense resource extraction, both are home to large mining operations by Vale S.A., a Brazilian mining giant, and both have experienced long-term social and environmental problems caused by the industry's practices. At the same time, there are key differences between them, especially as regards the distribution of the benefits from, and harms associated with, extractivism and the integration of the local population in industrial mining, wherein race, gender, indigeneity and coloniality are key axes of "marginality". While both are sites of colonization, they are differently positioned within the geopolitical colonial matrix owing to their locations in the Southern and Northern hemispheres, respectively. As a result, the conceptions of race and gender in these locations are different, as are the demands relating to racial and decolonial justice.[7]

How is sustainable work understood in these two sites? To what extent do the narratives that operate on the ground echo the hegemonic perspectives present in mainstream

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[5] Gramsci (1975) used the term "subaltern class" to refer to people who are excluded from capitalist power. However, other scholars have cautioned against theorizing about a homogeneous subaltern subject, given that race, colonization and gender are also constitutive of subalternity (Spivak 1988).

[6] Eurocentrism does not refer to *all* western European cognitive history, but to a specific rejection of other non-European forms of knowledge deemed irrational and uncivilized (Quijano 2000).

[7] For instance, Black and Indigenous decolonial perspectives have historically struggled to challenge Brazilian law, there being no formal and effective recognition of Indigenous *nations* in the Brazilian Constitution or in case law (Mondardo 2022). This is different for Indigenous peoples in Canada, who are formally recognized as peoples by the Canadian Constitution, and as nations by case law in relation to comprehensive land claim agreements (Canada, Department of Justice 2018).

policy, or gesture towards decolonial ones? Can we reconcile the perspectives articulated by those pursuing different livelihoods (both in and outside the mining sector), and who are in various ways affected by mining, with the dominant concept of sustainable work? Our narrative mapping relies on recent,[8] publicly available materials produced by industry, government and civil society actors.

Our article is structured as follows. The second section explains our decolonial methodology and case studies in more detail. In the third section, we present the narratives of sustainable work drawn from our source materials. In the fourth section, we discuss the ways in which these narratives converge with or challenge the hegemonic conceptions of sustainable work prevalent in mainstream policy. As we show, while many narratives directly reproduce or partially echo these hegemonic conceptions, others appear to be grounded in a culture of care for people and the land, ecological dependence, reverence for life, and reproductive work. Importantly, we find that the mainstream policy conceptions of sustainable work are often instrumentalized to legitimize practices that are irreconcilable with these latter visions of what makes work sustainable. We conclude in the fifth section with a call for a decolonized notion of sustainable work that attends to a plethora of ways in which people make a living and is attuned to the heterogeneity of knowledge and interdependence of lives that inhabit the Earth.

2. Methodology and case studies

2.1. Decoloniality as method

For many authors, decoloniality, conceived as a method, is an approach that should be applied in any type of sociological research, regardless of the theoretical framework adopted (Lugones 2008; Datta 2018). Some authors even argue that research without decoloniality can perpetuate oppression of marginalized peoples, including Indigenous communities, reinforcing economic and racial inequality and damaging traditional livelihoods (Smith 1999; Rivera Cusicanqui 2010). Operationalizing decoloniality in research requires attending to epistemic pluralism, considering knowledges produced by subaltern subjects, without essentializing them. It follows then, that delineating any single concept, which in our case relates to the meaning of sustainable work, would be contrary to the decolonial approach itself. However, it is possible to identify guiding principles to define a spectrum of marginalized understandings of this concept (Corntassel 2012; Tzul Tzul 2015).

Decolonial scholarship is based on perspectives that emanate from counter-hegemonic knowledges, including those produced by women, Black and Indigenous peoples, who have in modernity been consigned to a subaltern/marginal status. While heterogeneous, all these traditions in various ways recognize value in nature itself, and conceive livelihoods, social reproduction and sociality as bound up with land and territory, and with gender, race and geopolitical position (Gudynas 2011). This has implications for how sustainability, including sustainable work, is understood. Based on our reading of decolonial literature, including that on Indigenous resurgence, a concept of sustainable work would include the following features: it would be democratically defined, aim at the sustainability of human and non-human lives and assume the inseparability between nature, work and community (Corntassel 2012; Coulthard 2014; Tzul Tzul 2015; Bispo dos Santos 2018). These features and dimensions are inspired by several Indigenous and Black principles based on reciprocity, which implies establishing anti-capitalist social relations that are contrary to the predatory logics of capital as manifested in extractivism of natural resources – both non-human and human – but also that relate to culture and grounded normativities (Gudynas 2011; Coulthard 2014; Shapiro and McNeish 2021; Machado Araoz 2023). In other words, it involves decommodifying work and nature in ways that attend to racial and geopolitical

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[8] Most of the texts and audiovisual sources analysed were published after 2015, the year in which the Vale tailings dam ruptured in Mariana, leading to changes in the company's policy on sustainability.

power relations established during colonization.[9] For this purpose, participatory modes of governance or direct democracy are intrinsic aspects of reciprocity, which seeks collectively, without hierarchies of positions and knowledge, to position care for human and non-human life at the heart of community relations (Corntassel 2012; Coulthard 2014; Tzul Tzul 2015; Simpson 2017; Bispo dos Santos 2018).

Accordingly, decolonial scholars commonly highlight the incompatibility of work in a racial/colonial capitalist system with the idea of sustainability (Gudynas 2011; Corntassel 2012). In a decolonial conception, the two are irreconcilable, since the essence of capitalism is the unlimited exploitation/expropriation of nature and human labour (Gudynas 2011; Simpson 2017).[10] For decolonial scholars, capitalism is an inherently racial/colonial system because, since the colonization of the Americas, it has been grounded in accumulation regimes based on extractivism, reproduced by racial and gendered divisions of labour, with all historical forms of work control articulated around capital (Quijano 2000; Corntassel 2012). This "coloniality of power" remains alive today and continues to undermine life in postcolonial "global South" countries and spaces of ongoing settler colonialism (Quijano 2000; Simpson 2017). That is why coloniality differs from colonialism, as it is not restricted to the time of colonial territorial control by a metropolis (Quijano 2000).[11]

Thus, decoloniality is a continuous process of anti-colonial struggle that entails detaching epistemically and politically from colonial patterns of power (Quijano 2000; Denzin, Lincoln and Smith 2008; Corntassel 2012; Coulthard 2014). This is a particular challenge when we refer to the meanings of sustainable work, bearing in mind that coloniality stifles alternative imaginaries. Speaking in reference to Indigenous resurgence, Corntassel (2012, 95) notes that coloniality leads to "the false premise that there are no legitimate alternatives to the market system serv[ing] to weaken the confidence of Indigenous people and challenge one's ability to imagine anything other than economic development as a viable pathway to resurgence".[12]

Furthermore, decolonizing knowledge is not about imposing theories on experiences as many academic interventions do, applying their "universal" vision on grassroots practices (Rivera Cusicanqui 2010; Coulthard 2014; Simpson 2017; Picq, Paza Guanolema and Pérez

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[9] Decommodification of work and land is also integral to Karl Polanyi's analysis in *The Great Transformation* ([1944] 2001), where it is conceptualized as an outcome of counter-movements seeking to re-embed markets in society. Whereas Polanyi saw colonialism as *extending* capitalist development, postcolonial scholars see capitalist development as *intrinsically colonial*, with slavery, colonialism and imperialism shaping the double movement dynamics, including the resulting decommodification through welfare state institutions and associated laws (e.g. Bhambra 2021; Goodwin 2024). Thus, labour law as a form of decommodification was/is itself racialized and exclusionary (Ashiagbor 2021; see also Blackett 2020) and consequential for differentiated possibilities relating to livelihoods and survival (Zbyszewska and Maximo 2023). In this article, we approach decommodification, as suggested in decolonial literature, by building on grounded practices rather than in conversation with Polanyian analysis, even if our approach is not irreconcilable with its above-mentioned "corrected" strand.

[10] The very essence of expropriation is that it rests on the historic and the ongoing dispossession and appropriation of resources (human or non-human) without any compensation whatsoever, or without compensation that is adequate to replenish those various resources (Zbyszewska and Maximo 2023).

[11] There are differences between decolonial theories developed in the global North and South. Specifically in North America, or "Turtle Island" as it is known to some Indigenous peoples, decolonization theories understand colonization as a process that is still ongoing, especially for Black and Indigenous peoples. In Latin America, or *Abya Yala*, decolonial studies differentiate colonization from coloniality to draw attention to the fact that even in democratic sovereign States, including progressive ones, the genocide and enslavement of Black and Indigenous peoples persists. However, we believe that in terms of sustainable work, both strands seek common goals and that is why they are brought together in this article.

[12] Decolonial theories are heterogeneous and strategies for confronting the effects of racial/colonial capitalism may vary. In a counter-colonial strategy, there is no intention of interaction with/submission to the market, seeking instead to maintain ways of life and work similar to those developed before the European invasion (Bispo dos Santos 2018). However, some strategies – referred to as "strategic essentialism" in postcolonial studies – demand self-determination related to market access (Spivak 1988); in this case, an identity created by the colonizer is instrumentalized with the political intention of claiming rights, leading to different and paradoxical positions, or conceptions of sustainable work, as will be discussed throughout this article.

Guartambel 2017). Instead, a decolonial approach operates through "relationships based on respect that allow experiences of activism to inform academic theory and vice versa, relationships in which scholars can and should find their own ways of engaging in theory and praxis" (Picq, Paza Guanolema and Pérez Guartambel 2017, 415). This is why the decolonial approach requires all research to be situated in terms of the geo- and body politics of knowledge, which means that we must try to understand the interrelationships of these (spatial and embodied) positions with the subject researched, subverting the universalism of Eurocentrism (Anzaldúa 1987; Datta 2018). In seeking to establish bridges between knowledge and practice, it is essential to consider one's own connection to territories and subjects analysed. Accordingly, we choose to focus on Antônio Pereira, in Brazil, and Sudbury, in Canada, as case studies to develop our narrative analysis in relation to our own positionality, as scholars inhabiting settler colonial spaces in Brazil and Canada. Although, in this article, we are not drawing on data that we obtained through explicit community engagement, the broader research project that we are pursuing involves building such relationships in both study sites – a process that we have already begun through field research.

When analysing sustainable work narratives from Antônio Pereira and Sudbury, a decolonial approach also considers that mainstream and counter-hegemonic conceptions are not hermetically separated and may overlap to a greater or lesser extent, including in how specific actors articulate their understandings (Maldonado-Torres 2007).[13] In order to collect these different narratives, we turned to recent publicly available press articles, policy documents, organizational websites, video and audio documentaries, and other similar sources. We examined outputs produced by government and public bodies at different jurisdictional levels, companies, trade unions and worker organizations, non-governmental and community organizations, and the press. Given that our sources are text-based and audiovisual, it is important to remember that they may or may not accurately capture what we find during field research. In this project's next phase, we will compare the narratives we present here with any oral accounts that we collect during fieldwork. Before turning to the key narrative themes that we found, we provide some background on Sudbury and Antônio Pereira.

2.2. Our case studies: Context and background

Sudbury, a city of almost 170,000 inhabitants, is located on the traditional territories of the Atikameksheng Anishnawbek and Wahnapitae First Nations, in what is contemporary Ontario, Canada. Oral historical records indicate that Indigenous populations have engaged in sustainable resource extraction, including of minerals (e.g. copper), for thousands of years (Morin 2018, 99–134). Extraction in the region intensified with the arrival of European settlers, starting with fur trade in the 1500s and, following the signature of the Robinson-Huron Treaty (1850), extensive timber logging in the mid-nineteenth century, and then mineral ore (e.g. nickel and copper) mining and smelting, which still constitute a key regional industry. By 1915, Sudbury's mines supplied 80 per cent of the world's nickel, and the city remains one of its largest global suppliers today.

Resource extraction on an industrial scale has been Sudbury's economic backbone, but the benefits of this development for Indigenous peoples have been limited by the failure of settler governments and industry to observe treaty terms relating to annual compensation, reserve land boundaries and non-interference with Indigenous economies (Anishinabek Nation, n.d.; Brown 2023). Both the mining and mineral processing industry resulted in the depletion of the land and the degradation of local ecosystems, leading to air pollution, acidification of soil and lakes, massive loss of vegetation and soil erosion (Winterhalder

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[13] Knowledge and practices produced collectively by subaltern subjects are a requirement for a counter-hegemonic perspective, but this does not mean that workers, for example, will reproduce a counter-hegemonic narrative. In fact, one result of coloniality is that colonized subjects reproduce the colonizer's understandings (Maldonado-Torres 2007).

1996). This had a negative impact on the food supply and land-based livelihoods of the area's First Nations, many of whom relied on fish and wild game to meet their nutritional needs, and on timber harvest to generate income in the settler economy (Ismi 2009, citing Chief Petahtegoose). The construction of the Superstack chimney in 1972 by the International Nickel Company (INCO), to respond to new regulatory requirements relating to air pollution, improved Sudbury's situation. Paradoxically, though, it spread emissions across a wider area, making Sudbury the world's largest atmospheric source of sulphur pollution (McCracken 2013).

Since the 1970s, Sudbury has embarked on a major regreening programme, aimed at rehabilitating its tailing piles and depleted land, and improving the city's image in order to stave off outmigration of youth and to diversify the local economy. INCO and subsequently Vale, which took over INCO's operations in 2006, have been engaged in this process. Sudbury's clean-up helped facilitate the 1991 "Acid Rain Treaty" between the United States and Canada[14] and now the "Sudbury Recipe" for restoring damaged landscapes is widely shared and adopted globally, while the city has received numerous awards for its regreening efforts (Miller Llana 2020). As part of their sustainability efforts, several mining companies, including Vale, have also engaged in partnerships and concluded impact benefit agreements with the local First Nations (Kelly 2017).

Antônio Pereira is a city of about 5,000 inhabitants in Brazil's Minas Gerais province. Mining, in the form of manual gold panning on the river Gualaxo do Norte, was brought to the region by enslaved Black people from Central Africa (Saraiva and da Silva 2021). These forms of small-scale mining were prohibited by the Portuguese colonial authorities' 1817 Royal Charter on the creation of mining companies (Saraiva and da Silva 2021). However, *garimpeiros* (artisanal miners) continued to work in remote mountain areas, with many families in the district leaving subsistence farming to take up this work. Throughout the nineteenth and twentieth centuries, Brazilian legislation promoted legal adjustments to benefit the development of industrial mining with European capital. Artisanal mining activities in Antônio Pereira were further marginalized by Decree No. 41,177 (19 March 1957), which authorized mining exploration by the mining company SAMITRI (SA Mineração Trindade), at the time held by a Luxembourg-based firm but purchased by Vale in the 2000s. In 1984, Vale inaugurated the Timbopeba mine, the same year that the Association of Residents of Antônio Pereira was created to resist predatory mining (Coelho 2017). The Antônio Pereira community has no return in royalties from mining companies and many people live in extreme poverty. However, Vale owes US$500 million in unpaid mining royalties to the municipality of Ouro Preto, of which the district of Antônio Pereira is a part (Coelho 2017).

In November 2015, the river Gualaxo do Norte, historically used by Antônio Pereira's artisanal miners, was devastated by the rupture of the Fundão dam in Mariana, a neighbouring town, operated by Samarco, a joint venture of Vale and BHP Billiton. Considered to be the industrial "accident" with the greatest environmental impact in Brazil's history and the largest in the world involving tailings dams, the rupture discharged 62 million cubic metres of tailings and killed 19 people (Coelho 2017). The unemployment engendered by the collapse led to a further increase in prospecting activity among community members seeking to supplement family incomes (AIAAV 2020).

In 2019, the rupture of the Vale-controlled Córrego do Feijão dam in Brumadinho killed some 270 people, making it Brazil's biggest work "accident" in terms of life loss (Carneiro and Souza 2023). Residents of Antônio Pereira have lived in fear of such a disaster (referred to as the "invisible mud", capturing the sense of constant risk) ever since the Doutor dam, which holds Timbopeba mine tailings, was declared to be at risk of rupture, leading to

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[14] Agreement between the Government of Canada and the Government of the United States on Air Quality of 13 March 1991.

a court-imposed suspension of activities (Carneiro and Souza 2023). Although Antônio Pereira was recognized as an affected territory only in 2020, the dam's decommissioning has resulted in the removal of 78 families (473 people) from the Self-Rescue Zone (*Zona de Autossalvamento* – ZAS).[15] The ZAS is an area of 10 km along the valley, estimated to be reached by the flood wave within 30 minutes.[16] However, the "invisible mud" impacts the wider community, not only those forced to abandon their homes.

3. Narratives of sustainable work in Sudbury and Antônio Pereira

Our analysis of data from these two sites revealed multiple narratives surrounding sustainable work. For purposes of presentation, we arrange them into three groups, but it is important to point out that each is internally heterogeneous. At the two extremes, we found narratives of mining jobs as sustainable jobs and the narratives of sustainable work as caring for land and people. Somewhere between these two poles, we found a range of narratives that in various ways challenge, but also converge with, those poles. One instantiation of this "middle ground" was the narrative of sustainable work as unionized work; another was the narrative of sustainability surrounding the work of artisanal mining in Antônio Pereira as well as that presented by some organizations advocating for economic inclusion of Sudbury area Indigenous peoples. Below, we set these narratives out in turn.

3.1. Mining jobs as sustainable jobs

> Our organization is losing its arrogance that we own, and we have the right. We are only gatekeepers for what's in the ground and our job is to facilitate the transition into helping green the planet.
>
> Dino Otranto, Chief Operating Officer for Vale's North Atlantic Operations (Ross 2021)

Although there is general recognition of the environmental and social hazard posed by mining, it is also frequently held up as being capable of transformation into a sustainable industry, and a source of green jobs (Ross 2021; Natural Resources Canada 2022). We found this to be the dominant narrative in both sites among industry, government and political actors, although with important differences in each case. The narrative is developed in two interrelated ways. First, the mining industry itself is presented as an industry capable of change. Second, it is identified as an integral part of a green economy and sustainable future, and a source of green jobs.

Sudbury's regreening campaign is often cited to demonstrate the potential of the mining industry to do better. The city, as well as the companies engaged in the city's regreening effort, are held out as examples to follow not just at the local level but also internationally. By way of example, Canada's pavilion at the UN Biodiversity Conference (COP 15) featured the Sudbury story as one of environmental reclamation (*Sudbury Star* 2023), and Vale has received awards for its efforts.

Although Sudbury's regreening has been a process involving many different stakeholders (Boerchers et al. 2016), its success has been particularly leveraged by the business community. The city of Sudbury now advertises "Cleantech", alongside resource extraction, as one of its attractions for investors, an important example of the economic diversification and jobs that mining can generate.[17] In addition to various industry–environmental consultancies dedicated to sustainable mining and clean technologies, Sudbury's Laurentian University researchers have been involved in the regreening process in various capacities. These range from regreening on the basis of the "Sudbury Recipe" for soil remediation and reforestation

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[15] On those removed from the ZAS, see Instituto Guaicuy (2024).
[16] See https://guaicuy.org.br/ati/ati-antonio-pereira/antonio-pereira/mineracao-predatoria/.
[17] See https://investsudbury.ca/key-sectors/cleantech-and-environmental/.

(Watkinson et al. 2022) to new research on "environmentally benign" biomining carried out at the Mining Innovation, Rehabilitation and Applied Research Corporation (MIRARCO) hosted by Laurentian University and co-funded by Vale and the Government of Ontario (*Northern Ontario Business* 2023). All these initiatives are presented as actual and potential sources of sustainable work.

In the case of Brazil, Vale and its subsidiary Samarco are the key players in the extractive industry, including in the Antônio Pereira district. Interestingly, they cite contributions to the regreening of Sudbury as an example of their ethical commitment to "caring for the planet" (Cruz 2019).

> Environment is one of the pillars of Samarco's sustainability statement. We understand that this is an opportunity to put into practice our purpose of carrying out a different and sustainable mining, proactively working on risk management, impact control and the search for opportunities to encourage environmental excellence throughout the production chain. (Samarco 2021, 96)

In Brazil, Vale's various commitments to sustainability and apparent, albeit legally ordered, efforts to remediate the landscape and repair relationships with affected communities also fit the narrative of a company seeking to do better, including through temporary jobs in remediation. One example is the work of Fundação Renova, a Samarco co-funded non-governmental organization responsible for managing the financial compensation of the communities and environments damaged by the rupture of the Fundão dam.[18]

The narrative that sustainable mining is possible, and that Vale, through cultural change and engagement with innovative technologies, is committed to pursuing sustainable practices, is central to its corporate messaging, especially in Canada. Awareness of its past missteps but also its perception that it is an integral part of a sustainable future, are captured in the statement from Dino Otranto, Chief Operating Officer for Vale's North Atlantic Operations, cited above (Ross 2021). Indeed, Otranto's sentiment also relates to the second way in which the narrative of sustainable mining, and mining jobs, is advanced, arguing that a focus on critical minerals is integral to sustainable development and economic greening.

In Brazil, the mineral sector is presented as being essential to maintaining present economic structures and for development that benefits future generations. In the case of Sudbury, emphasis on electrification as a path towards sustainable energy systems has been a major drive to rebrand mineral extraction as integral to the transition to sustainability. In that context, mining is also presented as a source of green and sustainable job creation.

> There's so much exciting innovation happening here as the city transitions towards a cleaner, sustainable mining future [...]. Let's invest in good, green jobs for the people of Sudbury that will crush climate pollution and help the city thrive.
>
> Mike Schreiner, Ontario Green leader (Green Party of Ontario 2022)

This is a narrative that is also supported at all levels of government in Canada. The federal Canadian Critical Minerals Strategy, which was introduced in 2022, promotes increased extraction of minerals that are critical to global value chains as a key step to achieving economic, social and environmental objectives. The Strategy's foreword observes that it is a "roadmap to creating significant wealth and sustainable jobs in every region of this country. And a roadmap to making Canada a clean energy and technology supplier of choice in a net-zero world" (Natural Resources Canada 2022, 2). To support training, upskilling and reskilling in the minerals and metals sectors, the federal Government has committed to investing in a Sustainable Jobs Training Centre and a Sustainable Jobs Secretariat (Natural Resources Canada 2022, 31–32). This approach to critical minerals is supported by Ontario's provincial government (Government of Ontario 2022), and both federal and provincial government strategies contain provisions on Indigenous consultation

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[18] See https://www.fundacaorenova.org/a-fundacao/.

and inclusion. As the above quote indicates, the notion that clean mining is possible is not even challenged by Ontario's Green Party.

This also appears to be the view of the Governor of Minas Gerais, Romeu Zema, who continues to support environmental licences for mineral extraction, highlighting their benefits in terms of employment creation. In 2023, the state received funding from Gerdau, a large steel industry company, through the creation of a sustainable mining platform, which, in the words of Gerdau's CEO, would lead to "the creation of more than 5,000 jobs … [and] is also an important initiative in reducing our greenhouse gas emissions, as we will have high quality ore." (SEDE, Minas Gerais 2023).

3.2. Sustainable work as livelihood

From the perspective of some residents of Antônio Pereira, the concept of sustainable work involves taking care of people and the land, which does not exclude working with minerals from the territory. Local work in Antônio Pereira has historically been bound to manual gold panning (AIAAV 2020) and the area's artisanal miners regard the manual activity of extracting minerals as sustainable work (de Castro et al. 2020). From their perspective, panning is work that guarantees their own survival and that of future generations and does not substantially interfere with the local flora and fauna (AIAAV 2020). Artisanal mining also appears to be a form of resistance against the extraction of human capabilities by large mining companies. When asked why he did not try to get hired as an employee of Vale/Samarco, a *garimpeiro* (artisanal miner) replied:

> In panning, I am the master; there, I'll be a helper for contractors, and I don't get along with the boss or the companies' regime. I'm a free spirit, I was born and raised in artisanal mining. I'm like a skittish bird, I can't live in a cage.
>
> Male artisanal mining worker, Antônio Pereira (de Castro et al. 2020)[19]

These traditional forms of mining were passed down as a family legacy (Saraiva and da Silva 2021). Nowadays, however, panning is considered to be a marginal form of mining work, associated with disorganization, unhealthy conditions, social problems, environmental degradation – due to the use of mercury – and "lack of technique" (Saraiva and da Silva 2021). Owing to the bureaucracy involved in obtaining environmental licences, most of Antônio Pereira's panning workers are informal and were, until recently, also illegal, because unlicensed mineral extraction is a crime under Brazilian environmental legislation (Law No. 9,605/98, article 55) (AIAAV 2020). While the *garimpeiros* of Antônio Pereira have now been legally recognized as a traditional community (Law No. 24,765 of 28 May 2024), the law has generally considered artisanal mining as the opposite of sustainable work, perceiving it to be an activity that causes serious damage to the environment, in contradiction to these workers' and some residents' own perceptions:

> The *garimpeiros* are not allowed to pan, but Vale can come in and build a road and destroy a river. It's not just the ore, it's also the water and the whole ecosystem, it's the fauna, it's the flora.
>
> Woman resident of Antônio Pereira (AIAAV 2020)

> We are fined and taken to court […]. We are not criminals, we are workers.
>
> Male artisanal mining worker, Antônio Pereira (AIAAV 2020)

> They despise local workers […]. Renova hires only people from outside […] weakening our fight […] because they do not have a sense of belonging to the land.
>
> Woman resident of Antônio Pereira (AIAAV 2020)

The city's residents, mostly Black and poor, have been constrained in their ability to exercise the right to work in artisanal mining, which they were forced to develop since colonization, while Vale – mostly operated by white men – devastates the fauna, the flora,

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[19] Translations from Portuguese are our own.

the river and the livelihoods of the local population in the name of "economic development" and "sustainable mining" (Coelho 2017). While artisanal mining was criminalized in part owing to the environmental and health and safety harms it causes, the material reality of larger scales of damage stemming from legally sanctioned industrial resource extraction generates a paradoxical concept of sustainable work in mining. Considering *who* engages in these different forms of mining also suggests that the racial division of labour established during colonization endures in Antônio Pereira.

In the words of one local *garimpeiro*, "The legacy of Vale and Samarco is failure […]. Antônio Pereira is poverty sitting on top of wealth" (AIAAV 2020). It is in terms of socio-economic equality that the concept of sustainable work articulated by artisanal miners converges with that of Metabase, a union that represents Samarco workers. One of the union representatives summed up the employees' intention as follows: "We want Samarco's operation to return, but responsibly, safely. And we just want our jobs back" (Dotta 2016).

Taking care of the land is not the core idea of sustainable work for Metabase union leaders. For them, sustainability is mainly about unionized employment. The idea of sustainable mining permeates the union discourse, seeking to guarantee social rights for Samarco workers.

> We will fight for investments to eliminate unhealthy and dangerous working conditions, for significant victories in collective agreements and for the payment of a fair share in profits and results for all workers, for the end of predatory mining that unfortunately we still observe in many areas of Vale. (Metabase 2023)

Thus, as with informal artisanal miners, the end of mineral extraction does not enter into Metabase's understanding of sustainable work. In this sense, the discourse of the union and the *garimpeiros* converges with that of Samarco, holding that it is possible to develop sustainable mining, even though they propose different ways of making the actual work sustainable.

In Sudbury, similarly, workers engaged in the mining industry do not necessarily question the extractive sector's narrative that mining can be sustainable and a source of green jobs, so long as the jobs remain unionized and well paid, as was traditionally the case. This is especially so because, on taking over INCO's mining operations, Vale developed a difficult relationship with the union, resulting in multiple and lengthy strikes and a bad track record on occupational health and safety, leading to accusations that it was trying to break the union (Diebel 2010; Marshall 2015). United Steelworkers (USW), which is one of the unions representing workers in Sudbury's mining industry, is committed to fighting for workplaces that are "healthier, safer and more respectful […] and negotiating better working conditions and fairer compensation – including good wages, benefits and pensions" (USW 2022). Its press release on the recent Vale–General Motors deal for the supply of nickel for car batteries illustrates how the union's embrace of the "green shift" is entwined with its emphasis on social sustainability and transitional justice:[20]

> The new deal also supports a green shift needed to reduce greenhouse gasses and pollution. The USW has been a vocal advocate in mitigating a further climate crisis through Just Transition, while at the same time ensuring that workers are not left behind and sustainable work also means good-paying, family-sustaining union jobs. (USW 2022)

Sustainable work as work that supports people's economic security first is also how sustainable work is characterized by some local community organizations, including those that advocate for Indigenous workers. Gezhtoojig Employment & Training is a job skills and training centre dedicated to promoting the employability, sustainability and economic

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[20] Labour demands for transitional justice relate to the principle that the interests of workers and communities should be considered where these are affected by industrial adaptations made to meet climate change-related carbon reduction targets (e.g. fossil fuel phaseouts and related mine closures). The principle of "just transition" has been integrated into the legal architecture on climate change. See, for example, ILO (2015).

success of the areas' Indigenous population, specifically members of Anishinabek Nation. According to its mission statement, sustainable work ensures people's economic security and helps them meet their goals. This could be work in any business sector, including mining.[21] Both Wahnapitae and Atikameksheng Anishnawbek First Nations pursue opportunities in the sector for their members through partnership agreements with Sudbury's main mining companies, including Vale, which cover commitments to training and employment opportunities for their members.[22] Regional Indigenous business organizations, like Waubetek Business Development Corporation, also see the mining sector as a source of job opportunities and sustainable future for their communities:

> Our First Nations' primary interest is to ensure that we are adequately consulted when it comes to mining and exploration within our traditional territories and to ensure that we have more opportunities to participate in the benefits that might come from this development in a sustainable way, including meaningful jobs, business opportunities, joint management and care of the lands on which these projects operate.
>
> Martin Bayer, Waubetek's Chair (*Northern Ontario Business* 2019)

Acceptance of resource extraction as a source of jobs and economic opportunities signals convergence between the narratives of some organizations advocating on behalf of Indigenous workers from the Sudbury area and both the USW union narratives and the narratives of sustainable mining advanced in the mainstream. However, the reference to consultation and commitments to the care of land are key distinguishing features that set Waubetek's narrative apart from the others. The fact that the industry and governments in Canada have a duty to consult Indigenous nations about extractive projects should in theory allow Indigenous principles of care and land relationality to permeate and influence how resource extraction projects are carried out. In practice, however, research shows that this duty is often fulfilled only superficially through impact benefit agreements that guarantee some economic benefits, including jobs, but are ultimately structured to benefit the industry, not the community (Caine and Krogman 2010; Peterson St-Laurent and Le Billon 2015).

3.3. Care as the core of sustainable work

> I had some land for planting not only for my own consumption but also as our source of income. In 2022, Vale said that we had to be removed and ran over the plot with a tractor. [...] I no longer have space to plant like I used to. I now only have enough space to plant about three small cabbage plants.
>
> Woman member of the collective *Mulheres Guerreiras de Antônio Pereira*[23] (Viana 2024)

This statement by one of the women leaders of the collective *Mulheres Guerreiras de Antônio Pereira* (Antônio Pereira's Warrior Women) incorporates several dimensions of their notion of sustainable work. It highlights the demand for a fair metabolic exchange between work and land, as well as the need to develop forms of work beyond mining in order to ensure the sustainability of life and the community. This narrative reflects the multidimensionality of the experiences of work among women who live in Antônio Pereira.

These women are de facto community leaders who have been demanding solutions from the political and juridical authorities that represent Antônio Pereira in court (see *Diário de Ouro Preto* 2021). They are also the ones who head the political commissions and hold the majority in meetings where community decision-making takes place. Their demonstrations blocked federal highways near the Timbopeba mine, culminating in the legal recognition of Antônio Pereira residents as being affected by mining and,

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[21] See https://gezhtoojig.ca/about/.

[22] See https://atikamekshenganishnawbek.ca/economic-development/partnership/.

[23] As a grassroots collective, this group of women does not have a formal membership record, even though they are recognized in the community and beyond. However, during our ongoing field research, we have had face-to-face contact with the collective's members, including the interviewee in this article and the women featured in the podcast referenced in AIAAV (2022).

therefore, entitled to assistance by an Independent Technical Advisership – Instituto Guaicuy. These adviserships are entities recognized by Brazilian courts, set up to guarantee the fundamental right to defence of those affected by mining and funded by the polluting companies.[24] However, the women who blocked the road are now facing individual lawsuits brought against them by Vale.[25]

The women of Antônio Pereira are diverse, but the majority are Black and poor (Coelho 2017). They are mostly small-scale farmers and informal workers who earn a living as cleaners, cooks or by offering beauty treatments and selling products. Their incomes diminished as a result of the relocation of people from Antônio Pereira after the risk level of a collapse of the Doutor dam was raised. This group includes housewives engaged in family care and domestic labour, which intensified as a consequence of Vale's predatory mining activity (AIAAV 2022).

> We, the women of Antônio Pereira, are the ones who suffer the most from the Doutor dam. We are the ones who suffer cleaning our houses from the mining dust, doing laundry and taking care of children who are scared at home.
>
> Woman member of *Mulheres Guerreiras de Antônio Pereira* (AIAAV 2022)

> My mother and daughter suffer from the fear of the dam breaking. And I'm the one who takes care of them [....]. I blocked out the view from my terrace with sidings so my daughter wouldn't see the dam and have panic attacks.
>
> Woman member of *Mulheres Guerreiras de Antônio Pereira* (AIAAV 2022)

The idea of work that Antônio Pereira's women present exposes the social, affective and economic value of the reproductive labour they perform. Sustainable work for these women is also the work of a community network, which involves taking care of the land and people through cultivation of small community gardens and keeping animals for their own consumption, using natural resources in a non-predatory way. It is related to a broader idea of ecological and social sustainability and, therefore, cannot coexist with industrial mining.

> We used to plant; there was a community garden. Our vegetable garden. We cultivated what we consumed. [...] Today, I live with food donations. Today, I take controlled medicine.
>
> Woman member of *Mulheres Guerreiras de Antônio Pereira* (AIAAV 2022)

The work of taking care of nature and people performed by Antônio Pereira's women is centred around the reproduction of life. In this context, sustainable work is a process that not only refers to the real possibility of taking care of all lives – human and non-human – but also of engaging in livelihoods that are less predatory in their economic, social and ecological dimensions.

Also in Sudbury, narratives of sustainable work as involving care for people and the land are visible in the communications of community organizations relating to Indigenous and settler organizations that position themselves as allies. The Coalition for a Liveable Sudbury, for example, is a non-Indigenous volunteer network working towards "a green, healthy and engaged community".[26] It has co-sponsored projects aimed at fostering caring relationships between people and land, such as the cultivation of edible forests, community gardens and regreening projects. These principles of care for land and people also underpin proposals by organizations that envision Sudbury's and Northern Ontario's regional development on the basis of circular economic principles, valuing the knowledge of Indigenous peoples. The Charlton Sustainability Hub, a partnership between Keepers of the Circle (an Indigenous hub) and a non-profit sustainability organization, aims at revitalizing Northern Ontario rural communities and envisions a green economy as a circular economy that supports Indigenous cultural and ecological knowledge reclamation, food security and equity. A

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[24] See https://guaicuy.org.br/ati/ati-antonio-pereira/ati-antonio-pereira/.

[25] Civil action No. 5003419-46.2021.8.13.0461, in which Vale alleges that the demonstration on the federal highway impeded the access roads to the Timbopeba Mine and, therefore, violated the free exercise of the right to come and go by the company and its employees and the employees of third companies.

[26] See https://www.liveablesudbury.org/about/.

press release about the project says it aims to "boost employment while reducing our environmental impact, and ultimately prevent or reverse the steady trickling loss of youth – and life – from the arboreal North" (*Sudbury.com* 2021). A similar vision informs ReThink Green's submission to the Sudbury 2050 urban design competition entitled "Ma-sh-ki-ki-ke: A story of healing *pour nous et pour la terre*". The voice-over in the organization's video describes the city's possible ecological future as a "decolonial, ecologically resilient, net zero and caring environment" based on a circular economy and Indigenous governance systems, supporting the city's diverse population.[27]

4. Discussion: Gleaning a decolonial concept of sustainable work

The narratives of what is considered sustainable work by the different actors in Sudbury and Antônio Pereira highlight the diversity of approaches that vie for attention across these two geopolitically distant spaces. Our mapping shows that, alongside approaches that are closer to the notions of sustainable work in mainstream policy, there are multiple counter-hegemonic narratives that suggest the possibility of a different policy direction. We first show how the mainstream approach is taken up. Then, following the decolonial method, we highlight the counter-hegemonic dimensions that emerged in the narratives analysed. We do this in an attempt to move towards a concept of sustainable work that can facilitate an ongoing process of *detaching* from the racial/colonial capitalist knowledge paradigm that continues to commodify the nexus between work and nature and is driving regulatory processes in this direction.

Mainstream narratives of greening and remediation are often invoked instrumentally, to justify and secure the status quo. In the case of Sudbury, the narrative that mining jobs can be sustainable and indeed are necessary for a green transition is used locally but also "sold" abroad, both by Vale and by governmental actors. It is also in line with, and thus legitimized by, the policy directions set by the ILO and the UN, whether or not these seek to be complicit with narratives advanced by corporations. This dominant narrative undermines alternative concepts of sustainable work, such as those advocated by some of the community groups we found. Notably, Vale cites its efforts in Sudbury as an example of its improved practices and has increasingly engaged the Indigenous nations and communities through partnerships relating to training and jobs. This is itself a form of "sustainability washing". However, while in Sudbury the company is motivated to include Indigenous workers in order to lend credibility to its sustainability efforts, in Antônio Pereira, the environmental dimension is still peripheral to the company's and union's discourses. This suggests that the hegemonic narrative, while present in both sites, is differentiated according to their geopolitical position. Coloniality thus acts differently in the global North and in the global South, manifesting itself in different regulatory frameworks and corporate responses depending on the territory.

These dynamics also differentiate the various narratives that we group under the conception of "sustainable work as work and livelihood". Here, sustainable work emerges as work that ensures autonomy and survival through access to either good union jobs, good jobs in the formal economy more generally or jobs in the informal sector, such as those performed by *garimpeiros*. All these narratives converge with those of Vale and the mining industry in their belief that mining can be sustainable, even if their respective ways of understanding and performing sustainability are different. For unionized workers in both contexts, socio-economic benefits are the key aspects of sustainable work. However, they conceive of sustainable work as standard employment, with insufficient regard to its gendered, racialized and colonial composition, and with more limited concern for ecological or community impacts. For some artisanal miners and some Indigenous nations and organizations, access to land and inclusion in economic benefits of extractive development

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[27] Video available at https://vimeo.com/452436281 (uploaded on 28 August 2020).

is essential to their survival practices. For some Indigenous workers, engagement in mining can be a viable livelihood strategy in a colonial capitalist settler economy from which they have long been marginalized, not least as their opportunities to pursue land-based livelihoods are heavily circumscribed. Importantly, as we observe in the case of *garimpeiros*, racial and colonial legacies endure also through the historic criminalization of some forms of work, making a striking distinction between different workers involved in extractive activities (Costa 2009; Martins 2009).

This racial, gendered and geopolitical differentiation is even more apparent when we consider the third narrative of "care as the core of sustainable work". Here, sustainable work entails taking care of people and land. For some Indigenous and ally community organizations in and around Sudbury, sustainable work cannot be separated from respect for land, its preservation for future generations and a decolonizing process that properly values Indigenous traditions and epistemologies. Similarly, for Antônio Pereira's women, the care work they perform in their community produces social, affective, ecological and economic value; it also provides a buffer against the ravaging effects of predatory mining on the community. Their narrative destabilizes the centrality of the market-based value of labour and nature, which is shaped by gendered and racial divisions of labour derived from racial/colonial capitalism. While, in some ways, it overlaps with the narratives and geopolitical location of the *garimpeiros*, this third narrative challenges both the discourses of unionized and informal mining workers, as well as the hegemonic narrative. It shows that extractive activities – "green" or otherwise, formal or informal – undermine land-based livelihoods and ways of being.

5. Conclusion

Earlier in this article we asked whether decolonial understandings of sustainable work, insofar as they are reflected in the narratives we examined, can be reconciled with its conception in mainstream policy. As our narrative analysis has found, such counter-hegemonic understandings of sustainable work are present but struggle to thrive within a racial/colonial capitalist system. The dominant approaches to sustainable work advocated in international policy, including by the ILO, have acknowledged the need to improve ecological sustainability and recognize work as a wider set of practices. This is in part because the ILO has made progress in incorporating subaltern voices into its policies and regulations pertaining to work and its sustainable development. But these same policies also appear to legitimize extractivism as being sustainable, under the guise of its contribution to greener jobs and more inclusive economies. This is notwithstanding the past and ongoing impacts of intensive resource extraction on communities, especially those fully reliant on decommodified land-based labour or hybrid economies and livelihoods.

Among other factors, this distortion of the concept of sustainable work may occur because the hegemonic approach emerges from within the racial/colonial capitalist system; it reifies market-based relationships while giving care, decommodified land-based labour and knowledge produced by subaltern subjects' marginal positions. This not only harms the prospects for reproducing lives, but also reveals which knowledge paradigms control the very meanings of work and sustainability as categories, influencing regulatory processes. According to the decolonial perspective, if policy and regulatory frameworks always depart from and centralize the capitalist conception of work and nature, they will not only struggle to promote the sustainability of life, but they may also legitimize coloniality, which can manifest itself in enduring racial, gender and geopolitical labour inequalities.

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