Migrant Workers in the Seaweed Sector in Sabah, Malaysia

Hanafi Hussin1 and Abdullah Khoso1

Abstract
This article uses the content analysis (CA) to examine the secondary data on the migrant workers in the seaweed sector in Sabah, Malaysia, and analyzed the migrant workers’ contributions to the sector and kinds of socio-cultural, economic, and legal challenges they faced. Through online academic publication searching, six academic papers and reports, and three media news stories about the migrant workers in the seaweed sector in Malaysia were found. In these articles and new stories, three major themes were identified: the number of migrant workers, their contribution to the seaweed sector, and the problems and challenges they faced. Under theme three, the subthemes included stereotypes, threats, risks, poverty, wages, and exploitation. The article found that migrant workers produced most of the seaweed in different regions in Sabah, Malaysia. However, the authorities do not directly recognize the contribution of migrant workers, as most workers in the seaweed sector are undocumented. The stateless status of most migrant workers has jeopardized the workers in the sector and provided power to the middlemen to exploit them. Stereotypes concerning migrant workers—low daily wages and low production rates—are significant issues and problems in their lives, which together exacerbate their economic and social misery and vulnerability. Although occupational health and safety are a prime concern in seaweed farming, no details were found concerning the health and safety of the migrant workers in the sector. Cumulatively, these factors (challenges to the migrant workers) may decrease the quantity and inferior quality of seaweed in Malaysia.

Keywords
Malaysia, migrant workers, undocumented workers, seaweed, occupational health, poverty

Introduction
In 2013, the Malaysian seaweed sector contributed 1% (269,431 metric tonnes) of the total world seaweed production (Food and Agriculture Organization, 2015). The promotion and expansion of the seaweed sector gained importance in the 10th Malaysia National Plan from 2010 to 2015. In the Malaysian National Agro-Food Policy 2011 to 2020, seaweed has also been viewed as a high-value commodity. Under the policy, by 2020, the government aimed to “capitalize on Malaysia’s competitive advantage” (Safari, 2015, p. 1) and raise seaweed production to 900,000 metric tonnes, which could be equal to approximately 1.4 billion Malaysian ringgit (approximately USD 344.76 million) (Safari, 2015). Studies on seaweed farming in Malaysia have paid considerable attention to the macro-level commercialization of seaweed production (Nor et al., 2017; Phang et al., 2017) as well as the biological aspects of different categories of seaweed, the sizes of species, and their industrial usage (Phang, 2010; Yong et al., 2015). Although Malaysia is the third-largest international seaweed carrageenan producer—20,297 tons of dried seaweed in 2016—the seaweed sector has faced ethnic tensions between indigenous growers and migrant workers, which has resulted in a poor understanding of the sector (Nor et al., 2020). In this tension, issues relating to the welfare of the seaweed-cultivating migrant communities (whether legal or illegal), and their social, cultural, and economic problems, have received little attention in social science research. Although many migrant workers have been engaged in the seaweed sector for over three decades in Sabah, Malaysia (Abubakar, 2015; Nor et al., 2017), their work and contribution to the sector are little recognized and have received scant consideration in research studies or the government. Overall, the role of migrant workers in the seaweed sector has been ignored and under-highlighted (Hussin & Khoso, 2017). Consequently, seaweed production might have reduced in terms of quantity and quality. Hence, this article investigates the scale of their contribution to the seaweed sector and the problems and challenges migrant workers faced in the sector.

1University of Malaya, Kuala Lumpur, Malaysia

Corresponding Author:
Hanafi Hussin, Department of Southeast Asian Studies, Faculty of Arts and Social Sciences, Institute of Ocean and Earth Sciences (IOES), & Malaysian Population and Migration Research Center (MPMRC), University of Malaya, Kuala Lumpur 50603, Malaysia. Email: hanafih@um.edu.my

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While addressing these two aspects, this article brings together information related to migrant workers in the seaweed sector. It identifies the knowledge gaps that seriously hamper any understanding of whether the industry is expanding.

Methods
This article has used the content analysis (CA) approach to analyze the existing literature on migrant workers in the seaweed sector. CA is a research method. It systematically examines the presence of specific words, themes, subthemes, and concepts in the large pile of raw text (qualitative data). CA helps to analyze meanings, contexts, messages, and specific inferences within the text (Erlingsson & Brysiewicz, 2017). Through CA, this article searched the specific texts (within academic and non-academic) that indicate the contribution of the migrant workers to the seaweed sector in Malaysia and the challenges they faced. The non-academic reports are from the media. In the first place, through Google Scholar and Google search engines, news stories, and academic articles linked to the seaweed sector and migrant workers in Malaysia were identified—the search was customized to collect news stories that only talked about migrant workers in the seaweed sector in Malaysia.

Only three news stories and six academic journal articles and reports were identified (see Table 1). The text of the stories and articles’ was condensed and coded/labeled (as suggested by Erlingsson & Brysiewicz, 2017). These were put into an excel spreadsheet to document information related to authors’ details, perspective/sub-themes, and the context (details) of themes. The news stories were put in the table, which helped identify common themes and subthemes in the text for the analysis. The purpose of the CA is also to make a descriptive presentation of qualitative data that includes other texts that have a direct or indirect link to this research (Erlingsson & Brysiewicz, 2017). With the help of CA, themes and subthemes are linked to broader national policy measures. As discussed in the introduction, an indifferent attitude toward migrant workers justifies conducting an inquiry to trace intangible and invisible social practices and values that affect the migrant workers and the seaweed sector.

In the text, the article traces three broad themes: (1) The number of migrant workers in the seaweed sector; (2) their contribution in the seaweed sector; (3) problems and challenges. Under the third main theme, the following three subthemes were identified: stereotypes, threats, and risks; poverty, wages, exploitation; occupational health and safety. The article discusses and analyzes each major theme and subthemes in the following:

The Number: Migrant Workers in the Seaweed Sector
In Malaysia, the State of Sabah has accommodated many migrants and undocumented workers, many of whom are engaged in agriculture, plantation, fishing, and seaweed cultivation. During the 1970s and 1980s, a massive influx of refugees from the Philippines and Indonesia came to Sabah because of the civil war in the region. The authorities in Sabah took full advantage of the supply of migrant workers to support its growing economy. These migrant workers came on humanitarian grounds and searched for better livelihoods (Abubakar, 2015; Hurtado et al., 2014; Nor et al., 2017; Hussin, 2019). However, sadly, they were used for personal, political, and economic motives (Kassim, 2009). In trying to determine the population of migrant workers in Sabah, the 2010 population census shows that 27.81% of Sabah’s total population of 3.2 million were non-Malaysian; however, the census did not include details on undocumented migrants (Abubakar, 2015; Hussin & Khoso, 2017).

The history shows that migration to seaweed areas in Sabah started when seaweed cultivation was officially introduced in Sabah for the first time (Hurtado et al., 2014; Nor et al., 2017). The available academic research (see Table 1) acknowledges that migrant workers constituted most of the total workforce in the seaweed sector. Although there is no official data on the total number of migrant workers in the sector, an official from the Sabah Fisheries Department stated that migrant workers predominantly dominate the sector; most are undocumented (Nor et al., 2017, 2020). One manager from the seaweed cluster project said that “Seaweed farming is dominated by the Suluk ethnicity (originated from the Southern Philippines). I think their contribution to seaweed farming is important. Only a few indigenous people are interested in seaweed farming” (quoted in Nor et al., 2017, p. 2326). In Semporna (an area in Sabah), there were about 11,000 Suluk, which comprised documented and undocumented migrants (Abubakar, 2015). Daily Express (2016) reported that approximately 80% of the 4,000 seaweed farmers/planters in Semporna, Kunak, and Tawau districts were mostly from the Bajau and Suluk communities. Eranza et al. (2015) claimed that the Bajau and the Suluk had brought the seaweed farming techniques from Tawi-Tawi Island, the Philippines. Shafitri et al. (2019) noted a vast development gap between Nunukan in Indonesia, neighboring Tawau in Sabah-Malaysian. Lack of employment opportunities, low wages, and little development in Nunukan has pushed migrant workers to move to Tawau temporarily and permanently for economic opportunities. Most of the migrant workers from Nunukan in Tawau work in small and medium enterprises and companies.

Table 1 shows the population (families) engaged in seaweed cultivation in Sabah and the poor management of the data on seaweed cultivators involved in the sector. Another issue with the data in the table is that it has no unified details about the total population engaged in the seaweed sector. It is because the authors do not mention the migrant or undocumented workers involved in the seaweed cultivation except for one news item that appeared in 2016.
| Author/media, year, country of publication | Themes and subthemes | Contexts/description of themes and subthemes |
|------------------------------------------|----------------------|--------------------------------------------|
| **Online news stories**                  |                      |                                            |
| Daily Express (2019a), Malaysia          | - Illegal foreign workers | - Seaweed producers, including 22 illegal foreign workers, were arrested in Sabah |
|                                          | - Stereotypes        | - Producers were arrested for illegally hiring |
|                                          | - Challenges         | - Migrant workers did not have documents |
|                                          |                      | - Case being investigated under the Fisheries Act 1985 and the Immigration Act 1959/63 |
| Daily Express (2019b), Malaysia          | - Seaweed farming families engage migrant workers | - A seaweed farmer in Lahad Datu cultivated seaweed on 90 acres of a water zone, and he engaged around 30 migrant workers |
| Winifred (2014)                          | - Deaths of green turtles | - Seaweed farmers are responsible for the deaths of green turtles |
|                                          | - Image of seaweed migrant workers | - Suspecting and patronizing the migrant who are engaged in large numbers |
| **Academic articles**                    |                      |                                            |
| Lunkapis and Danny (2016)                | - Migrant workers are issues | - Semporna district has 36.4% non-citizens |
|                                          | - Undocumented workers in seaweed | - The number of undocumented is unknown |
|                                          | - Security issue, threats, and risk | - A substantial number of seasonal, undocumented workers were working in the seaweed industry |
|                                          | - Low number of migrant workers and decrease in seaweed production | - Undocumented migrant workers are a security issue |
|                                          | - Challenges         | - Regular patrolling by law enforcement to deter and remove undocumented migrants |
|                                          |                      | - Increased patrolling has affected the number of migrant workers in the seaweed sector, who came from the other side of the border |
|                                          |                      | - As a result, low seaweed production |
| Nor et al. (2017)                        | - Legalizing migrant workers | - Migrant workers lived in stilt houses |
|                                          | - Filipino migrant workers in seaweed | - Migrant workers were Suluk, either illegal Filipino migrants or war refugees |
|                                          | - Living conditions  | - Most were undocumented migrants |
|                                          | - The number of migrant workers | - The Suluk ethnicity dominated (came from the Southern Philippines) |
|                                          | - Tension between migrant workers and locals | - Migrant workers are key people, large labor force, but what to do? Decrease their participation for locals? |
|                                          | - Stereotype images of migrants, threats, and risk | - They achieved the highest seaweed production |
|                                          | - Undocumented      | - Higher proportion, no education |
|                                          | - Poverty           | - Ineligible for government assistance |
|                                          | - Migrants avoid inviting the attention of the police | - In Semporna, the female seaweed farmers (either widows or divorcees) preferred to hire mostly from migrant communities |
|                                          | - Challenges and problems | - They rarely created social problems or committed crimes since they avoided attracting the attention of the authorities |
|                                          |                      | - The sector is considered a threat to national security because it attracts more migrants from the Philippines |

(continued)
**Table 1. (continued)**

| Author/media, year, country of publication | Themes and subthemes | Contexts/description of themes and subthemes |
|------------------------------------------|----------------------|---------------------------------------------|
| Nor et al. (2020)                        | - Migrant workers    | - The sector is barricaded by ethnic tensions between migrant workers and local farmers |
|                                          | - Tension between the local and migrant workers | - migrant workers are not entitled to receive formal financial services |
|                                          | - Migrant workers' contribution | - Undocumented status deprived them of accessing government support |
|                                          | - Exploitation, marginalization, and low rates | - They sought financial help from the intermediaries |
|                                          | - Challenges         | - Local farmers provide informal credit opportunities and market access. However, they had a monopoly on demand. They fixed their rates for seaweed |
|                                          |                      | - The government was not clear on how to deal with migrant workers |
|                                          |                      | - They were hardworking |
|                                          |                      | - Because of their undocumented status, their farming activities were scaled up to the commercial scale |
|                                          |                      | - They perceived the government marginalized them |
| Hussin and Khoso (2017)                  | - The contribution of migrant workers in seaweed | - Exact number of local and migrant workers are unknown |
|                                          | - Lack of access to fundamental rights | - Their contribution has not been recognized |
|                                          | - Challenges         | - They have a lack of access to livelihood, health, and education rights |
|                                          |                      | - With little livelihood sources, the migrant workers have insufficient income to support their children’s health and education rights |
|                                          |                      | - Academic research lacks to inform about the health, education, and other basic rights of migrant workers in the seaweed sector |
| Kassim (2009)                            | - Stereotypes       | - Most migrants in Sabah are aware of their negative image at the locals |
|                                          | - Negative image of immigrants | - Economy depends on migrant workers, including the seaweed sector |
| Abubakar (2015)                          | - Ecotourism from a livelihoods perspective | - Researched in Tun Sakaran Marine Park (TSMP), Sabah, Malaysia |
|                                          | - The number of migrant workers | - The institutional and livelihood impacts of TSMP’s establishment on communities living within it |
|                                          | - Undocumented workers | - Undocumented workers (i.e., Bajau Laut and the Suluk did not have rights to own property and run their own business in the park, but they depend on the locals |
|                                          | - Acknowledgment, contribution | - Each year, thousands of migrants come to Sabah for safety and better livelihood opportunities |
|                                          | - Negative image     | - They lived in the TSMP with the permission of the locals |
|                                          |                      | - In 2010, Statistic Sabah estimated that 11,000 Suluk lived in Semporna |
|                                          |                      | - In the TSMP, the majority are Suluk, but the officials have not surveyed their number |
|                                          |                      | - Suluk are not entitled to work but work on their seaweed farms in the TSMP. They worked before the park was established |
|                                          |                      | - Gift with farming skills on land and sea. Therefore, the seaweed farming companies hire Suluk migrant workers |
|                                          |                      | - Historically, Suluk “are masters of Sabah” (p. 138). |
|                                          |                      | - They are a superior group in the Sulu-Sulawesi Sea. However, because of their status as immigrants, they are denied of rights and freedom to express |
|                                          |                      | - The Semporna waters are an entry point for undocumented migrants into Malaysia |

Note. Table 1 is prepared in view of the suggestions by Erlingsson and Brysiewicz (2017).
In 2006, Wood et al. (2007) conducted the community census to assess the socio-economic conditions in the Tun Sakaran Marine Park (TSMP). They found that of the total sample (n=344), only 17% of the respondents had Malaysian citizenship living in the TSMP. Of the total, 40% (138) respondents had no documents that included 64 Bajau Laut and 74 Suluk. The Bajau Laut had a right to travel and migrate in the sea area. Most of them had refugee status (Abubakar, 2015). However, Suluk had seemingly no right to stay in Sabah. Wood et al. (2008) conducted another community survey in 2006 to update information, status, and issues related to seaweed cultivation practices inside the TSMP. They noted that over 300 households in seaweed cultivation and many of these households (except on Pulau Selakan island inside the TSMP) did not have Malaysian identity cards; however, some had IMM13 or Bajau Laut documents. Many of these cultivators were self-employed, and they managed their seaweed growing lines and sold the product to a company based in Semporna. However, contemporary social science investigations have not offered categories (local or migrants) of the workers engaged in the sector (Hussin & Khoso, 2017). The table also indicates the lack of unified records or number of seaweed cultivating communities engaged in the sector. Once again, this indirectly portrays the lack of interest of the authorities and researchers concerning the communities that significantly contribute to the sector.

In January 2021, Semporna Fishermen Association claimed that seaweed production and farming entrepreneurs have tremendously declined in Sabah due to the global economic recession (Geraldine, 2021). It has declined to the extent that the farmers were cultivating seaweed for livelihoods. The Association claimed that 600 families were engaged in seaweed farming in the past, which produced seaweed around 800 tons per month. In 2021, the Association said that less than 100 families produce 200 tons of seaweed per month (Geraldine, 2021). A seaweed farmer in Lahad Datu had 90 acres of a water zone that produced around 30 tons per month, and he engaged around 30 migrant workers (Daily Express, 2019a). It shows that if 100 families were cultivating seaweed, all families must have migrant workers, and their livelihoods must also have been affected by the current pandemic. Nor et al. (2017) also confirm that seaweed cultivation families engaged migrant workers who lived with their families in pondohaus (stilt houses). An official from the Sabah Fisheries Department informed that “the majority of people involved with seaweed farming are illegal immigrants” (p. 2326) who belong to Suluk ethnic group who migrated from the Philippines.

Seaweed Specific Contribution

In 1978, in Semporna, Lahad Datu, Tawau, and Kunak, the seaweed (scientifically known as *eucheuma cottonii* and locally known as *agar-agar*) project was launched. By 1988, seaweed production increased and continued to do so until 2001. In 2002, the seaweed production decreased to its lowest level but slowly improved from 2004 to 2014 (Safari, 2015). It was believed that the seaweed cultivation activities would generate employment for families living in the coastal areas and various islands and designated parks. The project, however, did not show satisfactory results, which was mainly because of the lack of interest of the local people (Safari, 2015). At that time, when the government first introduced the seaweed project, Sabah had witnessed a surge of migrant workers from Indonesia and the Philippines and because of civil war and poverty. These workers, for their survival and livelihood, started working, and contributing to the seaweed sector. Today, seaweed is a highly-valued commodity in the government’s (the federal and the state government of Sabah) policies and plans due to its significant contribution to the national income (Safari, 2015). In 2008, a total of 111,298 tonnes of seaweed was produced in Semporna (95%), Lahad Datu (4.4%), Banggi (0.3%), and Kunak (0.3%) in Sabah, Malaysia (Figure 1) (Kaur & Ang, 2009b). In April 2018, seaweed production was reported reduced to 88% (Wan, 2018).

An official from the Sabah Fisheries Department claimed that the migrant workers produced more than 50% of the total national seaweed (Nor et al., 2017, online). Although official data on the scale of seaweed produced by migrant workers are unavailable, some data on migrant workers’ contribution to the seaweed sector are available from the Tun Sakaran Marine Park (TSMP) (Figure 2). Eranza et al. (2015) stated that, in 2004, in the TSMP, the number of Malaysian citizens involved in seaweed cultivation was estimated to be 18%. The remaining 82% were migrant workers, with a large majority undocumented or illegal migrant workers from Indonesia and the Philippines, who produced around 90% of the total of 3,099 metric tonnes of seaweed generated in Sabah, which, at the wholesale price, was valued at MYR5.572 million (Eranza et al., 2015). Cooke and Toh (2012) said that, in 2006, approximately 3,000 people were living in the TSMP (Figure 2), of which 40% were undocumented, which included 46% Bajau Laut. However, other than a brief narrative by Eranza et al. (2015) about the contribution of the migrant workers to the seaweed sector, no detailed, or direct accounts of their contributions to the seaweed sector can be found. Research studies lack details concerning the role of migrant (including undocumented) workers in producing seaweed in the Semporna, Lahad Datu, Banggi, and Kunak areas in Sabah. Formally, the identity of the contributors and the total share of migrant workers in seaweed production are unknown.

In the sector, seaweed processing and refining companies also play essential roles. The data show that, in 2006, only two companies produced semi-refined carrageenan in Sabah, which were Tacara Sdn Bhd located in Tawau and Omni-Gel Sdn Bhd in Semporna. These plants were producing partially refined carrageenan for export (Sade et al., 2006). Jaygee
Sdn Bhd was producing alkali-treated *cottonii* chips (Kuen, 2010). Although the seaweed processing or refining plants in Sabah might employ migrant workers, there is no exact number of refining companies or details of the workers employed by them. Therefore, their work and role are entirely missing in academic discussions and analysis, and even the media has yet to explore these areas. Wood et al. (2008) had identified two companies that had established their activities inside the TSMP. Salleh B. Hj Abdul Salleh set up one company, and the other was named as Nusantara Bangga Sdn. Bhd. In these companies, seaweed cultivation was done by workers who were paid but did not have a share in the profits. Wood et al. (2008) also pointed out that lease (allocation) of waters to private companies resulted in problems for the cultivators (including migrant workers) who were cultivating seaweed for a long time. It caused them to move out of those areas. However, only on the condition, they could stay in the area if they agreed to work for the company on the lowest wage, but the people were reluctant. In January 2021, Semporna Fishermen Association claimed that seaweed production and farming entrepreneurs have tremendously declined in Sabah due to the global economic recession (Geraldine, 2021). However, Lunkapis and Danny (2016) assume that it has declined mainly because the government had increasing monitoring and patrolling of border areas, wherefrom the migrant workers came.

**Problems and Challenges**

Table 2 shows that the theme of problems and challenges faced by migrant workers has been part of the text of most...
Table 2. Year and Area Wise Information About the Number of Families and Migrant Workers Engaged in Seaweed Cultivation in Sabah, Malaysia.

| Year data collected | The total population involved in the seaweed sector | No. of migrant workers | Location in Sabah | Source |
|---------------------|----------------------------------------------------|------------------------|-------------------|--------|
| 1971                | Projected 500 families                             | Not stated             | Lahad Datu Tawau and Kunak | Safari (2015) |
| 2005                | 583 families                                       | Not stated             | Sabah              | Kaur and Ang (2009a) |
| 2006                | Out of 378 households, 59% of households' major occupation | Mentioned as undocumented workers, Bajau, Suluk | TSMP              | Wood et al. (2007) |
| 2008                | 950 fishing families                               | Not stated             | Sabah              | Kaur and Ang (2009a) |
| 2010                | 1,200 fishing families                             | Not mentioned          | Sabah              | Ali et al. (2015)   |
| 2016                | 4,000 farmers (planters)                          | The Suluk and Bajau    | Semporna, Kunak and Tawau | Daily Express (2016) |
| 2021                | 100 families                                       | Not stated             | Sabah              | Daily Express (2021) |

According to one district officer in Semporna, Bajau Sama’s (mostly the migrant workers) was considered an inconvenience for seaweed farming and tourism. In 2004, the governor of the state said that the Bajau Sama communities were “...part of Sabah’s cultural mosaic”; but, in 2013, these communities were considered a problem, and their presence was ruining the image of the Lahad Datu District (Brunt, 2013, p. 35). However, in reality, the evidence suggests an alternate view as their lives were miserable with extremely limited or non-existent access to fundamental services, such as health, education, and livelihoods. They lived a marginalized life for decades without nationality (Chou & Gooch, 2016; Cooke & Toh, 2012; Hussin & Khoso, 2017; Child Rights Coalition Malaysia, 2012). Generally, the stereotype of all migrant workers and the link to the increase in the crime rate due to the presence of migrant workers is a political tool (Kassim, 2009). They are also not a burden on social services—health or education—and pay more in terms of higher fees for both health and education services, which are accessible for the locals (Kassim, 2009). The recent evidence shows that migrant workers rarely create social problems or commit crimes because they do not want to attract the attention of the authorities and that it is the authorities that consider them a threat to national security and do not support them in the seaweed cluster projects (Nor et al., 2017).

In their impact assessment study on the islands of Sebangkat and Silungun (in Malaysia), Lunkapis and Danny (2016) indicated that many seasonal and undocumented workers from neighboring countries were cultivating seaweed their presence was considered a high-security risk. Thus, the government introduced various measures, including establishing security forces, which patrolled the area, and discouraged undocumented workers from entering Malaysian waters. As a result of these measures, Lunkapis and Danny (2016) claimed that the workers in the seaweed industry had decreased, which further reduced the production of seaweed.

Besides, the media also played a role in constructing a stereotype against the migrant workers in the seaweed sector and any incident concerning the death of green turtles—one
of the critically endangered species in Malaysia. The population has decreased significantly (Nasir et al., 2012)—the media raised doubts concerning the migrant workers in the seaweed sector (Winifred, 2014). It is because green turtles survive on seaweed (Clean Malaysia, 2016). However, although there was no revealing evidence concerning the involvement of migrant workers in killing this endangered species, the media publish such stories that give rise to rumors about the participation of migrant seaweed cultivators in such deaths. These may scare the migrant workers and keep them away and silent, which ultimately affects seaweed production. Wood et al. (2007, 2008) conducted a general census and community survey (seaweed specific), respectively. They highlighted details of the seaweed families in more information, especially in the community survey findings. However, both research activities and findings slightly focused on migrant or undocumented workers in the TSMP. Generally, they presented problems affecting the TSMP (and biodiversity in it), not the migrant workers or undocumented workers.

Poverty, Wages, and Exploitation

By and large, the issues faced by the seaweed sector are also affecting migrant workers. Sade et al. (2006) highlighted the problem of seasonal diseases and the fluctuation in market prices that affect the overall seaweed sector. Similarly, it affects the wages and seaweed rates of migrant workers, as the majority of them are engaged in the industry. They not only saw their earnings reduce (Daily Express, 2016) but also had to work extra hours to deal with seasonal diseases. Since most of the migrant workers in the sector were undocumented, they were vulnerable to issues and problems. They remained subject to extreme poverty (Eranza et al., 2017) and the government’s assistance was only for the local farmers (Nor et al., 2017). Most communities engaged in seaweed cultivation were economically poor. Compared to other communities, migrant workers did not have the right to access formal financial services (Nor et al., 2020), and many other fundamental rights such as health and education. The undocumented status of primarily the Filipino migrant workers had also become a barrier to access government financial support. Therefore, they developed and relied on informal services of credits from the intermediaries.

In 2004, Cooke and Toh (2012), through a survey, found that in the TSMP, 83% of the household had a monthly income of less than MYR600, which is below the poverty line. Inside the TSMP, for the communities, the sources of livelihood were fishing, and seaweed farming. In 2004, these activities were restricted when the TSMP was set up. Outside of the TSMP, they have had limited livelihood activities because, being migrant workers, they could not access livelihood activities. Outside of the TSMP, they could not access livelihood resources, while inside the TSMP, the regulations reduced their livelihood activities to the lowest level. These migrant workers were doing seaweed activities before the declaration of the TSMP. They were charged 100 ringgit as an annual fee, which was considered a significant burden on already poverty-ridden people. Their monthly household income level ranged between 200 and 400 ringgit per month. The fee was not paid by many of the migrant groups, mainly Siluk and Bajau Laut, because they worked for the Island owners, which, ultimately, affected their opportunity to work in the TSMP. Other locals could switch to the land areas and find different livelihood sources, but migrant workers did not have these options because they did not have the documents. They lived at the mercy of the contractors and employers (Lasimbang et al., 2016).

Brunt (2013) also offered a detailed insight into the communities engaged in seaweed, poverty, and stateless status (or undocumented status), which added more misery to lives. Navallo (2013) and Lasimbang et al. (2016) offered an overall deplorable account of Filipino migrant workers in Sabah. Navallo added that the migrant workers in Sabah from Indonesia and the Philippines, documented or otherwise, were exploited and lived an oppressed life. The workers were provided with meager wages that were reduced on lame excuses. They were forced to work and sometimes were not paid for the extra work they did on the farms (Navallo, 2013). The status of statelessness jeopardized the migrant workers in the seaweed sector and provided power to the middlemen to exploit them (Eranza et al., 2015; Lasimbang et al., 2016). Since migrant workers did not have legal status to own anything in the TSMP, they were not given the right to participate or engage in the park’s management (Navallo, 2013). The workers provided the raw production but received very little. They were poor and received very little for their efforts—the intermediaries made some profit from the production. The Borneo Post (2016) reported that the highest benefit went to the processors and the exporters.

A review article (Hussin & Khoso, 2017) outlined that inside or outside of the TSMP, the migrant workers had little access to livelihood activities. They also did not have the right to own waters for seaweed cultivation. The limitations on their abilities and access to livelihood resources could severely impact their other fundamental human rights, such as the rights to education, health, and food/nutrition. The review article indicated the possibility that due to lack of access to livelihood resources, the migrant or undocumented workers might not have sufficient income to support their children’s education and health rights. These all factors and problems from the migrant rights or undocumented workers’ perspective have not attracted the attention of researchers. A recent research article by Nor et al. (2020) pinpoints the absence of the government’s financial and other support to migrant workers due to their undocumented status. These kinds of government policies have marginalized migrant workers in the sector. They are unable to increase their farming activities and production as desired by the government. However, the government heavily relies on the local farmers...
to increase seaweed production, but Nor et al. (2020) found that the local farmers were the laziest. Due to a lack of financial and other supports, the migrant workers lacked funds and adequate drying platforms. The local farmers hired the migrant workers for their benefit (Eranza et al., 2015; Nor et al., 2020).

Discussion

This paper starts with a general discussion of the migrant workers (legal, illegal, or undocumented) in the seaweed sector in Malaysia (especially in Sabah). It then touches upon their seaweed contribution in the seaweed sector. Subsequently, it discusses the problems and challenges they encounter, including the stereotypes directed against them. In the seaweed sector, Malaysia has focused on macro targets but granted little attention to the welfare of farmers, especially migrant workers, who are the major contributors to the sector’s growth. The sector is blessed with the services of a vast number of migrant workers, including the undocumented. However, the government does not directly recognize their contribution to the sector. However, the government officials recognize their contribution, but their contribution’s exact quantity and value are not recorded (Nor et al., 2017).

Malaysia was ranked fourth among the top five countries producing seaweed globally (Cai et al., 2013, p. 10). However, it had extremely scattered and unconfirmed details about the workers in the sector. Interestingly, Zanzibar (Tanzania) is economically far poorer than Malaysia. In April 2016, the International Monitory Fund and World Bank issued the projected world rankings based on the country’s GDP (nominal). Out of 191 countries, Malaysia was ranked 36 and Zanzibar 82 (Statistics Times, 2016). However, Zanzibar had accurate statistics on the workers engaged in seaweed cultivation. The number of seaweed farmers in Zanzibar was between 15,000 and 20,000 in 2006 (Msuya, 2012). With such a lack of details about the workers, Malaysia is undermining the quality and quantity of the seaweed production and the human values of care and protection needed for all, irrespective of one’s status.

It is a fact that, in Malaysia, the role of migrant workers (especially Sama-Bajau and Suluk) is critical for increasing seaweed production and for improvement in the development of the seaweed sector. Migrant workers have made a substantial economic contribution to the development of Sabah, especially in the agriculture, domestic, fisheries, timber, and construction sectors (Chou & Gooch, 2016; Furuoka, 2016; Nor et al., 2017; Tajari & Affendi, 2015). Not only in Sabah. However, overall, the success story of the Malaysian economy is associated with migrant workers (Fielding, 2015; Nor et al., 2017). Their contribution was even more significant. When the locals were not willing to toil in the low profile agriculture (including fishing and aquaculture), domestic, or construction sectors, these migrant workers accepted work with low wages and did their job fairly. It is evident by the seaweed cultivation and processing, which require extensive labor and time (Devadason & Meng, 2014; Hussin & Khoso, 2017; Nor et al., 2017).

Just as the migrant workers were engulfed with problems in almost every sector of the economy (Khoso et al., 2020), so is the case in the seaweed sector. The list of issues includes perceiving them with a stereotypical view as criminals and depriving them and their families of the basic health and education services, scaring them with the threat of arrest and deportation, and limiting their mobility to access livelihood resources (Cooke & Toh, 2012; Navollo, 2013). Research reveals a tension between migrant workers and locals (Eranza et al., 2017; Nor et al., 2020). However, migrant workers cannot afford to conflict with the locals on any issue since most of them are undocumented and do not draw the attention of the authorities toward them. Also, even when they are documented but their legal status could be revoked at any time.

In search of migrant workers’ contribution and their problems in the seaweed sector, this research could not find information concerning any of the following areas that require academic attention: Application of the minimum wage; the impact of seaweed market prices on their wages, and routine practices; occupational health and safety measures in the workplace; employers’ attitude toward migrant workers in comparison with the local workers; and the role of female migrant workers in the sector. Although debt bondage and the cruel role of the intermediaries are also gray areas in the sector, there were few references to it in the literature. These and many other untold problems faced by migrant workers in the industry have been primarily underreported in academic research.

Among the above-listed problems, Occupational Health and Safety is paramount. In the content analysis, the authors did not find the text with direct or indirect reference to the occupational health and safety (OHS) of the workers in the seaweed sector. However, the OHS is a significant concern in the seaweed sector. However, the Occupational Safety and Health Act of 1994 of Malaysia also covers the seaweed sector. For preventing and controlling diseases in seaweed farming, chemicals are used intensively, which could have a potential impact on the environment, and consumers and the health of the workers (Phillips, 1990). These workers face health and safety issues of various kinds in the area where they work, including burning eyes and skin due to the long contact time with the seawater. Working in seaweed requires extensive physical work; a worker has to harvest seaweed and then take the heavy bundles of seaweed that have been harvested to the shore. There have been reports of workers complaining about tiredness and body and muscle ache (WIEGO, 2011). Seaweed cultivators are in a more miserable state of health than non-seaweed farmers. They complained about exhaustion, low energy, body ache, respiratory, skin, and eye-related complications (Fröcklin et al., 2012). In Malaysia, seaweed is promoted because of its commercial value.
However, occupational health and safety problems in the sector have not gained attention. This aspect is taken for granted, conceivably because most workers are migrants. There seems to be little interest among academia and the state authorities in Sabah concerning the health of the migrant workers in this sector. For instance, Lasimbang et al. (2016) provided the picture of migrants’ (documented or undocumented) sexual and reproductive health in Sabah. They claimed various migrant workers (documented) related policies and laws are present. However, these do not provide complete protection and rights to the migrant workers regarding their sexual and reproductive health rights. They also claimed that the objective of the policies and laws is to control the migrants to have negative impacts on the locals; instead, protecting migrants’ health and other rights. Similarly, one might stumble upon the same facts in the context of implementing the Occupational Safety and Health Act of 1994 of Malaysia in the seaweed sector.

Conclusion

This research was conducted to examine the migrant workers’ (including undocumented) contribution to the seaweed sector and its challenges. For this purpose, CA of the academic and non-academic literature was conducted; that included seven academic research articles and reports and three online news stories. In the text of the literature, three main themes and three subthemes were identified.

CA reveals many gray areas that have to be addressed to promote and increase seaweed production and protect the right of migrant workers who contribute to the Malaysian economy under harsh working conditions. The analysis has helped to draw attention to various untouched areas within the seaweed sector.

CA revealed that the number of migrant workers, including undocumented, and their contribution to the sector is significant. The government officials recognized that their number is huge and contributed more than fifty percent to the total national seaweed production. However, the exact number of them and their contribution to the seaweed sector are not recorded. Fundamentally, this article highlights that migrant workers’ contribution to the seaweed sector is recognized in general terms but not in specific terms. For instance, there were no details of the total seaweed production by migrant workers yearly or the value of the seaweed produced by the migrant workers.

Moreover, there was no sign of the percentage share of the seaweed produced by migrant workers in the fisheries sector and Sabah’s economic development. Also, many gray areas within the seaweed sector require empirical research. Some of these include the contribution of the female migrant workers and the occupational health and safety issues, and measures taken to ensure the welfare of the migrant workers in the seaweed sector. The absence of details concerning occupational health and safety issues and other serious problems confronted by migrant workers (the dominant group of producers) may be possible factors of decreasing the quantity and quality of seaweed in Malaysia.

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ORCID iD

Hanafi Hussin https://orcid.org/0000-0003-0626-0076

References

Abubakar, N. A. (2015). The importance of institutional arrangements for sustainable livelihoods: The case of Tun Sakaran Marine Park, Sabah, Malaysia [Ph.D. Thesis, Department of Geography]. University of Waterloo.

Ali, M., Hussin, R., Yasir, S. M., & Rahman, A. T. A. (2015). Projek Estet Mini Rumpai Laut Dan Penglibatan Komuniti Nelayan Di Daerah Semporna, Sabah. Journal of Borneo Social Transformation Studies, 1, 122–138.

Brunt, H. (2013). Stateless stakeholders: Seen but not heard?—the case of the Sama Dilaut in Sabah, Malaysia [MA Thesis, Anthropology of Development and Social Transformation]. University of Sussex.

Cai, J., Hishamunda, N., & Ridler, N. (2013). Social and economic dimensions of carrageenan seaweed farming: A global synthesis. In D. Valderrama, J. Cai, N. Hishamunda, & N. Ridler (Eds.), Social and economic dimensions of carrageenan seaweed farming (pp. 5–59). Fisheries and Aquaculture Technical Paper No. 580. FAO.

Child Rights Coalition Malaysia. (2012). Child rights coalition report on children rights in Malaysia. Retrieved April 7, 2018, from https://archive.crin.org/en/docs/Report_on_Childrens_Rights_.pdf

Chou, C. T., & Gooch, L. (2016). Malaysia’s invisible children. Retrieved March 12, 2018, from http://www.aljazeera.com/indepth/features/2015/04/malaysia-invisible-children-150429064406390.html

Clean Malaysia. (2016). Green turtle deaths raise alarms about fate of gentle reptiles in Terengganu. Retrieved February 16, 2018, from http://cleanmarlsia.com/2016/02/09/green-turtle-deaths-raise-alarms-about-fate-of-gentle-reptiles-in-terengganu/

Cooke, F. M., & Toh, S. (2012). Indigenous peoples and access to customary lands: A question of rights in contemporary Sabah (Report submitted to the Human rights Commission of Malaysia (Suhamak) in conjunction with its National Inquiry into the Land Rights of Indigenous People, Kuala Lumpur). https://www.researchgate.net/publication/278413024_SUHAKAM_National_Inquiry_into_the_Land_Rights_of_
Indigenous Peoples and Access to Customary Lands: A Question of Rights in Contemporary Sabah

Daily Express. (2016). Seaweed industry dying due to kidnappings. Retrieved January 12, 2018, from http://www.dailyexpress.com.my/news.cfm?NewsID=111349

Daily Express. (2019a). Seaweed cultivators with 22 illegal foreign workers held. http://www.dailyexpress.com.my/news.cfm?NewsID=130650

Daily Express. (2019b). Do or die mentality of LD seaweed entrepreneur. Retrieved June 2, 2021, from https://www.dailyexpress.com.my/news/136161/do-or-die-mentality-of-lD-seaweed-entrepreneur/

Daily Express. (2021). Big decline in seaweed farming sector. Retrieved June 5, 2021, from https://www.dailyexpress.com.my/news/165543/big-decline-in-seaweed-farming-sector/

Devadason, E. S., & Meng, C. W. (2014). Policies and laws regulating migrant workers in Malaysia: A critical appraisal. Journal of Contemporary Asia, 44(1), 19–35.

Eranza, D. R. D., Bahron, A., & Alin, J. (2015). Sustaining seaweed farming in Malaysia. International Journal of Business and Management, 3(3), 201–205.

Eranza, D. R. D., Bahron, A., Alin, J., Mahmud, R., & Malusirang, S. R. (2017). On-Going assessment of issues in the seaweed farming industry in Sabah, Malaysia. Journal of the Asian Academy of Applied Business, 4, 49–60.

Erlingsson, C., & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. African Journal of Emergency Medicine, 7(3), 93–99.

Fielding, T. (2015). Asian migrations: social and geographical mobilities in Southeast, East, and Northeast Asia. Routledge.

Food and Agriculture Organization. (2015). FAO global aquaculture production database updated to 2013: Summary information. Retrieved January 1, 2018 from http://www.fao.org/3/a-i4899e.pdf

Fröcklin, S., de la Torre-Castro, M., Lindström, L., Jiddawi, N. S., & Msuya, F. E. (2012). Seaweed mariculture as a development project in Zanzibar, East Africa: A price too high to pay? Aquaculture, 356–357, 30–39.

Furuoka, F. (2016, August 16–18). Relationship between population and economic growth in Sabah [Conference session]. In: 2nd Globalizing and Organizing (WIEGO). Southeast Asia (pp. 103–123). Springer.

Geraldine, A. (2021). Decline in Sabah’s seaweed farming production. Retrieved June 6, 2021, from https://www.nst.com.my/news/nation/2021/01/661239/decline-sabahs-seaweed-farming-production

Gurwitz, A. (2000). Migrant rights and activism in Malaysia: Opportunities and constraints. The Journal of Asian Studies, 59(4), 863–888.

Hope, S. (2000). Outcasts of the islands: The sea gypsies of Southeast Asia. Harper Collins.

Hurtado, A. Q., Gerung, G. S., Yasir, S., & Critchley, A. T. (2014). Cultivation of tropical red seaweeds in the BIMPEAGA region. Journal of Applied Phycology, 26, 707–718.

Hussin, H. (2019). Buwas kuning (yellow rice) and its symbolic functions among the Sama-Bajau of Malaysia. SAGE Open, 9(4), 1–13.

Hussin, H., & Khoso, A. (2017). Seaweed cultivation and coastal communities in Malaysia: An overview. Asian Fisheries Science, 30, 87–100.

Kassim, A. (2009). Filipino refugees in Sabah: State responses, public stereotypes and the dilemma over their future. South Asian Studies, 47(1), 52–88.

Kaur, C. R., & Ang, M. (2009a). Seaweed culture and utilisation in Malaysia: Status, challenges and economic potential [MIMA Seminar]. In: Seminar on Developing the Seaweed Aquaculture Sector in Malaysia. MIMA, Kuala Lumpur, Malaysia. Retrieved June 1, 2018, from http://ilmu.mima.gov.my/webopac20/Record/000005779

Kaur, C. R., & Ang, M. (2009b). Developing the seaweed aquaculture sector in Malaysia seminar report Kuala Lumpur. Retrieved June 1, 2018, from https://www.researchgate.net/publication/281256400_Report_for_seminar_on_developing_the_seaweed_aquaculture_sector_in_Malaysia

Khoso, A., Thambiah, S., & Hussin, H. (2020). Social practices of Pakistani migrant workers in Malaysia: Conserving and transforming transnational affect. Emotion Space and Society, 37, 1–9. https://doi.org/10.1016/j.emospa.2020.100742

Kuen, C. C. (2010). Antioxidant activity of different varieties of red seaweed Kappaphycus alvarezii from Sabah [BA Thesis, School of Food Science and Nutrition]. University Sabah Malaysia.

Lasimbang, H. B., Tong, W. T., & Low, W. Y. (2016). Migrant workers in Sabah, east Malaysia: The importance of legislation and policy to uphold equity on sexual and reproductive health and rights. Best Practice & Research Clinical Obstetrics & Gynaecology, 32, 113–123.

Lunkapis, G. J., & Danny, H. W. (2016). Preliminary impact assessment of seaweed cultivation by the coastal communities in Sabah, Malaysia. Transactions on Science and Technology, 3(2), 413–420.

Marimuthu, M. (2016). Postcolonial Indian labour migration to Malaysia: Trajectories, trends and tensions. In K. F. Lain, M. M. Rahman, & Y. Alas (Eds.), International migration in Southeast Asia (pp. 103–123). Springer.

Migration Working Group. (2013). Joint UPR submission – Malaysia – October 2013. A joint submission by members of the Migration Working Group (MWG) for the 17th session of the universal periodic review, 24 October 2013. Retrieved May 12, 2018, from http://wao.org.my/file/file/Migration%20Working%20Group%20Joint%20UPR%202013%20Submission.pdf

Montagne, A., Naim, O., Tourrand, C., Pierson, B., & Menier, D. (2013). Status of coral reef communities on two carbonate platforms (Tun Sakaran Marine Park, East Sabah, Malaysia). Journal of Ecosystems, 2013, 1–15.

Msuya, F. E. (2012). A study of working conditions in the Zanzibar seaweed farming industry. Women in Informal Employment: Globalizing and Organizing (WIEGO).

Nasir, N., Zulkiﬂi, R., & Foo, R. (2012, October 21–24). Sea turtle conservation in Terengganu [Conference session]. In: 2nd Conferences for Regional Cooperation in Ocean and Earth Science Research in South China Sea, SCS 2012, University of Malaya, Kuala Lumpur, Malaysia.

Navallo, K. (2013). Filipino migrants in Sabah: Marginalised citizens in the midst of interstate disputes. Retrieved June 12, 2018, from: https://www.academia.edu/6364345/Filipino_Migrants_in_Sabah_Marginalized_Citizens_in_the_Midst_of_Interstate_Disputes
New Straits Times. (2015). 58 % of inmates in Sabah are foreigners. Retrieved September 15, 2021, from https://www.nst.com.my/news/2015/09/58pc-inmates-sabah-prisons-are-foreigners
Nor, A. M., Gray, T. S., Caldwell, G. S., & Stead, S. M. (2017). Is a cooperative approach to seaweed farming effectual? An analysis of the seaweed cluster project (SCP), Malaysia. Journal of Applied Phycology, 29, 2323–2337. https://doi.org/10.1007/s10811-016-1025-y
Nor, A. M., Gray, T. S., Caldwell, G. S., & Stead, S. M. (2020). A value chain analysis of Malaysia’s seaweed industry. Journal of Applied Phycology, 32(4), 2161–2171.
Phang, S. M. (2010). Potential products from tropical algae and seaweeds, especially with reference to Malaysia. Malaysian Journal of Science, 29(2), 160–166.
Phang, S. M., Yeong, H. Y., Hussin, H., Lim, P. E., You, H. C., & Juan, J. C. (2017). Techno-economics of seaweed farming along the coasts of Kelantan, East Coast Peninsular Malaysia. Malaysian Journal of Science, 36(2), 84–102.
Phillips, M. J. (1990). Environmental aspects of seaweed culture (FAO/NACA Technical Resource Papers). The Regional Workshop on the Culture and Utilisation of Seaweeds, Network of Aquaculture Centers in Asia Pacific, Bangkok, Thailand, pp. 27–31.
Sade, A., Ali, I., & Ariff, M. (2006). The seaweed industry in Sabah, east Malaysia. Journal of Southeast Asian Studies, 11(1), 97–107.
Safari, S. (2015). Prospects and policy review of seaweed as a high-value commodity in Malaysia. Retrieved June 12, 2018, from http://ap.fftc.agnet.org/ap_db.php?id=430
Shafitri, N., Zulham, A., & Muawanah, U. (2019, November) Social structure of seaweed farmers in border areas: Cases in seaweed farmers in Nunukan Island. IOP Conference Series Earth and Environmental Science, 348(1), 012053.
Statistics Times. (2016). List of countries by projected GDP. Retrieved September 19, 2017, from http://statisticstimes.com/economy/countries-by-projected-gdp.php
Tajari, A., & Affendi, N. (2015). Illegal immigrant and security crisis in Sabah (Malaysia) [Conference session]. In: E-Proceeding of the International Conference on Social Science Research, ICSSR 2015. Retrieved April 18, 2018, from https://malaycivilization.com.my/omeka/items/show/149543
Talib, K. A., Hassan, K. H., M. Isa, S., Ahmad Yusoff, S. S., & Mustafa, C. N. (2012). Labor law and immigrants: Legal impact to minority. Asian Social Science, 8(6), 52–62.
The Borneo Post. (2016). Push for seaweed buying STA on. Retrieved June 12, 2018, from https://www.pressreader.com/malaysia/the-borneo-post-sabah/20160815/281535110389103
Wan, L. (2018). Seaweed superfood: Malaysia seeks UN recognition to boost international awareness. Retrieved July 19, 2018, from https://www.nutraingredients-asia.com/Article/2018/04/23/Seaweed-superfood-Malaysia-seeks-UN-recognition-to-boost-international-awareness
WIEGO. (2011). Occupational health and safety for informal workers. Retrieved August 23, 2017, from https://www.wiego.org/sites/default/files/OHS_Newsletter_Feb_2011_English.pdf
Winifred, A. (2014). Academic: Seaweed farmers main suspects in turtle deaths. Retrieved March 4, 2017, from http://www.themalaymailonline.com/malaysia/article/academic-seaweed-farmers-main-suspects-in-turtle-deaths
Wood, E., Mustapa, I., & Brunt, H. (2008). Tun Sakaran Marine Park Seaweed Farming survey and recommendations 2008 (Semporna Islands Darwin Project). Marine Conservation Society.
Wood, E., Suliansa, M. S., Mustapa, I., & Brunt, H. (2007). Socio-economic monitoring in TSMP, results of the 2006 community census (Semporna Islands Darwin Project). Marine Conservation Society.
Yong, Y. S., Yong, W. T. L., Thien, V. Y., Ng, S. E., Anton, A., & Yassir, S. (2015). Acclimatization of micropropagated Kappaphycus alvarezii (Doty) Doty ex Silva (Rhodophyta, Solieriales) in outdoor nursery system. Journal of Applied Phycology, 27(1), 413–419.