

Article

The Labour Rights Protection of Migrant Fishing Workers in Taiwan: Case Study of Nan-Fang-Ao Fishing Harbor

Huan-Sheng Tseng ¹, Hsin-Hua Tsai ^{2,*} and Po-Hsing Tseng ²¹ Department of Environmental Biology and Fisheries Science, National Taiwan Ocean University, Keelung 20224, Taiwan² Department of Shipping and Transportation Management, National Taiwan Ocean University, Keelung 20224, Taiwan

* Correspondence: remustsai@mail.ntou.edu.tw

Abstract: Marine fisheries are undeniably important to Taiwan in terms of economic development and industrial strategies. In the past 10 years, Taiwan's fishery GDP accounted for 14% to 21% of all agriculture, forestry, fishery, and animal husbandry, which is higher than both animal husbandry and forestry. Since the domestic population structure of Taiwan has changed, the domestic fishery industrial labor force has gradually been replaced by migrant fishing workers. The issue of migrant fishing workers' protection has received attention from non-governmental organizations, and cross-national recruitment administration has become the greatest challenge faced by Taiwan's authority. Therefore, this paper describes the necessary protection of the labor conditions and interests of migrant fishermen by analyzing their status and human rights protection in the historical development of Taiwan's marine fisheries. In addition, considering the well-being of migrant fishing workers, this paper conducts a feasibility assessment on the operation of the "Nan-Fang-Ao Fishermen's Hostel" at the Nan-Fang-Ao Fishing Harbor and illustrates the urgent need to re-examine the migrant fishing workers' protection. This paper suggests that the government agencies should actively advise employers to accept migrant fishermen's requests for better living environments onshore and guarantee basic living conditions.

Keywords: marine fisheries; migrant fishing workers; labor rights protection; fishermen

Citation: Tseng, H.-S.; Tsai, H.-H.; Tseng, P.-H. The Labour Rights Protection of Migrant Fishing Workers in Taiwan: Case Study of Nan-Fang-Ao Fishing Harbor. *Fishes* **2023**, *8*, 73. <https://doi.org/10.3390/fishes8020073>

Academic Editor: Dimitrios Moutopoulos

Received: 1 December 2022

Revised: 20 January 2023

Accepted: 23 January 2023

Published: 26 January 2023

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1. Introduction

Marine fisheries, as the primary form of developing and utilizing marine biological resources, play an essential part in the ocean economy [1]. Marine fisheries are also very important to the economy and well-being of coastal communities, providing food security, job opportunities, income, and livelihoods as well as traditional cultural identity [2]. Marine fisheries are undeniably important to Taiwan in terms of economic development and industrial strategies. Surrounded by the sea, Taiwan has a history of more than 300 years of aquaculture and fishery. Coastal and inshore fisheries are the livelihoods of many fishermen. In the past 10 years, Taiwan's fishery GDP accounted for 14% to 21% of all agriculture, forestry, fishery, and animal husbandry, which is higher than both animal husbandry and forestry [3]. Marine fisheries are characterized by indistinguishable work and living spaces, a high risk of occupational accidents, employment instability, limited vessel space, and a workplace far away from families and communities. For these reasons, the crew requires special protections. In recent years, the issue of protection of foreign crew members' rights and benefits has received attention from non-governmental organizations (NGOs) [4], and cross-national recruitment administration has become the greatest challenge faced by Taiwan's authority [5]. Therefore, this paper examines the necessary protection of the labor conditions and interests of migrant fishermen by analyzing their status and human rights protection in

the historical development of Taiwan's marine fisheries. In addition, considering the well-being of foreign fishermen, this paper conducts a feasibility assessment on the operation of the "Nan-Fang-Ao Fishermen's Hostel" at the Nan-Fang-Ao Fishing Harbor and illustrates the urgent need to re-examine the migrant fishing worker protection.

2. Historical Development of Migrant Fishermen in Taiwan

Due to poor working conditions, the high risk of accidents in the working environment, and low wages, Taiwanese laborers have a low interest in working onboard fishing vessels, resulting in a shortage of fishermen [6]. The domestic fishery workforce cannot meet the needs of the fishery market. For this reason, Taiwanese marine fisheries companies began to hire migrant fishermen as early as 1976. At the time, only fishing vessels operating on foreign bases were allowed to hire foreign fishermen and make up for the insufficient labor of the distant-water fisheries [7]. However, foreign crews could not come ashore with Taiwanese fishing vessels, resulting in the phenomenon that foreign fishermen temporarily lived in "houseboats on the sea [8]."

From 1978 to the late 1980s, when China began to introduce the "Reform and Opening-up Policy [9]," Taiwan obviously had a better economy than mainland China. After the 1950s, Taiwan underwent a series of economic developments, such as the Ten Major Construction projects, the establishment of science-based industrial parks, and the investment in high-tech industries such as integrated circuits (IC), semiconductors, and smartphones, transforming Taiwan's high-tech industries and making Taiwan a model for developing countries. Taiwan, Singapore, South Korea, and Hong Kong are known as the "Four Asian Tigers" for their high economic growth [10]. Due to changes in the industrial structure and rapid growth in inland wages, the younger generation in Taiwan has a low willingness to work at sea. In particular, marine fishing jobs have high risks of accidents, long working hours, and the need to endure seasickness, causing a labor shortage in marine fisheries [6].

In the 1980s, the salaries of novice fishermen in Taiwan were less than those of land-based jobs. When fishing vessel owners or captains could not hire enough crew members, they prioritized their livelihood, circumvented the government's policies and regulations that prohibited their interactions with China, traveled to the neighboring Fujian coast of mainland China, and hired migrant workers from mainland China on Taiwanese fishing vessels. Mainland China and Taiwan share the same language and ethnic groups as well as similar beliefs and cultures. At the time, the wages of Mainland crews were relatively low, making them the top choice for ship owners looking to fill fisherman jobs. As a result, many important fishing harbors in Taiwan (such as Nan-Fang-Ao, Badouzi, Wuqi, Cianjhen, and Donggang) relied on Mainland crews from the Fujian Province of China to supplement the marine labor shortage [8].

Given that hiring Mainland crews to work on Taiwanese fishing vessels is an "unregulated" gray area, Mainland crews could not come close to the harbor and go ashore. They stayed on houseboats, called "sea hotels," specially provided for their accommodations, floating on the sea beyond 12 nautical miles of the territorial waters. In 1993, in response to the shortage of marine fisheries labor and the fact that the Taiwanese government could not effectively address the labor shortage, the government decided to adopt the policy "first sea, then land, and moving from far to near," introduced in China's marine fisheries labor force, and lifted the ban on hiring Mainland crews. In the following year, China's Ministry of Foreign Economic Relations and Trade issued the "Provisional Measures on Issues Related to the Dispatch of Fisherman's Services to Distant-Water Fishing Vessels in the Taiwan Region." Both sides of the Taiwan Strait cooperated on marine fisheries labor services and enacted regulations that allowed fishing vessel owners to legally hire Mainland crews in Taiwan [11].

When Mainland crews entered Taiwan, "sea houseboats" were created to house them temporarily [8]. These overcrowded houseboats accommodated fishermen beyond their capacities and resulted in management issues related to personal safety, hygiene, port

appearance, and humanitarian needs. Accidents that occurred in houseboats at sea were often catastrophic and resulted in many casualties. Since 1989, the "Labor Standards Act" [12] has been applied to foreign workers employed domestically by Taiwanese fishing vessels, and their basic wages are guaranteed. However, due to the special political situation on both sides of the strait, although the employment of Mainland crews was legalized in 1995, the crews are not applicable to the Labor Standards Act since they were employed abroad. At that time, their wages were only NTD 15,000 per month, and some even had a salary of less than NTD 10,000 per month. They were exploited by fishing vessel owners or human resources agencies, so incidents of bloodshed at sea occurred from time to time [6]. On January 21, 2002, the "Employment Services Act" was amended, and Article 46.1.8 of the Act stipulated that a foreign worker may be employed to engage in marine fishing/netting work within Taiwan [13].

As the economy of China grew, Taiwanese ship owners and captains raised the wages of Mainland crews. These wages were insufficient and, consequently, Taiwanese marine fisheries turned to migrant fishermen. The economic development of Southeast Asian countries has been slow compared to China. There has been a gradual increase in the number of foreign fishermen from Southeast Asian countries, mainly from Indonesia, the Philippines, and Vietnam. According to statistics published by the Fisheries Agency, Council of Agriculture, the number of Mainland crews employed by inshore fishing vessels in Taiwan reached a peak of about 9,000 in 2005, compared with 1000 foreign fishermen at the time. By 2014, only 1500 Mainland crews remained, and the number of foreign fishermen gradually increased to over 9,000. As of July 15, 2020, there were 1,854 Mainland crews and 20,954 foreign fishermen employed overseas by Taiwanese fishing companies. Additionally, there were 12,097 foreign crew members employed domestically under the "Employment Service Act," [14] increasing the total to 34,905, as shown in Table 1.

Table 1. Number of foreign crew members employed in Taiwan as at 15 July 2020. (unit: person).

Country	Migrant Fishermen	Migrant Fishermen Employed
	Employed in Distant-Water Fishing	Domestically under the Employment Service Act
Mainland China	1,854	-
Indonesia	13,170	9,074
Philippines	6,144	1,613
Vietnam	1,113	1,379
Thailand	-	31
Myanmar	357	-
Kiribati	42	-
Madagascar	25	-
South Korea	23	-
Vanuatu	17	-
Tanzania	15	-
Bangladesh	14	-
Other Countries	34	-
Total	22,808	12,097

Source: Authors' own based on [15].

At present, the employment of migrant fishing workers in Taiwan can be divided into two categories which are "overseas employment" of foreign fishermen in accordance with the "Regulations on the Authorization and Management of Overseas Employment of Foreign Crew Members" as well as "domestic employment" of foreign crew members in accordance with the relevant provisions of the Employment Service Act [13]. The protection of the rights and interests of "overseas employment" of foreign crew members is mainly based on the authorization of Article 54.5 of the Fisheries Law [16]. On June 28,

2002, the Fisheries Agency, Council of Agriculture, promulgated the "Compliance and Precautions for Fishing Vessel Owners Hiring Foreign National Seafarers Overseas" [17] to regulate the rights and interests of migrant fishermen employed overseas. Following the passage of the "Act for Distant Water Fisheries," [18] in accordance with the authorization of Article 26.3 of this Act, the Council of Agriculture introduced the "Regulations on the Authorization and Management of Overseas Employment of Foreign Crew Members" [19] on January 20, 2017, to regulate the rights and interests of foreign fishermen employed overseas as well as the obligations of fishing vessel owners and human resources agencies [20]. However, the provisions of the "Labor Standards Act" are not applicable to migrant fishermen employed overseas [21].

For any fishing vessel permitted by the competent authority to conduct distant-water fisheries, the fishing vessel owners may employ foreign crew members overseas in accordance with Article 2 of the "Regulations on the Authorization and Management of Overseas Employment of Foreign Crew Members." According to Article 22 of the same Regulations, the foreign crews employed overseas shall embark or disembark at foreign ports. However, fishing vessels return to Taiwan due to changes in fishing areas or annual maintenance, and the foreign crew members recruited by the agents, which are commissioned by the distant-water fisheries operators, may enter Taiwan via aircraft and then leave with the fishing vessel from the port for fishing operations. [22]. Migrant fishing workers hired to board or dismiss a vessel at a foreign port should follow the principle of "overseas employment, operation and repatriation," and foreign crews are not protected by the "Labor Standards Act." As a consequence, the costs for Taiwanese fishing vessel owners to hire migrant fishermen overseas are relatively low. The Ministry of Labor considers that those foreign crew members onboard Taiwan's distant-water fishing vessels are not subject to the Labor Standards Act because those crew members are employed overseas, laid off overseas, and returned directly to their home country after the fishing operation is finished [4].

After Taiwan began to hire migrant fishermen domestically through the Employment Services Act in 1992, "Regulations on the Management of the Crew of Fishing Vessels" [23] were promulgated in accordance with Article 12 of the Fisheries Law. Both domestic and migrant fishing workers qualify for the minimum wage protection of the Labor Standards Act. The so-called "foreign fishing workers" refers to foreign national fishermen employed in accordance with Article 46.1.8 of the Employment Services Act and they are protected by the Labor Standards Law. Their basic wage is the same as that of the people of Taiwan. Since January 1, 2022, the basic monthly wage of Taiwanese workers was adjusted to NT\$25,250 and the basic hourly wage was adjusted to NT\$168 [24]. Consequently, the labor costs for Taiwanese fishing vessel companies to employ foreign fishing workers domestically are relatively high. The applicable laws ruling fishermen employed domestically and foreign crew members overseas are different, which appears to be a dual-track system [4,21].

3. Research Objectives

The 1974 International Convention for the Safety of Life at Sea established safety standards for ship hardware and equipment. Article 94 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) [25] stipulates that the flag state shall bear the responsibilities and obligations of the ship crew's labor conditions, training, equipment, and social affairs [21]. The Work in Fishing Convention (C188) of the International Labour Organization (ILO) came into effect at the end of 2017 [7]. Current regulations refer to the Work in Fishing Convention of the International Labor Organization (ILO C188), requiring the minimum hours of rest per day to be at least ten hours and the minimum rest days per month to be at least four days. To promote responsible marine fisheries, the Food and Agriculture Organization of the United Nations (FAO) also published a Code of Conduct for Responsible Fisheries [26]. The Code specifies that safety and health should meet international norms; safety and health should

be ensured for all crew members; and fishing methods adopted should consider the safety and life of crews to promote the sustainable development of fisheries [27].

In the past, Taiwanese fishing vessel companies heavily relied on Mainland crews. As a result, a number of "Mainland crew onshore accommodation sites" were built to replace houseboats on the sea to improve the crews' living conditions. Article 53 of the "Permission and Management Measures for Transporting and Accommodating Mainland Crews Employed Overseas by Taiwanese Fishing Vessel Owners" [28] stipulates that the onshore settlement premises built by the government may be entrusted to local fishermen's associations or fishery groups for management. When an association or organization cannot operate and manage the sites, a non-government organization may be entrusted to manage them. The onshore accommodation sites shall have dormitories, toilets, restaurants, management centers, laundry rooms, cultural and recreational areas, and other facilities that must comply with fire protection and building regulations. Each site shall have the capacity to accommodate at least 50 people. The floor area of the building is calculated based on the number of people and shall not be less than 3 square meters per person. However, most Mainland crew onshore accommodation sites ceased operations in recent years due to the following reasons: first, there was a decrease in the number of Mainland crews. Second, there were no regulations mandating that foreign fishing workers must stay at onshore accommodation sites. Third, foreign fishing workers want to reduce accommodation expenses. Last, Taiwanese fishing vessel owners are unwilling to subsidize the costs. In Yilan, the County Government announced on January 1, 2019, that the "Nan-Fang-Ao Mainland crew accommodation site" would cease operations, and the site was officially closed on June 30, 2019. The historical development of Mainland crews and foreign fishing workers employed in Taiwan is shown in Table 2.

Table 2. Historical development of the employment of Mainland crews and foreign fishing workers.

Year	Number of Mainland Crews and Foreign Fishing Workers	Place of Residence	Description
1993	Mainland crews were first introduced to Taiwan	Anchored houseboats on the sea outside the fishing harbor	Fire broke out in houseboats and caused casualties to Mainland crews
2001	Mainland crews: 4,000–5,000 Foreign fishing workers: about 1,000	Onshore accommodations were successively built to house Mainland crews	Five onshore accommodation sites for Mainland crews were planned across Taiwan
2005	Mainland crew: about 9,000 Foreign fishing workers: about 1,000	Mainland crews resided in onshore accommodations	Peak of the Mainland crew employment
2014	Mainland crews: 1,000–2,000 Foreign fishing workers: about 9,000	Mainland crews resided in onshore accommodations	Mainland China's economy took off, and wages in Mainland China increased
2019	Mainland crews: 1,000–2,000 Foreign fishing workers: more than 20,000	Mainland crews and foreign fishing workers lived on employers' fishing vessels	Nan-Fang-Ao onshore accommodation site for Mainland crew ceased operations

Source: Created by this research.

The marine fisheries industry has a high risk of occupational injuries and involves long working hours. The working environment on board is confined and harsh, the risk of fatalities is high [6], and research has shown that sleep deprivation is a major concern for the health and safety of marine fishermen [29]. To revitalize buildings and improve the living conditions of foreign fishermen, the Taiwanese government carried out a pilot project in stages to transform the "Nan-Fang-Ao Mainland crew accommodation site" into

the "Nan-Fang-Ao Fishermen's Hostel" to care for the community and provide a comfortable environment at a reasonable cost (completed in 2003, with a building service life of 50 years). This investigation studies the lives of migrant fishermen and evaluates the feasibility of the "Nan-Fang-Ao onshore accommodation site" to avoid the site becoming a "mosquito hall."

The employment relationship between crews and fishing vessel owners is one in which the owner holds direct formal authority over the employee [30]. Fishing vessel owners should offer secure facilities and a proper working environment, as well as benefits and appropriate rest periods for fishermen [31]. In October 2019, the Nan-Fang-Ao bridge in Yilan County collapsed, resulting in the fatalities of three Indonesian and three Filipino fishermen and raising arguments that the government and fishing vessel owners did not pay attention to fishermen's human rights [22]. Accordingly, this paper aims to improve the living conditions of migrant fishermen by conducting a feasibility assessment and proposing a much-needed management plan for the future operation of the "Nan-Fang-Ao Fishermen's Hostel."

4. Research Methodology

4.1. *Opinion Survey of Fishermen and Employers on Nan-Fang-Ao Fishermen's Hostel*

This paper adopted a questionnaire survey to collect opinions from foreign fishing workers and fishing vessel owners who employ foreign crews regarding the Nan-Fang-Ao fishermen's hostel. The crew survey, "Foreign Fishermen's willingness to stay at Nan-Fang-Ao Fishermen's Hostel," asked for participants' nationality, age, years of service, fishing vessel number, type of fishing vessel, onshore accommodations after docking in port, educational background, satisfaction with the quality of the living onboard, willingness to stay Nan-Fang-Ao fishermen's hostel, factors affecting the willingness to stay in the hostel, rental contractors, and accommodation fees. The fishing vessel owner survey, "Fishing vessel owners' view on foreign fishermen's accommodations," inquired whether employers were willing to allow the crew to stay in the hostel, whether they were unwilling to allow the crew to stay in the hostel and why, and whether they were not willing to subsidize the crew's accommodation expenses and why. The questionnaire was rated on a 4-point (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree), 5-point (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree), or 6-point (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree) scale. The higher the rating on the Likert scale, the higher the level of agreement the participants had towards the statement in the question.

In terms of sampling of foreign fishing workers, participants were recruited from 1,908 fishermen employed overseas in accordance with the Employment Services Act under the supervision of the Marine and Fisheries Development Office of Yilan County. A total of 138 questionnaires were distributed. After removing 13 invalid questionnaires, a total of 125 valid questionnaires were collected. In terms of the Mainland crew, there were 52 registered fishermen, 10 copies of questionnaires were distributed, and all 10 questionnaires were valid. With regard to fishing vessel owners registered in Yilan County, a total of 116 questionnaires were distributed, and 108 valid questionnaires were obtained after discarding 8 invalid questionnaires. This paper adopted a convenience sampling method, and the field investigation occurred from September 2020 to December 2020. A total of 6 investigators distributed and collected questionnaires in person.

4.2. *Financial Feasibility Analysis of the Hostel*

This paper proposed two options: Option 1, the hostel provides a place for temporary rest without overnight accommodation. Option 2, the hostel provides housing and recreation for migrant fishing workers. Considering different monthly fees and relevant costs, the Net Present Value method was used to evaluate the return on investment of different scenarios and further deduce feasible implementation plans.

5. Findings

5.1. Fisherman and Employer Surveys on Nan-Fang-Ao Fishermen's Hostel

5.1.1. Foreign Fishing Workers

A total of 71 Indonesian (about 57%) and 54 Filipino (about 43%) fishermen participated in the paper, which are similar to the actual ratio of foreign fishing workers employed by fishing vessel owners in Yilan. Most of the fisherman participants were between 31 and 40 years old ($n = 77$; 62%). Almost all of them ($n = 123$; 99%) were under 50 years old. Only two people were aged above 51 ($n = 2$; 1%). It was evident that ship owners preferred to hire young foreign fishermen, especially those under 40 years old (79%). After getting off work, foreign fishermen basically live on the fishing vessel. All 125 foreign fishing workers (100%) stayed onboard when docking in the Nan-Fang-Ao harbor. In terms of satisfaction with onboard living conditions and quality, 11 participants (9%) were very satisfied; 27 were satisfied (21%); and 76 were neutral (61%). Only 11 were dissatisfied, accounting for 9% of the participants. According to the feedback received in field investigations, foreign fishing workers were willing to live onboard if ship owners took good care of their living environment.

If ship owners pay partial (or full) expenses or foreign fishing workers pay partial expenses, 84 foreign fishermen (67%) are willing and 41 people are unwilling (33%) to stay in the Nan-Fang-Ao Hostel. Possible factors affecting foreign fishermen's willingness to stay in the hostel included rent ($n = 72$; 58%), the attitude of the fishing vessel owner ($n = 12$; 9%), and other factors (the environment of the hostel, friends from the same country, etc.) ($n = 41$; 33%). Therefore, if foreign fishing workers do not need to pay the cost, most of them are willing to stay in the Nan-Fang-Ao Fishermen's Hostel. A total of 61 (51%) foreign fishermen believed that government should be responsible for the hostel management, while 23 participants (19%) thought fishing vessel owners should be responsible. A total of 41 people (30%) had no opinions.

5.1.2. Mainland Crews

Of the Mainland crew participants, one was between 41 and 50 years old ($n = 1$; 10%), and the other nine people were over 51 years old ($n = 9$; 90%), implying that Mainland crews appeared to be older. Based on the investigation of this paper, most Mainland crew members were hired by Taiwanese fishing vessel owners in the early days. Even though wages in mainland China have gone up, these crews were still willing to continue to work in Taiwan. Given their experience in maritime work, most crew members play important roles. Their salaries mostly range from NTD 40,000 to NTD 75,000 with additional bonuses, which are different from the salaries of Indonesian or Filipino fishermen. Mainland crews have already served on Taiwanese fishing vessels for more than ten years. Taiwanese fishing vessel owners thought that these fishermen were very experienced, had worked with them for many years, and had established good relationships with each other. Consequently, few owners are still willing to pay higher wages to hire Mainland crews.

Mainland crews stayed onboard after work, and the 10 participants (100%) all lived onboard in the Nan-Fang-Ao harbor. If partial (or full) expenses are paid by the ship owner or partial expenses are paid by the Mainland crews, 8 participants ($n = 8$; 80%) are willing and 2 participants ($n = 2$; 20%) are unwilling to stay in the Nan-Fang-Ao Fishermen's Hostel. Mainland crews believed that the interior space and facilities of the Nan-Fang-Ao Fishermen's Hostel should include a social center, gym, wireless internet, air conditioners, refrigerators, televisions, washing machines, clothes dryers, water dispensers, and charging stations for electric scooters or bicycles. The needs of Mainland crews are nearly the same as for foreign fishing workers.

5.1.3. Fishing Vessel Owners Who Employed Foreign Fishing Workers

Approximately 92% of fishing vessel owners were unwilling to allow their foreign crews to stay in the Nan-Fang-Ao Fishermen's Hostel for the reasons of "increased cost" (n = 87; 80%), followed by "unknown reason (n = 10; 9%)" and "difficult to manage (n = 3; 3%)." The reasons why the employers are unwilling to subsidize the accommodation of foreign fishermen were "increased costs (n = 54; 50%)," followed by "fear of missing crew members before leaving the port/not knowing the whereabouts of crew members (n = 16; 15%)," and "no one taking care of the fishing vessels (n = 13; 12%)." It appeared that most employers were reluctant to allow the crew to stay in the onshore hostel because of the consideration of costs, and they were unwilling to subsidize the crew members' accommodation costs. Table 3 shows the survey results of the fishermen and their employers on Nan-Fang-Ao Fishermen's Hostel.

Table 3. Survey results on Nan-Fang-Ao Fishermen's Hostel.

	Questionnaires	Survey Results
Foreign fishing workers	1. Nationality distribution	1. Indonesian (n = 71; 57%); Filipino (n = 54; 43%)
	2. Age distribution	2. under 50 years old (n = 123; 99%); above 51 (n = 2; 1%)
	3. Staying onboard after getting off work	3. all of 125 fishermen (n = 125; 100%)
	4. The satisfaction with onboard living conditions and quality	4. very satisfied (n = 11; 9%); satisfied (n = 27; 21%); neutral (n = 76; 61%), and dissatisfied (n = 11; 9%)
	5. Fishermen's willingness to stay in the hostel if owners pay partial (or full) expenses	5. willing (n = 84; 67%); unwilling (n = 41; 33%)
	6. Factors affecting fishermen's willingness to stay in the hostel	6. rental cost (n = 72; 58%); the attitude of owners (n = 12; 9%), and other factors (the environment of the hostel, friends from the same country, etc.) (n = 41; 33%)
	7. The responsibility of hostel management	7. government (n = 61; 51%); fishing vessel owners (n = 23; 19%), and no opinion (n = 41; 30%)
Mainland crews	1. Age distribution	1. between 41 and 50 years old (n = 1; 10%); over 51 (n = 9; 90%)
	2. Staying onboard after getting off work	2. all of 10 fishermen (n = 10; 100%)
	3. Fishermen's willingness to stay in the hostel if owners pay partial (or full) expenses	3. willing (n = 8; 80%); unwilling (n = 2; 20%)
Fishing vessel owners	1. Owners' willingness to allow their fishermen to stay in the hostel	1. willing (n = 8; 8%); unwilling (n = 100; 92%)
	2. Reasons of not allow fishermen to stay in the hostel	2. increased costs (n = 87; 80%); unknown reason (n = 10; 9%), and difficult to manage (n = 3; 3%)
	3. Reasons of unwillingness to subsidize fishermen to stay in the hostel	3. increased costs (n = 54; 50%); fear of missing crews before leaving the port/not knowing the whereabouts of crew members (n = 16; 15%); no one taking care of the fishing vessels (n = 13; 12%), and others (security issues, requiring fishermen to stay onboard, etc.) (n = 25; 23%)

Source: Created by this research.

5.2. Financial Analysis Results

5.2.1. Plan Option 1: Provide Foreign Fishing Workers and Mainland Crews with a Place for Temporary Rest without Overnight Accommodations

The present value was assessed using the Net Present Value method. If the present value is greater than 0, then the Plan is worth investing in. The assumption is that the construction cost of Nan-Fang-Ao Foreign Fishermen's Hostel is 0 NTD (government investment), and the building service life is 30 years. During the operation period, four people are employed at a rate of NTD 37,000 per month for a total annual personnel expense (including year-end bonus) of NTD 1,998,000 ($= 37,000 \times 4 \times 13.5$). The annual fixed water and electricity costs total NTD 400,000, and the total annual fixed cost is NTD

2,398,000 (considering the personnel cost of NTD 1,998,000 and the utility fee of NTD 400,000 only). Assuming the hostel can serve 185 people and the daily operating hours are 5 am to 9 pm, and the annual interest rate of bank savings accounts is 1%. The evaluation results based on different scenarios of monthly fishermen's usage fees are described below.

(1) Normal conditions (assuming the annual fixed cost is NTD 2,398,000 (considering the personnel cost of NTD 1,998,000 and the utility cost of NTD 400,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,080 and the annual revenue of the hostel is NTD 2,397,600 ($= 1,080 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,397,600 - 2,398,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,081 and the annual revenue of the hostel is NTD 2,399,820 ($= 1,081 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,399,820 - 2,398,000) \times (1.01)^{-j}$$

(2) Optimistic conditions (assuming the annual fixed cost is NTD 2,298,000 (considering the personnel cost of NTD 1,998,000 and the utility cost of NTD 300,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,035 and the annual revenue of the hostel is NTD 2,297,700 ($= 1,035 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,297,700 - 2,298,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,036 and the annual revenue of the hostel is about NTD 2,299,920 ($= 1,036 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,299,920 - 2,298,000) \times (1.01)^{-j}$$

(3) Pessimistic conditions (assuming the annual fixed cost is NTD 2,498,000 (considering the personnel cost of NTD 1,998,000 and the utility cost of NTD 500,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,125 and the annual revenue of the hostel is NTD 2,497,500 ($= 1,125 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,497,500 - 2,498,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,126 and the annual revenue of the hostel is NTD 2,499,720 ($= 1,126 \text{ (yuan/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (2,499,720 - 2,498,000) \times (1.01)^{-j}$$

- Brief Summary: As shown in Table 4, if the monthly usage fee per person is higher than NTD 1,081 NTD 1,036 and NTD 1,126 the plan is worth the investment for normal conditions, optimistic conditions, and pessimistic conditions, respectively.

Table 4. Net Present Value comparisons without overnight accommodations.

	Parameter	Normal Condition	Optimistic Condition	Pessimistic Condition
Scenario 1	Monthly usage fee per person	NTD 1,080	NTD 1,035	NTD 1,125
	Present Value	−NTD 10,323	−NTD 7,742	−NTD 12,904
	Evaluation Result	Not worth the investment	Not worth the investment	Not worth the investment

Scenario 2	Monthly usage fee per person	NTD 1,081	NTD 1,036	NTD 1,126
	Present Value	NTD 46,971	NTD 49,551	NTD 44,390
	Evaluation Result	Worth the investment	Worth the investment	Worth the investment

Source: Calculated by this research.

5.2.2. Plan Option 2: Provide accommodation and recreation for foreign fishing workers and Mainland crews

The present value was assessed using the Net Present Value method. If the present value is greater than 0, the plan is worth investing in. Assuming the construction cost of Nan-Fang-Ao Foreign Fishermen's Hostel is 0 NTD (government investment), and the building service life is 30 years, during the operation period, six people are employed, and each will be paid at a rate of NTD 37,000 per month for a total annual personnel expense (including year-end bonus) of NTD 2,997,000 ($= 37,000 \times 6 \times 13.5$). The annual fixed water and electricity costs total NTD 500,000 and the total annual fixed cost is NTD 3,497,000 (considering the personnel cost of NTD 2,997,000 and the utility fee of NTD 500,000 only). Assuming the hostel can serve 185 people (90 people in Phase one, 95 people in Phase two), the annual interest rate of bank savings accounts is 1%. The evaluation results based on different scenarios of monthly fishermen usage fees are described below.

(1) Normal conditions (assuming that the annual fixed cost is NTD 3,497,000 (considering the personnel cost of NTD 2,997,000 and the utility cost of NTD 500,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,575 and the annual revenue of the hostel is NTD 3,496,500 ($= 1,575 \text{ NTD/month} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,496,500 - 3,497,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,576 and the annual income of the hostel is NTD 3,498,720 ($= 1,576 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,498,720 - 3,497,000) \times (1.01)^{-j}$$

(2) Optimistic conditions (assuming the annual fixed cost is NTD 3,397,000 (considering the personnel cost of NTD 2,997,000 and the utility cost of NTD 400,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,530 and the annual revenue of the hostel is NTD 3,396,600 ($= 1,530 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,396,600 - 3,397,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,531 and the annual revenue of the hostel is NTD 3,398,820 ($= 1,531 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,398,820 - 3,397,000) \times (1.01)^{-j}$$

(3) Pessimistic conditions (assuming the annual fixed cost is NTD 3,597,000 (considering the personnel cost of NTD 2,997,000 and the utility cost of NTD 600,000 only)):

- Scenario 1: The monthly usage fee per person is NTD 1,619 and the annual revenue of the hostel is NTD 3,594,180 ($= 1,619 \text{ (NTD/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,594,180 - 3,597,000) \times (1.01)^{-j}$$

- Scenario 2: The monthly usage fee per person is NTD 1,621 and the annual revenue of the hostel is NTD 3,598,620 ($= 1,621 \text{ (yuan/month)} \times 12 \text{ (month)} \times 185 \text{ (person)}$).

$$\text{Present Value} = \sum_{j=1}^{30} (3,598,620 - 3,597,000) \times (1.01)^{-j}$$

- Brief Summary: As shown in Table 5, if the monthly usage fee per person is higher than NTD 1,576 NTD 1,531 and NTD 1,621 the plan is worth the investment for normal conditions, optimistic conditions, and pessimistic conditions, respectively.

Table 5. Net Present Value comparisons with accommodations and recreation.

	Parameter	Normal condition	Optimistic Conditions	Pessimistic Conditions
Scenario 1	Monthly usage fee per person	NTD 1,575	NTD 1,530	NTD 1,619
	Present Value	−NTD 12,904	−NTD 10,323	−NTD 72,779
	Evaluation Result	Not worth the investment	Not worth the investment	Not worth the investment
Scenario 2	Monthly usage fee per person	NTD 1,576	NTD 1,531	NTD 1,621
	Present Value	NTD 44,390	NTD 46,971	NTD 41,809
	Evaluation Result	Worth the investment	Worth the investment	Worth the investment

Source: Calculated by this research.

6. Discussion

6.1. Survey of Foreign Fishing Workers' Willingness to Stay in the Hostel

According to the survey results, foreign fishing workers were relatively young, and their salary was about NTD 24,000. Due to the narrow width of fishing vessels with the classification below CT2, foreign fishing workers serving on those fishing vessels were more likely to stay in the hostel than those who served on those with the classification above CT3. Most Mainland crews have over ten years of experience, and they tend to be older than other foreign fishermen. The wages of Mainland crews (ranging from approximately NTD 40,000 to NTD 75,000 plus bonuses) are higher than other foreign fishing workers. Mainland crews have higher salaries and enjoy higher economic status. Accordingly, such crews have greater intention to stay in the Nan-Fang-Ao Fishermen's Hostel regardless of the type of fishing vessel (below CT2 or above CT3) on which they serve.

6.2. Main Considerations for Staying in the Hostel

The results of this paper show that almost all foreign fishing workers and Mainland crew are willing to stay in the hostel based on the following two conditions: First, foreign and Mainland crews do not need to pay for the accommodation costs. Second, the fishing vessel owners agree with their stay in the hostel. Foreign or Mainland fishermen leave their hometowns and come to Taiwan for work with the main purpose of improving the economic conditions of their families. They hope to earn more money during their stay in Taiwan; therefore, cutting expenses is one of their main considerations.

Most fishing vessel owners consider that the service quality of the foreign or Mainland fishermen's living conditions on the fishing vessels is good, and most of them are unwilling to allow foreign or Mainland crews to live in the hostel. The main reasons are that fishing vessel owners are worried about increased costs and leaving empty vessels unattended may cause security issues. As a result, fishing vessel owners are mostly reluctant to allow foreign fishing workers or Mainland crews to stay in the hostel.

The fishing vessel owners have direct employment relationships with foreign or Mainland crews, where the employees must obey the employers who control their source of income [13]. Therefore, foreign or Mainland crews must obey the command, supervision, and management of fishing vessel owners. There are inevitable differences

in identities and roles between the two groups, and their views and attitudes are bound to differ significantly. As such, overcoming differences in subjective views between the two parties and convincing the fishing vessel owners to allow their foreign or Mainland Chinese employees to stay in the "Nan-Fang-Ao Fishermen's Hostel" is the key to whether the hostel can be successfully promoted.

6.3. Living Facility Planning

This paper found that foreign fishing workers are mostly young, strong, and full of energy. Therefore, it is recommended that the hostel purchases fitness equipment, such as weightlifting equipment, treadmills, elliptical machines, and other common fitness machines. Thus, the crews can use their spare time to improve their body strength, maintain good health, and enhance the efficiency of maritime work. The foreign fishing workers suggested that the indoor space and amenities of the "Nan-Fang-Ao Fishermen's Hostel" should have a wireless network, air-conditioning, refrigerators, televisions, washing machines, clothes dryers, and water dispensers. These items are necessities for the lives of modern people. By providing these amenities, the hostel could assist foreign fishing workers in attaining a better balance between their bodies and mind and improve their lives overall.

6.4. Religious Space Planning

Indonesian fishermen account for about 60% of all foreign fishermen in Taiwan. They also make up the majority of foreign fishermen in the Yilan area, and most of them are religious Muslims. If part of the space in Nan-Fang-Ao Fishermen's Hostel is reserved for religious worship, the overall Indonesian crews' spiritual well-being will be enhanced.

6.5. The recommendations Related to the Operations and finances of the Nan-Fang-Ao Fishermen's Hostel

To improve the living conditions of the migrant fishing workers, this paper makes the following recommendations related to the operations and finances of the Nan-Fang-Ao Fishermen's Hostel:

(1) Plan Option 1: Provide temporary rest without accommodation for migrant fishing workers or Mainland crews.

In plan option 1, "Nan-Fang-Ao Fishermen's Hostel" will only provide space and facilities accessible to migrant fishermen for temporary rest during the day. The hostel is expected to serve 185 people and is open from 5 am to 9 pm for a total of 16 hours per day (closed between 9 pm and 5 am). In terms of personnel, it is recommended to assign three security personnel (including one person who also serves as the managing director responsible for the general administrative matters of the hostel) to maintain the safety of the hostel during the 16 hours of daily operation. Two staff are on duty every day, and each shift lasts 8 hours. An additional person is appointed as full-time cleaning staff, responsible for cleaning and disinfecting the hostel daily. A total of four people is needed for the operation and management of the hostel. The financial analysis is based on the Net Present Value method, which sets out that, under normal circumstances, the plan is worth investing in if the monthly usage fee per person is greater than NTD 1,081.

(2) Plan Option 2: Provide accommodation and recreation for foreign fishing workers or Mainland crews.

Since 2019, the Fisheries Agency has been discussing the revitalization of the "Nan-Fang-Ao Fishermen's Hostel" and recommended that the number of people staying in the hostel should be limited to 185 (90 in the first phase and 95 in the second phase). It is recommended that four security personnel (including one person who also serves as the managing director of the hostel) should be assigned to maintain the safety of the hostel 24 hours a day. Three people are on duty every day on an 8-hour shift. One person will serve as an accountant who is responsible for collecting monthly fees and managing water,

electricity, and network-related expenses. Another person will be assigned as full-time cleaning staff, responsible for cleaning and daily disinfection of the hostel. Thus, a total of six people are needed for the operation and management. According to the financial analysis using the Net Present Value method, under normal circumstances, the plan is worth investing in if the monthly rent per person is greater than NTD 1,576.

7. Conclusions

The perils of marine fisheries include hazardous working conditions, strenuous labor, long work hours, and harsh weather [32]; therefore, being a fishing worker is considered to be a less attractive job. Moreover, extreme weather and working with heavy equipment contribute to a high mortality rate in fishermen [6,33]. The migrant fishermen are confined to specific fishing vessels during work, and they are essentially on standby during non-working hours due to the nature of maritime jobs. It is a challenge for fishermen to have regular holidays and weekends [30]. Consequently, the "Nan-Fang-Ao Fishermen's Hostel" should provide foreign fishing workers with a variety of accommodation options or recreational activities at an affordable price after they enter the harbor. Foreign fishing workers have provided feedback that they are unwilling to pay an additional fee for living ashore. They have also specified that the accommodation site must not be located too far from the harbor. To protect the labor rights of foreign fishing workers, this paper makes the following recommendations to incentivize fishermen to stay in the hostel.

First, it is suggested that the Yilan County government, the Fisheries Agency of the Council of Agriculture within the Executive Yuan, and the Ministry of Labor cooperate to use the Employment Security Fund to subsidize all or part of the operating expenses of the "Nan-Fang-Ao Fishermen's Hostel," and try to reduce the monthly fee or rental fee of foreign fishing workers. An alternative is to subsidize outsourced companies through a project to avoid operating losses in order to revitalize the function of the hostel and improve the living environment of foreign fishing workers.

Second, in 2018, the Ministry of Labor included foreign fishing workers in the "Standards for Foreign Workers' Living and Service Plans," [34] requiring employers (fishing vessel owners) to provide a living environment that meets the standards [35]. The government may initiate a mechanism for investigating and improving compliance with these standards [31]. Research has shown that structural, social, and economic policy decisions impact the health of working laborers [36]. It is suggested that fishing vessel owners should receive governmental consultation if their vessels are unable to fit the standard of good living conditions. The government agencies should actively advise employers to accept migrant fishermen's requests for better living environments onshore and guarantee basic living conditions and human rights [7,37,38].

With the efforts of the industries and the government agencies, the needs of the marine fisheries industry will be satisfied and the labor rights in marine fisheries will be protected, creating a win-win situation.

Author Contributions: Conceptualization, H.-S.T. and H.-H.T.; methodology and formal analysis, H.-S.T. and H.-H.T.; software, H.-S.T., H.-H.T., and P.-H.T.; investigation, H.-S.T. and H.-H.T.; resources, H.-S.T. and H.-H.T.; data curation, H.-S.T., H.-H.T., and P.-H.T.; writing—original draft preparation, H.-S.T. and H.-H.T.; writing—review and editing, H.-S.T., H.-H.T., and P.-H.T.; supervision and project administration, H.-S.T. and H.-H.T. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Marine and Fisheries Development Office, Yilan County.

Institutional Review Board Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: This research was supported by the research project "Feasibility plan of Nan-Fang-Ao Fishermen's Hostel" from the Marine and Fisheries Development Office, Yilan County. We

want to express our gratitude to the migrant fishing workers and their employers willing to be interviewed. We are very grateful to those who provided critical and helpful suggestions concerning the early draft of this article. We also thank the four anonymous (unknown) reviewers and the editor for their comments.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study.

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