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Superexploitation in Bio-based Industries: The Case of Oil Palm and Labour Migration in Malaysia

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10.1 Introduction: Bioeconomy as Green Capitalism

How we investigate social inequalities in an evolving bioeconomy depends on our perception of it and on the sphere we focus on while attempting to grasp the dynamic developments within relevant social relations. From a politico-economic perspective, bioeconomy can be seen as an attempt to reconfigure patterns of production, consumption and circulation (OECD 2019). Although different bioeconomy visions share the goal of establishing a socially and environmentally sustainable economy (Backhouse et al. 2017), none of them questions the fact that bioeconomy is ultimately built on the prevailing principles of capitalism (Goven and Pavone 2015). Consequently, any state policy striving for a bio-based transformation of the economy plays by the common rules

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of capital accumulation (including free market competition, growth and de-/commodification) and the exploitation of labour.

The political actors advocating bioeconomy push for the substitution of fossil energies with green, renewable energy sources. However, this would require a vast increase in the production of biomass (Scarlat et al. 2015). Palm oil is currently one of the most competitive vegetable oils on the global market. It is a versatile crop with a high energy density, and the industry still has a large capacity for growth (Choong et al. 2018). As such, it is a favoured source of biomass for the global bioeconomy.

With a market share of more than 33% in 2018, Malaysia is the second largest palm oil producer in the world after Indonesia (Statista 2019). Between 1995 and 2016, the total area planted with oil palm in Malaysia more than doubled from 2,54 to 5,74 million hectares (Ismail 2013). In 2017, more than 73% of agricultural land in Malaysia was covered with oil palms (Kotecha 2018, p. 2). In recent years, Malaysian businesses have started developing more land in neighbouring Indonesia (Varkkey 2013). The figures stated here are not only important for attempts to retrace the expansion of oil palm in the region but also to gain an understanding of the conditions in which a growing number of rural workers work and live.

In Southeast Asia, palm oil is often associated with social inequalities concerning land ownership, land use and access to land (Li 2009; Pichler 2015) as well as with environmental degradation (Obidzinski et al. 2012; Wakker 2005). The exploitation of migrant workers is a further significant, albeit lesser-known, expression of social inequality that has been caused by industrial oil palm cultivation and the steady expansion of the palm oil sector in Malaysia since the 1960s. With estimations suggesting that more than one million foreign workers are employed in the palm oil plantation and mill sector (Pye et al. 2016), 'low-skilled' migrant workers represent the largest group of workers in the industry (Ismail 2013, pp. 19-20). Investigating the specific working and living conditions of this group, therefore, is crucial to examining existing, solidifying or evolving social inequalities in emerging bio-based industries. Most Malaysian policies that target poverty reduction to close the income gap between the rural and the urban population disregard the importance of migrant labour for the overall performance of the economy, job

creation and average income development (World Bank 2015, p. 2). In doing so, the state only addresses the tip of the iceberg in terms of social inequalities in rural areas and neglects the often poor working and living conditions faced by migrant workers (Puder 2019).

Academic literature on green economy models often underexposes the possible effects of a green transformation on existing labour relations (Anderson 2016; Birch 2019; Brand and Wissen 2015). Scenarios discussed by the OECD (2017) or the German Federal Environment Agency (UBA 2014) hint that promoting green industry branches in industrialized countries could benefit high-skilled, while disadvantaging low-skilled workers. The impact of such models on labour relations and on the working conditions faced by rural workers in the semi-periphery, therefore, remains unaddressed, as does the fact that the countries in question are often important exporters of biomass.

Due to the potential of palm oil to gain strategic importance within the region, a discussion of the possible impact of the transition towards a bioeconomy on labour relations must include a closer look at the working conditions faced by migrant workers in the Malaysian palm oil sector. A focus on the dynamics and labour processes in emerging biobased industries provides an opportunity to shed light on old and new patterns of social inequalities.

This chapter is structured as follows: (1) I start by explaining why and how I examine the exploitation of labour. (2) I then sketch out the core characteristics of the prevailing labour migration regime in Malaysia, (3) and follow with a presentation of my findings from the fieldwork I carried out between 2017 and 2019 in the east Malaysian state of Sabah, where I examined the working conditions of low-skilled migrant workers in the palm oil sector. (4) I discuss the results before concluding that the superexploitation of migrant workers constitutes an essential feature of migrant labour in the palm oil sector.

The empirical findings discussed in this chapter encompass expert interviews, 15 guided interviews with migrant workers employed by large medium-sized, and small plantations or processing companies (palm oil mills) and 5 guided interviews with oil palm smallholders, as well as participatory observations.¹

10.2 Analysing Social Inequalities as Class Relations

From a politico-economic perspective, under capitalism, class antagonism is determined by the structural position that groups hold in relation to the means of production (Marx 1987 [1894]). Following Marx, two large classes exist in ideal terms—the working class and the capitalist class. Workers must sell their labour power in order to survive. The capitalist class possesses and controls the means of production and buys the labour power of the working class. In order to create surplus value, workers have to work more than they are paid in wages; this is referred to as surplus work (ibid., p. 231). As such, wages represent the value of the workers' labour power, not the value of what they produce. From the perspective of capital, wages are paid to workers to reproduce their labour power (ibid., p. 184). The surplus value generated through surplus work in the form of goods is extracted and re-invested in the cycle of accumulation by capitalists, which defines the fundamental logic of what Marx calls *exploitation* (ibid., p. 328).

Neo-Marxist approaches, which are advocated, among others, by Marxist-feminists and scholars concerned with the intersection between race/ethnicity and class, have added that not only wage labour, but also intertwined forms of informal and non-wage labour can be exploited to raise profits and/or keep reproduction costs at a minimum in capitalism (Dörre and Haubner 2012; Federici 2015; Wallerstein 1990). Non-wage labour can encompass unpaid care or subsistence work. On this basis, I argue that the relationship between capital and various forms of labour is co-structured by the intertwined mechanism of superexploitation, which itself is based on social devaluation.

From the perspective of production, a hierarchical differentiation exists between wage and non-wage labour (Haubner 2017). This can

¹I would like to thank Ramlah Binti Daud and Ryan Mukit for their support during fieldwork.

lead to a hierarchization of occupational groups within and outside the production sphere, which devaluates the labour power of a certain group compared to another (Roediger 2007). In order to give this devaluation social meaning, it is linked to and legitimized by (pre-existing) perceptions of, for example, gender or race/ethnic differentiations based on perceived or actual biological characteristics (Miles 1991, pp. 100–101) as well as status-related features such as citizenship (Wright 2015, p. 7). In the interests of capital, the devaluation of a group can function as a mechanism that pushes down the price of this groups' labour power to below average (Marini 1974) or that appropriates work entirely without compensation. This is called *superexploitation*.²

Marini argues that superexploitation is a regular feature of wage labour in semi-peripheral countries sustaining capital accumulation in the industrialized centre (ibid.). I define superexploitation as the exploitation and appropriation of labour by capital that exceeds the extent of formally regulated exploitation within the sphere of wage labour. Formal wage labour follows the logic of the exchange of equivalents (Marx 1987 [1894], pp. 80–83)—meaning labour is exchanged for wages at a value that sustains the reproduction of labour power. This exchange is contractually governed and regulated by law. Superexploitation occurs when salaries earned through wage labour are not sufficient to reproduce the labour power of the workers who receive them (Delgado-Wise and Veltmeyer 2016, pp. 57–60, p. 86) and their dependents. In the case of labour migration, citizenship functions as a mechanism of social devaluation that enables superexploitation.

Whereas Marxist-feminists already view the appropriation of unpaid reproductive work that sustains the labour power of wageworkers as an integral part of all capitalist economies (Haug 2015); with superexploitation, I shift the focus slightly and concentrate on the exploitation and appropriation of different forms of labour within the production sphere. Before investigating the superexploitation of migrant workers in the Malaysian palm oil sector, it is particularly important to understand

²Examining the superexploitation of labour implies taking a closer look at the extraction of extra surplus value by capital. In this paper, I focus on empirically observable forms of superexploitation and leave aside a critical discussion of approaches that attempt to calculate the rate of superexploitation or extra surplus value.

two issues: first, the institutional framework determining the position of migrant workers on the Malaysian labour market, which is based on citizenship, and, second, how this position translates into specific working conditions for migrant workers within labour processes.

10.3 Migratory Work in Malaysia: The State's Labour Migration Regime

Already under colonial rule, foreign labour became an integral part of Malaysia's economic development. Local labour was either unavailable or the native population refused to work under the harsh conditions of colonial capitalism (Garcés-Mascareñas 2012, p. 52). The demand for external sources of labour intensified at the beginning of the twentieth century with the steady growth of key economic sectors such as the production of natural rubber (ibid., p. 6), which was largely replaced by oil palm in the 1960s (Pichler 2014, p. 92). Today, Malaysia has the fourth largest migrant worker population in the world (Kotecha 2018, p. 2) and counts as the biggest 'net-importer' of foreign labour in the region (Ford 2014, p. 311). Approximately a quarter of the total workforce consists of migrants from the region (ILO-International Labour Organization 2016). Migrant workers are primarily hired to perform 'low-skilled' jobs (Sugiyarto 2015, p. 281). Political efforts to bridge the persistent gap between the supply and demand for cheap labour in Malaysia and state support for out-migration provided by sending countries as well as the choice by foreign workers to seek employment in Malaysia have led to a gradual formation of a transnational reserve of migrant labour power (Ferguson and McNally 2015, p. 3).

Although the role of foreign labour must be analysed in its historic-specific context if the political economy of labour migration in Malaysia is to be understood, certain characteristics have solidified over time: since the 1970s, the influx of labour migrants has led to the formation of a state-regulated labour migration regime with a highly segmented labour market (Ford 2014; Garcés-Mascareñas 2012, p. 56). Political measures promoting this segmentation include the channelling of low-skilled migrant workers into what are viewed as dirty, dangerous and degrading

jobs, discrimination on the labour market, while, at the same time, providing support for skill development, further training and higher education to Malaysians. Capitalists have continuously wielded their power to ensure the migrant labour supply remains flexible and to keep their wages low. Today, the relative proportion of low-skilled migrant workers in the labour market depends on the cyclical economic demand for cheap labour and the political influence of nationalist, employee-friendly actors to limit labour migration in favour of the domestic workforce (ibid., p. 196). To understand how the broad institutional framework of the Malaysian labour migration regime is constructed in the workplace, it is necessary to take a closer look at the regulation of migrant labour.

Malaysia prevents migrant workers from establishing a life beyond their work, unless they have been granted a Malaysian identity card, which is extremely rare (SPIEU, Interview no. 5). Migrant workers are not allowed to bring their families with them or marry in Malaysia (Pye et al. 2012, p. 331), but they often either ignore this restriction by bringing their family members with them illegally or by bypassing the law by faking the birth certificates of their children or bribing state officials to grant family members access to the country.

Migrants who seek work in Malaysia must apply for a formal working permit, which is initially valid for three years and can be extended by up to two years. The state grants different types of permits to nationals from certain countries to work in selected branches of the economy, which results in the state-regulated division of labour by citizenship (Khoo 2001, p. 181). As migrant workers are not allowed to change jobs once a permit has been granted, they become highly dependent on their employer (Pye et al. 2016). If workers switch jobs without permission, when their working permits are withdrawn because of an economic recession or when they expire and workers choose to re-/enter or stay in Malaysia without valid documents they are drawn into illegality (ibid.). Their position on the labour market then changes in two ways: on the one hand, undocumented workers gain autonomy, as they are now free to 'move from one job to another, they do not pay taxes and it is [...] difficult to make them leave the country' (Garcés-Mascareñas 2012, p. 84).

On the other hand, they risk being caught by state authorities or vigilante groups and sent to detention centres, where they may experience corporal punishment or food shortages, and will eventually be deported (Pye et al. 2012, p. 332). In the palm oil sector, many employers seize workers' passports to prevent them from running away or claim to do so as part of security measures. However, it is crucial that migrant workers hold on to their own passport as it is essential for freedom of movement.

The Malaysian state externalizes its reproduction costs to the countries from which it receives foreign workers (Pye 2014, p. 193), as well as to private companies and non-profit organizations. For example, as migrant children are not allowed to attend state schools in Malaysia, they must go to a school sponsored by a non-profit organization or be sent back to their country of origin in order to attend school, where they either remain on their own or female family members take care of them.

The following section shows how the Malaysian labour migration regime translates into the superexploitation of migrant workers within the production sphere of the palm oil sector by contextualizing my own qualitative investigation with empirical findings from other researchers.

10.4 Working Conditions of Migrant Plantation and Mill Workers

The palm oil sector heavily relies on the cheap labour of migrant workers in order to keep palm oil profitable and globally competitive (Pye et al. 2012, p. 331). In 2012, 73% of all workers employed in the palm oil sector worked as harvesters, loose fruit collectors or field workers on oil palm plantations. Around 87% of these workers were non-Malaysian (ibid.), and most of them were from Indonesia (Pye 2013, p. 10). Workers migrating to Malaysia are primarily 'attracted by [...] higher wages' and the 'hope to save enough money [...] to improve their livelihood possibilities at home' (ibid.). However, migration can be costly (Lindquist 2017) and salaries hardly ever exceed the minimum wage (Ford 2014; ILO 2016). This also applies to mill workers, who usually have a migrant background as well.

Studies have shown that great variations exist in the wage systems that are applied within the palm oil sector. These range from permanent contract-based salaries, wages based on harvesting quotas or piece rates to daily wages (Pye et al. 2016). In order to understand variations in wages and working conditions, it is important to draw a distinction between different types of employers.

10.4.1 Un(der)Paid, Underemployed and Undocumented

In 2016, around 61% of oil palm plantations were operated by private estates; independent smallholders made up for little more than 16% and government and state schemes planted around 22.5% of the total oil palm area (MPOB—Malaysian Palm Oil Board 2016). While large private estates and mills shape the agro-industrial mode of production in the sector (Cramb and McCarthy 2016, p. 53), smallholders have very little influence on the production model and are less resilient when faced with rapid global market developments. The production process on large estates follows a strict and highly gendered division of labour (Pye et al. 2016). While male migrant workers carry out physically demanding tasks and operate heavy machinery, female workers mostly spray fertilizer, collect loose fruit or work in the oil palm nursery. As female workers are mainly hired as daily workers at the lowest rate of pay in the industry, they are the most vulnerable workgroup (ibid.) to superexploitation.

Bigger and medium-sized companies usually provide workers with basic training, safety briefings and protective gear. By contrast, migrant workers employed by smallholders regularly perform tasks autonomously without guidance or monitoring from plantation owners. In many cases, they do not receive safety equipment or training, and are forced to rely on their experience or self-taught skills. Workers who work for smallholders perform multiple tasks, some of which are unpaid, and working hours remain undocumented. One respondent even mentioned that when he first arrived in Malaysia, he initially worked for a smallholder for free in order to have a place to stay and gain a foothold in Malaysia (male plantation worker, Interview no. 1). Other respondents explained that there

was not always enough work for them because of the limited plantation size or seasonal factors.

The income situation of workers employed by smallholders can be particularly precarious because their basic salary varies depending on the employers' willingness and ability to pay, as the following statement exemplifies:

My future depends on how many fruit bunches I can harvest. [...] To me, the pay is not enough. [...] But I also think about my employer. He [...] can't afford to pay me the minimum wage [...] I've spoken with my employer a few times about increasing my salary but it is still the same. (ibid.)

During the fieldwork, I found that the wages paid by smallholders were always below the minimum wage. Workers are often paid by piece rate, which means that their salaries depend on their productivity. To achieve fixed harvesting targets, migrant workers commonly involve family members—including minors (TFT, Interview no. 6). This additional labour power is not paid, yet it remains essential as workers cannot always cope with the workload.

In larger companies, salaries are paid on a contractual basis, or, in the case of organized labour, they are regulated by a collective agreement. Even though employers officially pay a minimum wage of 920 MYR (approx. 230 USD),³ fieldwork revealed that deductions (e.g. levies for passports) meant that actual wages for migrant workers were lower. Formally at least, larger companies have fixed working hours and rules concerning overtime. Nevertheless, migrant workers either relied on overtime to increase their monthly income to sustain or enhance their family's livelihood or they were forced to work longer hours when production temporarily increased. Thus, overtime is more of a norm rather than an exception.

³In comparison, in 2016 the average monthly household income in Malaysia was 5.228 MYR (approx. 1,238 USD). See, https://www.dosm.gov.my/v1/index.php?r=column/ctwoBy Cat&parent_id=119&menu_id=amVoWU54UTl0a21NWmdhMjFMMWcyZz09. Accessed 22 April 2020.

Undocumented workers in the sector are especially vulnerable to wage-dumping (Pye et al. 2016). They depend on employers who are willing to provide them with work and on their relatives and friends to help them to stay under the radar. Workers who decide to or who are forced to work without a work permit may gain autonomy by working for the employer who pays them the highest wages, as the following statement by a worker verifies:

I am an Indonesian citizen, if an employer pays one Ringgit⁴ but another employer pays two, of course I will go. I want to earn more. (male plantation worker, Interview no. 2)

However, without legal regulation, wages are a matter of negotiation between the employer and the worker, and undocumented workers have very little bargaining power. Furthermore, undocumented migrant workers become highly dependent on a social network that (financially) supports them. They may even depend on the employment of legal migrant workers as illustrated by one case, in which a female plantation worker helps her friend who works for a subcontractor by sharing her salary:

I was supposed to leave Malaysia in March but I do not want to leave [...] I probably won't be here for long [anymore]. But my friends are helping me, even though it is illegal. (female plantation worker, Interview no. 3)

The working conditions and financial situation of migrant workers employed by different types of employers imply that workers must develop coping strategies to maintain the long-term reproduction of their labour power. To understand these strategies in relation to super-exploitation, the next section deals with the connection between income precarity, the struggle to reproduce workers' labour power and the households they are part of, as well as various forms of labour-enabling reproduction.

⁴Ringgit is the national currency of Malaysia.

10.4.2 Struggling to Reproduce Livelihoods

I refer to the *household* as the 'unit that pools income for purposes of reproduction' (Wallerstein and Smith 1992, p. 15). As I have argued elsewhere, in order to understand the socio-economic situation of migrant workers in the palm oil sector, the *two-level family household* (Puder 2019, pp. 39–40) must be taken into account. I distinguish between the *nuclear family household*, consisting of family members forming a household unit in Malaysia, and the *transnational extended family household*, which includes relatives within and outside Malaysia (ibid.; Wallerstein and Smith 1992, p. 4).

Empirical findings have shown that income from wage work in the palm oil sector is distributed within the nuclear family household to secure its immediate reproduction. Due to the lack of employment opportunities for rural workers in their country of origin (Li 2009), migrant workers employed in the Malaysian palm oil sector might also contribute to the reproduction of the extended family by sending remittances to their family members. How the income is distributed among the two-level family household depends on the composition of the family as well as the relative proportion of family members who are able to contribute to the household income. The income situations of larger nuclear family households with fewer people in wage work are more precarious, and they are less able to send remittances regularly to their extended families or reproduce their labour power. An extreme example of this is illustrated by the case of a male mill worker with six children. He stated that his family regularly suffers from food shortages as his salary is just enough to buy basic foods such as rice, sugar and salt. He can only buy fresh fish and vegetables for his family if he does overtime or finds other sources of income (male mill worker, Interview no. 4). This case demonstrates that working overtime to increase the household income or to acquire savings is integral to the typical working week of migrant workers and that it blurs the lines between regular working hours and overtime. In contrast, smaller household units with more people contributing to total household income are more likely to be able to send remittances frequently to the extended family household. In this context, remittances can represent an essential feature of the reproduction of transnational families (Pye et al. 2012, p. 332).

Low wages mean that migrant workers who work for smaller companies or smallholders must find additional sources of income to provide for their basic needs. Almost all respondents stated that they had experienced income insecurity in the past and still do so. Therefore, migrant workers regularly shift between formal wage work and informal or subsistence work. To cope with income insecurity, female family members engage in activities such as selling pastries or fruit to staff or on the weekly market. Male workers employed by smallholders often take up additional, informal harvesting or maintenance jobs on other estates, which their main employers either tolerate or encourage by recommending their workers to fellow smallholders.

Migrant workers try to overcome their income precarity by asking friends and relatives to help them find a better-paid job or a family member to support them financially. They also attempt to establish a network to share information about the wages paid by different employers. If migrant workers' households run out of money because of unexpected costs (e.g. fixing a car), or rising living expenses, a common coping strategy is to either borrow money or buy groceries using a buy-now-pay-later system. Such systems may even be institutionalized by large companies: one respondent explained that if workers purchase food on credit from a small store on the estate, the company deducts the outstanding payment from the workers' next pay cheque (male plantation worker, Interview no. 2). This system can normalize securing a minimum standard of living through debt if precarious workers regularly rely on the buy-now-pay-later system to satisfy their basic needs.

The reproduction of wage labour in terms of care work also rests on the support system provided by the two-level family household. While daily care work in the nuclear family household is mostly performed by female family members, the transnational extended family household functions as a cross-border network of reproduction (Pye 2014, p. 195). In such cases, the relatives provide a substitute for the lack of access to social welfare in Malaysia and the restrictions on welfare services available

in the country of origin. Consequently, the externalization of reproduction costs, as part of the Malaysian labour migration regime, leads to an appropriation, not only of female care work within the nuclear family household but also of non-waged care work enacted by members of the extended family in and outside of Malaysia.

In Malaysia, migrant workers perform subsistence agriculture if they have access to small areas of land that are either provided by their employers or that they occupy to secure their livelihood. In their country of origin, family members mostly use the remittances their relatives send from Malaysia to buy and cultivate land for subsistence farming.

Generally, the division of labour in the household can be understood as a strategy that strengthens their social security by helping its members to deal with precarious working conditions and low wages. At the same time, the practice of income distribution within the two-level family household as well as the engagement of its members in various forms of labour reproduces the Malaysian migrant labour regime in the palm oil sector—and, in doing so, the constant struggle to reproduce livelihoods. This is reinforced by the robust barriers to workers' struggle that are outlined in the following.

10.4.3 Barriers to Workers' Struggle

The strong hurdles faced by migrant workers and their weak bargaining power when organizing are further factors that contribute to the super-exploitation of migrant workers. In many cases, migrants are unaware of their legal status and their basic rights. As workers are often unsure about the content of the documents they signed when starting to work in Malaysia or do not even know whether they signed a contract at all, they become especially vulnerable to employers who are able to abuse these knowledge gaps (SPIEU, Interview no. 5). Illiteracy, a lack of experience in enforcing their rights and a fear of losing their job means that some workers simply accept whatever conditions that employers offer.

⁵Pye argues that migrant workers' struggles emerge in the form of *everyday resistance* (2017). I solely concentrate on collective action on the macro- rather than on the micro-level.

Similarly, the majority of workers are unaware of their right to join a union or to demand safety gear. In addition, if workers are unable to carry out their tasks because of rainfall, sickness or because a family issue requires them to return to their country of origin, they do not get paid. The exception was one case where a collective bargaining agreement by a union led the workers to enjoy these kinds of 'privileges'.

It is extremely difficult for unions to initiate organizing because plantations and mills are generally located in remote areas, it is difficult to enter large estates without permission from the owner, and workers who work for smallholders are usually isolated from one another. Furthermore, illegal migrant workers usually have no union representation at all because it is difficult to represent them and they also worry that they will be deported if they demand better working and living conditions (Assalam 2019). Legal obstacles also act as barriers to workers' struggles and limit unionization. Even if a union is successful in organizing documented workers, unions must ensure that a 50% plus 1 (50 + 1)majority of all employees in an entire company have joined the union to gain official company recognition and to be able to enter into collective bargaining (SPIEU, Interview no. 5). In the past, large companies have found various ways of preventing their employees from organizing by denying unions access to mills and plantations, threatening to fire rebellious workers and intimidating organizers (ibid.; SPN, Interview no. 7).

10.5 Conclusion: Bioeconomy as a Continuation of Superexploitation?

This chapter discussed social inequality in labour relations in the wake of emerging bio-based industries as exemplified by the case of palm oil and its links to labour migration in Malaysia. I argued that the Malaysian palm oil sector rests on the superexploitation of migrant workers and that this is made possible by the social devaluation of this social group due to their (lack of Malaysian) citizenship. This devaluation leads migrant workers to face political, legal and socio-economic discrimination, which, in turn, makes them the most precarious group

in the industry. The state regulation of labour migration keeps reproduction costs for the state low and establishes a framework in which companies can maximize the exploitation of migrant labour. Hence, the labour migration regime paves the way for capital owners in the palm oil industry to superexploit migrant workers.

Drawing upon the empirical findings, no matter which type of employer they work for, workers are sometimes paid wages that are below the minimum wage. While larger companies try to stretch legal regulations concerning minimum wages and overtime, workers employed by smallholders are regularly un(der)paid and underemployed. As a consequence, migrant workers are unable to reproduce their labour power or their two-level family households by solely relying on formal employment. The superexploitation of migrant workers manifests itself in salaries that are below a living wage, but also in the appropriation of informal, subsistence and reproductive work of both household levels, and the constant pressure to perform overtime and in recurring income insecurities. The externalization of the costs of reproduction, therefore, must be compensated for by the household's cross-border support network. As such, the household not only bears the costs of social reproduction but also the work that has to be done to carry it out. Undocumented workers are fully exposed to un(der)payment and underemployment irrespective of the type of employer they work for. Furthermore, the absence of legal institutions guaranteeing compliance with minimum working standards places undocumented migrants at risk of even worse forms of superexploitation.

To sum up: the superexploitation of migrant workers in the Malaysian palm oil sector—a possible key sector in a future global bioeconomy—demonstrates that we must take a closer, critical look at state policies that promote bio-based industries and to ensure that they not only promise the greening of the economy but also better working and living conditions for the workers employed in relevant sectors.

Interview no.	Gender and job position/Organization	Date and place
Interview no. 1	Male plantation worker	09/03/2018, Sandakan
Interview no. 2	Male plantation worker	14/03/2018, Tawau
Interview no. 3	Female plantation worker	14/03/2018, Tawau
Interview no. 4	Male mill worker	15/03/2018, Kunak
Interview no. 5	SPIEU	14/03/2018, Tawau
Interview no. 6	TFT	10/04/2018, Kuala Lumpur
Interview no. 7	SPN	10/05/2019, Phone interview

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