

Highly Skilled Migrant Workers as a Vulnerability of Small Island Developing States During the COVID-19 Pandemic: Cases of Three Countries in Micronesia

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Several small island developing states (SIDS) in the Pacific managed to avoid the COVID-19 pandemic by implementing measures to ensure national isolation. Primarily due to being ordered to leave by their respective organizations, e.g., overseas development administration (ODA) in the developed world, many highly skilled migrant workers left these countries. This sudden exodus of highly skilled foreigners created a number of problems in these countries; for example, schools suffered from teacher staffing shortages and hospitals had reduced capacity to offer medical services due to the paucity of nurses and doctors. This study aims to examine the situations in the Federated State of Micronesia (FSM), Palau, and the Republic of the Marshall Islands (RMI), where many foreign workers have left their duty stations to return home under COVID-19, to elicit lessons learned and possible ways and means to alleviate the observed problems. To this end, literature surveys and interviews were conducted with informants. Results indicated that developing and maintaining a remote work environment is a promising method to fill the gaps caused by the sudden absence of foreign workers in management posts, even under non-emergency situation. This is because in the case that highly skilled migrant workers are forced to vacate their duty stations suddenly, immediately hiring replacements is often not possible. Promoting distance education also proved effective for COVID-19-free nations such as the FSM, Palau, and the RMI, not only during emergencies, but also during normal times. Similarly, the daily use of telemedicine is likely to be effective in coping with emergencies, as shown in the case of FSM's Pohnpei State Hospital. We found both distance education and telemedicine to be effective measures to address the sudden departure of highly skilled migrant workers in the fields of education and medical services. Moreover, other forms of remote work should prove useful in other sectors such as industry and administration.

These systems should be progressively developed during non-emergency times and integrated into the daily operations of relevant sectors.

Keywords: COVID-19, distance education, Micronesia, migrant worker, telemedicine

1. Introduction

1.1. Migrant Workers in Small Island Developing States in the Pacific

The global pandemic of COVID-19, which began in early 2020, had an immense “once in a century” impact, not seen since the days of the Spanish flu (1918–1920). During the pandemic, small island developing states (SIDS) in the Pacific managed to avoid COVID-19 infection by swiftly implementing measures that ensured national isolation. To prevent infected foreigners and compatriots from entering into their countries, entry-bans were implemented by governments. This and other isolation policies were instrumental in preventing infections among citizens; however, they were not without negative side effects.

For example, the tourism industry was devastated in some nations, namely the Cook Islands, Palau, Samoa, and Vanuatu [1], as foreign tourists needed to be shut out to prevent the spread of the virus. Some SIDS's economies largely depend on foreign tourism, and the evaporation of tourists from abroad was disastrous for several nation-states. For example, Palau's economy shrunk by 11.4% in 2020 due to a lack of tourism [2]. Such a reduction in tourism is expected to result in at least a 4.9% decrease in the GDP of SIDS in the Pacific region due to unemployment in the tourism industry [3].

Another small but important implication was the evaporation of high-skilled migrant workers, such as teachers and medical professionals. In this study, highly

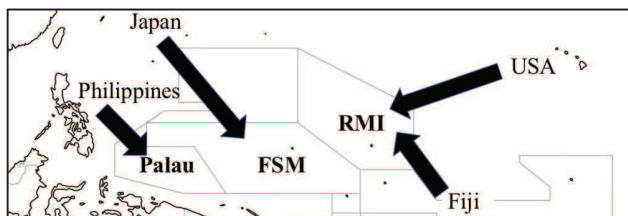


Fig. 1. Flow of migrant workers from abroad to the FSM, Palau and the RMI.

skilled migrant workers refer to people who are hired from abroad owing to insufficient supply of national personnel possessing the same skills. As in other developing countries, foreign workers are essential in SIDS to meet societal demands, particularly for some positions that require highly trained human resources. SIDS in the Pacific region hire skilled, professional, and managerial workers from abroad. As of 2017, the Federated States of Micronesia (FSM), the Republic of Palau (Palau), and the Republic of the Marshall Islands (RMI) had 1,296, 4,988, and 1,276 migrant workers, respectively [4].

It should be noted that Palau has a significantly higher ratio of migrant workers in the country, many of whom are from the Philippines. While Palau only has a quarter of the population of the RMI, it has approximately five times more migrant workers. Consequently, foreign workers accounted for 55% of the Palauan workforce in 2017.

This is not a new trend. Alegado and Finin [5] pointed out two decades ago that compared to other Pacific island countries, Palau clearly embraces the idea that “guest workers” are an important component of the country’s economic and social development strategy. They also wondered if Palau was too dependent on non-Palauans and cautioned that Palau could be severely impacted if guest workers stopped working.

Intra-Pacific migration of high-skilled workers has been a common practice. For example, a number of Fijian nurses and teachers (from primary school to college) work in the RMI [6].

Currently, many migrant workers, including highly skilled migrant workers from the Philippines, work in Palau. On a smaller scale, highly skilled migrant workers from Japan, which has a strong historical link with the FSM, have moved to the country and form an important portion of its workforce. Highly skilled migrant workers from the United States of America (USA) and Fiji also contribute substantially to RMI society. **Fig. 1** shows the major flow of migrant workers (indicated by arrows) from abroad to the SDIS (the FSM, Palau, and the RMI) discussed in this study.

In these three countries, the roles of migrant workers are significant. Here, highly skilled migrant workers may be found in various positions and organizations, such as advisors to the government, doctors and nurses in hospitals, managers and engineers in companies, teachers in a broad range of educational institutions (primary school

to college), religious leaders in churches and temples, etc. The International Labour Organization (ILO) [7] suggests that, globally speaking, individuals in the following sectors had the lowest risk of becoming unemployment under the spread of COVID-19: healthcare and social work, education, utility, public administration, and defense. These sectors are essential for maintaining the various factions of society. Therefore, trained human resources are always needed in these areas, regardless of slack in other sectors. Losing skilled migrant workers in these sectors of society induces difficulties and losses in the society.

Even in member states of the European Union (EU), migrant workers are essential for maintaining basic services in society. Fasani and Mazza [8] maintained that migrant workers who stayed in their workplaces during the COVID-19 pandemic were indispensable to maintaining the basic and necessary functions of societies in Europe amid periods of forced closures in the fight against COVID-19.

The loss of high-skilled migrant workers is devastating in SIDS, but it seems unavoidable for the reasons mentioned in the next sections. The question to be answered is how the observed impacts of losing high-skilled migrant workers could have been avoided or mitigated in SIDS, specifically in the FSM, Palau, and the RMI.

1.2. Objectives of the Study

This study aims to examine the situations in the FSM, Palau, and the RMI, where foreign workers leave their duty stations to return home under the conditions of the COVID-19 pandemic in order to learn from and develop possible solutions to alleviate the problems observed in these three countries. These experiences could help identify measures to be applied in the future under similar circumstances in these three countries, as well as potentially for other SIDS.

2. Materials and Methods

This study was conducted through a literature survey and interviews with relevant people in the FSM, Palau, and the RMI. Visits to these nations for research had to be canceled in mid-2020 to mid-2021, when we conducted this study, because these nations were under lock-downs to avoid COVID-19 infection. A literature survey was conducted to learn about the history, background, and relevant policies regarding the role of migrant workers in the FSM, Palau, and the RMI. Media information was also surveyed to understand the most up-to-date impacts and responses to COVID-19 in the region. Academic journals were also studied to compare measures taken to fill labor gaps in emergency situations. Semi-structured interviews were conducted through the Internet as an alternative measure with 16 people living in these nations. The 16 informants were composed of six persons from Palau (one aged 31–40 years old, two aged 41–50 years old, two aged 51–60 years old, and one aged 61 years

Question.

1. If you know a person who left the FSM after the COVID-19 outbreak, from which country did the person originate, and in what sort of work the person used to be engaged in the FSM?
2. Did any problem take place due to the absence of the person? If so, what kind of problem was observed?
3. If it is ever possible, how the problem caused by the absence of the person may be fully avoided or partly mitigated?

Fig. 2. Questionnaire used for interview with informants in the FSM.

old and above); five persons from the RMI (two aged 31–40 years old, two aged 41–50 years old, and one aged 51–60 years old); and five persons from the FSM (two aged 21–30 years old, one aged 31–40 years old, one aged 41–50 years old, and one aged 51–60 years old). Most informants were selected based on the recommendations of Japanese and foreign experts who were familiar with their abilities and work experience. We also used snowball sampling to identify additional informants. The authors asked informants to refer subsequent informants to cover groups representing typical high-skill professions performed by foreigners in the target countries. Measures were taken to ensure all participants' responses remained anonymous. The questionnaire used for the interviews with respondents living in the FSM is shown in **Fig. 2**. A similar questionnaire was used for the interviews with participants in Palau and the RMI. We also conducted interviews with experts living in Japan and the USA who were knowledgeable about recent conditions in the FSM, Palau, and the RMI with regard to highly skilled migrant workers. However, there was a limitation in expanding the informant pool when all the interviews were conducted online because the snowball technique often relies on the trust between the informants and the interviewers, which is typically established based on face-to-face communication.

The author tried to find possible solutions to this issue, partly through consultations with anonymous informants and partly through discussions among the authors, sometimes with the participation of experts in the relevant fields living in Japan or the USA.

3. Results

3.1. Impacts of the Absence of High Skilled Migrant Workers

Few articles have been published on the implications of the disappearance of high-skilled migrant workers in SIDS, let alone on the FSM, Palau, and the RMI, after the World Health Organization (WHO) declaration of the COVID-19 global pandemic. A comprehensive report by the World Bank [9] on the macroeconomic impacts and job prospects of COVID-19 in Pacific island countries did not mention this aspect. This is presum-

ably because employing skilled migrant workers has been taken for granted in these nations, and they are only supposed to evacuate from their duty stations in wartime (including civil war) or similar severe emergency situations. Nevertheless, as shown below, the ways in which highly skilled migrant workers evaporated and the gaps thus created were only anecdotally publicized by media organizations.

Respondents in Palau, the RMI, and the FSM reported that because all their countries applied border control measures to restrict overseas travelers and workers from entering the countries, a substantial number of highly skilled workers returned home or had to remain in other locations and were absent from those countries. International tourism was completely suspended, which, along with the absence of a large number of highly skilled migrant workers, had significant negative impacts in all three countries. It became apparent through the interviews that to fill these labor and skill gaps, the Internet was effectively used in some cases. However, this approach appears to be rather ad hoc. Further details are provided in the following sections.

Some of the difficulties shared by respondents are as follows. The president and some faculty members of Xavier High School in the Chuuk Islands of the FSM, who visited Guam to attend a meeting in March 2020, were stranded in Guam for more than half a year after the FSM closed its borders during its stay in Guam [10]. Their absence highlights the difficulties in managing high schools without key staff on the ground. In other cases, the issue was not entering the country but difficulty leaving due to the unavailability of flights. In Majuro, the capital of the RMI, a chartered flight of Fiji Airways came to Majuro in early April 2020 to pick up at least 44 missionaries from the Church of Jesus Christ of Latter-Day Saints (LDS) for their return to the United States [11]. A few days later, another batch of missionaries from the LDS Church and several Australians took a chartered flight of Nauru Airlines to leave Majuro for Brisbane, Australia [12].

As for the implications of the evaporated high-skilled migrant workers, on Pohnpei Island where FSM capital exists, the state-run hospital suffered a severe shortages of doctors after those from foreign countries returned to their home countries at the onset of the pandemic in early 2020 [13]. The evaporation of medical doctors later induced the cancellation of the planned repatriation flight from Guam to the FSM in early December 2020, which was supposed to return about 297 FSM citizens who had been stranded in Guam since March 2020. The president of the FSM attributed the cancellation to “an emerging capacity shortfall issue with our healthcare responders at the Pohnpei State Hospital” [14].

These medical doctors were supposed to have left the FSM because (a) the medical system in the FSM is not adequate to cope with the COVID-19 pandemic, and (b) they were afraid of possible chaos in the medical system of the FSM and consequent massive fatalities once the virus began to spread on the island. Another informant in Pohnpei told us that it took as long as several hours to consult a

medical doctor in the state-run hospital and that citizens were worried and frustrated to wait in long lines [15]. The same informant suggested that the College of Micronesia carried out distant education through the Internet for some classes, presumably because some faculty members from abroad left the country to return to their home countries.

In Palau, as a result of COVID-19, all flights from mainland China, Hong Kong, and Macau were grounded in February 2020 to restrict people's movements. Since the suspension of most passenger flights, which took place in April 2020, there have been no international tourists. The government plans to reopen the country to a limited number of visitors from Taiwan in April 2021. The lack of tourism has significantly affected in the country. The number of tourists to Palau peaked in 2015 at 162,000 and gradually decreased to 94,000 in 2019 due to the suspension of direct flights and charter flights from Japan and China; only 18,000 tourists were recorded in 2020 due to the pandemic, which mostly accounted for the pre-COVID-19 period [16, 17]. The top three countries contributing visitors to Palau were China, Japan, and Taiwan. However, after the pandemic, not only Japanese tour companies but also American and Taiwanese tour operators have left, and as a whole, four-fifths or two-thirds of foreign migrants seem to have left the country [18]. Most hotels and restaurants that were popular with international tourists have closed during the pandemic.

Almost half of the country's workforce is composed of foreign workers in Palau, with the five largest groups of foreign workers being Filipinos, Chinese, Bangladeshi, Japanese, and Americans. Guest workers held half or more of the production and construction jobs and one-third of all service jobs [19]. On the other hand, approximately half of the Palauan workers are employed in the public sector. Palau became independent in 1994 and began to receive substantial front-end Compact of Free Association payments from the United States for infrastructure development. This new budget has prompted an even greater number of guest workers [19]. Nurses from Fiji and physicians from the Philippines contributed to medical sectors. Accountants and technicians from the Philippines worked in private sector businesses. Professionals from the United States include attorneys and judges [20].

Currently, there are approximately 4,000 immigrants in Palau whose total population is 18,000. The number of Japanese residents has decreased from over 400 to 200 due to COVID-19 [18]. Those engaged in tourism had to return home due to a lack of business. There are concerns about what percentage of guest workers will eventually return to Palau, as they serve as an important role in its economy [21]. According to interview responses, most managers in the tourism sector remained, but foreign workers such as tour guides had to return to their home countries. Although the financial support package, 200 US dollars for part-time workers and 400 US dollars for unemployed individuals, was also provided to foreign workers until January 2021, it was not insufficient to cover the entire range of expenses of living abroad [21].

However, foreigners engaged in medical and educational fields mostly remained in the country. Diplomats and aid workers also stayed in the country, except for the Japan Overseas Cooperation Volunteers (JOCV). As for mission schools, most teachers did not leave, and there seems to have been no major impact. Even though the country was already COVID-19 free, in April 2020, the schools were closed and shifted to online classes. Japanese senior volunteers were very active in power plants in Palau. As a result, one informant mentioned that after their return to Japan, power outages became more frequent and it took longer to restore power [18]. The schedule of one of the ODA projects for airport maintenance was pushed back due to a lack of engineers. In contrast, people managed to complete another ODA activity for the waste disposal site by engaging with local human resources and through web training. The possibility of effective use of the Internet was highlighted.

In 2017, a new submarine cable system was installed to deliver high-speed Internet for improved delivery of services in Palau [22]. Most Palauans now have smartphones and can use the Internet. The distance education system in Palau is relatively well-organized. Wi-Fi is available at schools, but it is not necessarily widespread at home as many families have smartphones but no computers or tablets [18]. In summary, the tourism sector took a big hit in Palau, but most of the highly skilled workers remained in the country despite COVID-19. Where there were gaps, tools such as the Internet and online measures were effectively used.

In the RMI, many highly skilled migrant workers left the country by late March, when the last regular international flight left the airport in Majuro [23]. Missionaries from developed countries who worked in churches and mission schools abruptly left the country following orders to evacuate issued by the headquarters of religious associations located in developed countries. This caused a lack of leaders and teachers to conduct services in churches and classes in mission schools, respectively [24]. Some ODA institutes in the developed world also asked staff members abroad to leave their duty stations and return home to prevent them from infection in countries where medical services are not adequate to cope with pandemics. For example, in early March 2020, the Japan International Cooperation Agency (JICA) called back all members of the JOCV, senior volunteers, experts, and project coordinators stationed in the FSM, Palau, and the RMI. Since the majority of the JOCV members served as teachers in primary and secondary schools, there were no longer enough teachers in these schools [24]. Losing JICA's senior volunteers also impacted the operations of some institutions, such as the garbage incineration plant in Majuro, the RMI.

3.2. Efforts to Fill the Gap

It took more than eight months for the RMI to partially fill the gaps created by the absence of highly skilled migrant workers. The RMI government chartered a Fiji Airways flight from Nadi (Fiji) to Majuro in late November 2020 to bring 49 "essential workers" from Fiji. They

included healthcare workers, pilots, and educators from universities, colleges, and secondary schools [25]. In fact, they were the first batch of people to enter the RMI after it closed its borders in early March 2020. This implies that the RMI has suffered from a shortage of highly skilled migrant workers for a period of eight months. Palau also brought in essential workers via Taiwan in August 2020 after an approximately five-months shortage [26].

4. Discussion

4.1. Necessity of Remote Work Environment

Through literature surveys and interviews, it was found that both distance education and telemedicine should be conducted in SIDS, not only for coping with an emergency, such as the spread of COVID-19, but also during non-emergency times.

A highly skilled migrant worker in SIDS might be obliged to return to his/her home country suddenly, for example, due to family issues, even when no emergency exists. Employing an alternative highly skilled worker to fill this gap is difficult. If the workplace of the migrant worker is equipped for distance education or telemedicine, the worker may carry out some or all of his/her duties while remaining in his/her home country.

Generally speaking, finding a highly skilled foreign worker to work in an SIDS is challenging. However, employing an expert should be much easier under the condition that the expert works in the home country most of the time through distance education or telemedicine and that he/she visits the island country twice a year for a period of one week. The same system should be applicable to other professions, such as the senior manager of a company or even a management post in a government administration.

4.2. Distance Education Even for COVID-19 Free Nations

The possibility of conducting distance education in the developing world is not a new idea. At the beginning of this century, Khan et al. [27] suggested that distance education is one of the promising possible solutions to address the limited availability of on-campus education in the developing world. They maintain that distance education in the developing world was conducted in the last part of the previous century, although it tended to be one-way communications, and that the then emerging concept of “interactive, web-based instruction” should be implemented to realize two-way communications between teachers and students.

Distance education, or tele-education, became very popular from early 2020 in countries affected by the COVID-19 pandemic. This was because both teachers and students were unable to physically come to school because of the lockdowns in their areas. In the FSM, Palau, and the RMI, thanks to the fortunate absence of COVID-19 infected people in the country, students were still able to attend school in person. However, as afore-

mentioned, some schools suffered from the evaporation of teachers from foreign countries. Interestingly and ironically, distance education was needed even in these “COVID-19 free” countries.

In these nations, which belong to the developing world, implementing distance education by allowing students to access the Internet is problematic because many students have no access to the Internet in their homes, as witnessed in the FSM [10]. Fortunately, since students may come to school, the only technology required to carry out distance education is an Internet link at a modest speed between schools and the places where overseas teachers reside. The authors conducted many tele-interviews between people residing in Japan and informants living in the FSM, Palau, and the RMI. Through these experiences, we are confident that Internet links to these nations are sufficiently fast to carry out distance education.

4.3. Telemedicine as a Routine Task

Practicing telemedicine in the developing world is also not a new idea. As early as 1994, the International Telecommunication Union, a body of the United Nations, established a committee to study telemedicine, with due emphasis on its application in developing countries [28]. Wootton and Bonnardot [29] concluded, after an extensive literature survey, that telemedicine in the developing world had great potential. They also cautioned that they found little adoption of telemedicine for routine healthcare delivery, although small-scale pilot projects for telemedicine had been planned and implemented for many years.

Telemedicine became more popular than before in the developed world in the wake of the global COVID-19 pandemic. As Latifi and Doarn [30] (p. 1106) explained, “Suddenly, the medical community and those who finance the health care sector realized that telemedicine and telepresence are applicable, desirable, acceptable, and much sought after by our patients and we can manage just about every disease and condition.” This is mostly because telemedicine may prevent both patients and medical workers from coming into contact with infected people. In April 2020, for the first time in history, the Health Ministry of Japan allowed first-time patients to have consultations and be prescribed medicines by telemedicine, either online or by telephone [31]. The decision was made to avoid contact with medical workers who may have been exposed to patients infected by COVID-19. The prescribed medicine is delivered to patients’ homes by courier to avoid contact between possibly infected people and medical workers in the pharmaceutical sector. The use of telemedicine has increased during the pandemic not only in Japan but also in Europe, the UK, and the USA [32]. Interestingly, 73% of the surveyed medical specialists suggested that they would use telemedicine even after the COVID-19 pandemic ends. This clearly shows that the use of telemedicine generally became popular in the developed world as a result of the conditions of the COVID-19 pandemic.

In the developing world, Kadir [33] suggested that telemedicine would be effective to compensate for the ex-

isting imbalance in the availability of medical workers between rural and urban areas, or among rural areas. COVID-19 infection rates often differed in various regions within a country. The need for medical workers is thus geographically inconsistent. Moving medical workers from one place to another is difficult, particularly during a pandemic. Thus, telemedicine may be an effective measure to mitigate the imbalance in the availability of medical workers between infected and non-infected areas within a country. However, the author found few articles or news clips addressing the use of telemedicine as a countermeasure against the evaporation and subsequent paucity of migrant medical workers in the developing world.

To the best of our knowledge, telemedicine has been successfully used at the Pohnpei State Hospital of the FSM for several years. A pathologist residing in Japan has played a major role. A technician in the FSM sends patients' scanned tissue to the pathologist in Japan for diagnosis, e.g., the tumor is malignant or benign.

This scheme was in operation, not as an ODA project provided by the Japanese government, but on a voluntary basis by a physician stationed in Japan with assistance from information technology experts at the Pohnpei State Hospital. One informant suggested that it has been implemented successfully because the operation scheme was highly flexible as a small voluntary endeavor, rather than being confined to the framework of a large governmental program. Based on its success, "tele-endoscopic examination" was attempted in collaboration with a medical facility in Fiji.

This successful case clearly shows that telemedicine is feasible in the developing nation of the FSM, provided that it is properly designed by taking into consideration the human resources available at both ends. It is also cost-effective, as hospitals in developing nations are not obliged to purchase and maintain costly equipment needed for diagnosis with advanced technology. Telemedicine should work effectively as a measure to cope with the evaporation of medical workers in the developing world during emergencies, such as pandemics. However, telemedicine should not be suddenly implemented in the wake of an emergency. Rather, preparations should be made so that it is already part of daily operations in a country's medical system before the wake of an emergency, as pointed out by Kadir [33].

Table 1 shows the possible paucity of highly skilled migrant workers in the relevant sectors and proposed countermeasures.

5. Conclusion

In conclusion, the author regards both distance education and telemedicine as effective measures to address the sudden evaporation of highly skilled migrant workers in the fields of education and medical services. Other forms of distant work should also be useful in other sectors such as industry and administration. There is one

Table 1. Possible paucity of highly skilled migrant workers and proposed countermeasures.

Sector	Profession	Measures
Administration/ Management	Management	Remote Work Environment
Education	Teacher/Lecturer	Distance Education
Medical Service	Doctor/Technician	Telemedicine

caveat, however. These "tele" or "remote" systems require well-prepared instruments and properly trained human resources at both ends.

Creating such systems may not be accomplished in a short time. It is simply next to impossible to develop such a system from scratch; for example, to cope with a sudden pandemic. These systems should be developed step by step during non-emergency times, and their use needs to be integrated into the daily work of relevant sectors. Assistance from countries in the developed world, that have accumulated knowledge and experience in this field, is likely indispensable to operationalize such systems in the developing world, at least until the ball starts rolling by itself.

Trying to replace highly skilled migrant workers with local people by training them may not work, particularly in the FSM, Palau, and the RMI. This is because the nationals of these nations may migrate to the United States without securing visas owing to the Compact of Free Association (COFA), which was concluded between the two countries in 1986 [34]. Once the nationals of these nations become highly skilled in a particular profession, they tend to migrate to the states rather than staying in the country. Thus, employing highly skilled migrant workers, either for work on the island or in their home countries, seems to be the only viable solution in the foreseeable future.

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