

# Research Horizon

ISSN: 2808-0696 (p), 2807-9531 (e)

Research Horizon

Volume: 04

Issue: 05

Year: 2024

Page: 181-188

## Migrant Worker Evacuation Strategies in Indonesia's Overseas Oil and Gas Operations: A Conceptual Approach

Imam Santoso<sup>1\*</sup>, M. Iman Sudirman<sup>1</sup>, M. Nurman Helmi<sup>1</sup>, Jaja Suteja<sup>1</sup>, M. Sidik Priadana<sup>1</sup>, Maun Jamaludin<sup>1</sup>, Fatma Lestari<sup>1</sup>

<sup>1</sup> Department of Management Science, Pasundan University; Bandung, Indonesia

\* Corresponding author: Imam Santoso ([imams6545@gmail.com](mailto:imams6545@gmail.com))

### Abstract

Migrant worker evacuation strategies are vital for ensuring safety and operational continuity in high-risk sectors, particularly the oil and gas industry. Despite global safety policies, significant challenges in implementing effective evacuation strategies remain, as demonstrated by an Indonesian oil and gas company operating in Algeria and Iraq. Issues such as unclear protocols, limited resources, and poor inter-party coordination persist. This study utilizes a conceptual approach to examine the evacuation management strategies for migrant workers in these high-risk environments through a qualitative multiple case study approach, including interviews, focus group discussions, and AI-driven data analysis. The research identifies strengths in legal frameworks, planning, and technology, but also highlights critical gaps in evaluation, resource allocation, and organizational coordination. These gaps require more integrated and adaptive strategies. The study underscores the importance of communication, digital technology, and robust data protection in improving evacuation efficiency while safeguarding privacy. This research contributes to risk and crisis management literature, offering practical insights for multinational companies in the oil and gas sector. By optimizing migrant worker evacuation strategies, companies can enhance safety, operational sustainability, and crisis resilience, ultimately leading to more comprehensive and effective evacuation plans for their workforce in complex, high-risk environments.

### Keywords

Migrant worker evacuation, Oil and gas industry, Crisis management, Risk management, Digital technology.

## 1. Introduction

Migrant worker evacuation strategies are crucial for ensuring the safety and continuity of operations in high-risk environments, particularly in industries such as oil and gas. This is especially true for Indonesia's national energy company, which operates in volatile regions like Algeria and Iraq. The company's operational success depends not only on technical expertise but also on its ability to address external threats such as security issues, natural disasters, and political instability. Effective evacuation management has become an urgent priority to ensure business sustainability and protect the well-being of its workforce in these hazardous locations (Boers & Henschel, 2021). Clear procedures, accessible resources, and robust coordination among stakeholders are essential to guarantee worker safety and operational continuity in such risky environments.

This study aims to enhance evacuation strategies by evaluating the Indonesian oil and gas company's experience in Algeria and Iraq. It adopts frameworks like Organizational Resilience and Risk Management Theory to develop a systematic, adaptable risk mitigation strategy. Existing evacuation efforts often overlook local social, cultural, and political factors, which are critical for effective implementation. By addressing this gap, this research proposes a more holistic and context-specific approach to evacuation management in the oil and gas industry.

The challenges faced by the Indonesian company in managing evacuations in Algeria in 2020 and Iraq in 2022 reveal several critical issues, including unclear evacuation protocols, limited resources, and inadequate coordination. These issues highlight the need for more integrated and responsive evacuation strategies. The lack of well-defined evacuation procedures can lead to confusion during emergencies, while limited access to necessary resources like transportation and medical services can delay evacuations, particularly in remote or conflict-prone areas. Minimal coordination between various stakeholders exacerbates these problems, underscoring the need for collaborative efforts to enhance evacuation efficiency (ICOH Statement on Protecting the Occupational Safety and Health of Migrant Workers, 2022; Lee, 2021).

Several areas need further research to improve evacuation strategies for migrant workers in the oil and gas sector, particularly in conflict-affected regions like Algeria and Iraq. Previous studies often apply universal approaches that fail to consider specific country conditions, such as political tensions, terrorist threats, and inadequate infrastructure. Additionally, many studies focus solely on technical evacuation procedures without addressing the social, cultural, and economic factors that influence the success of evacuation strategies. Furthermore, the potential of modern technologies such as geographic information systems and predictive modeling to enhance evacuation management has not been fully explored. Finally, worker involvement in the planning and execution of evacuation strategies has been insufficiently addressed, despite its potential to improve the effectiveness of these strategies (Wu et al., 2024).

This preliminary research seeks to fill these gaps by using a conceptual approach to examine proposed strategies in the Indonesian oil and gas company's evacuation plans. Previous studies have explored various aspects of migrant worker evacuation, such as the challenges in repatriation, vulnerability, and disaster risk reduction. For example, the studies by Liao (2024), Méndez et al. (2020), Stoklosa et al. (2021), Liao (2020), Yap and Opiniano (2024), Khan and Arokkiaraj (2021), Rajan and Arokkiaraj (2022), and Rao (2020) provide valuable insights into migrant worker evacuation strategies, particularly in crisis situations. Liao (2024) highlights the complexities of repatriation for Filipino workers, while Méndez et al. (2020) address the vulnerability of undocumented migrants, stressing the importance of inclusive evacuation protocols. Stoklosa et al. (2021) focus on disaster risk reduction and

preventing trafficking, emphasizing collaboration among stakeholders. Liao (2020) discusses lessons from large-scale repatriations, and Yap and Opiniano (2024) reflect on crisis-responsive reintegration strategies. Khan and Arokkiaraj (2021) and Rajan and Arokkiaraj (2022) examine the challenges of reverse migration and return migration, particularly during the COVID-19 pandemic. Rao (2020) addresses the treatment of internal migrants during crises, underlining the need for adaptable and inclusive evacuation strategies. In this context, this study contributes to proposed strategies in the Indonesian oil and gas company's evacuation strategies for overseas operations.

## **2. Research Method**

This preliminary research uses a conceptual approach to examine proposed strategies in the Indonesian oil and gas company's evacuation strategies for overseas operations. This research adopts a qualitative approach with a multiple case study design to investigate the evacuation strategies implemented by Indonesian oil and gas companies in Algeria and Iraq. The design allows for a comparative analysis of evacuation patterns, challenges, and successes across these locations while considering the contextual factors that influence the effectiveness of these strategies. The study contributes to the field by examining the complex operational dynamics in high-risk environments, integrating aspects such as outsourcing, supply chain dynamics, and organizational responsibilities. By exploring the relationship between operational processes, schedules, and risk management, this research provides a more holistic and data-driven framework for improving evacuation strategies in the oil and gas sector. It also emphasizes the integration of social, cultural, and operational risks in the specific context of overseas work locations, making the findings highly relevant to multinational companies operating in high-risk environments. Data analysis techniques, such as data reduction, presentation, and triangulation, were employed to identify key themes, patterns, and relationships in the data. This research provides valuable insights into improving evacuation strategies by addressing both operational and organizational factors, offering evidence-based recommendations for companies facing similar challenges in high-risk locations.

## **3. Results and Discussion**

The conceptual research findings offer valuable insights into the effectiveness of evacuation management strategies employed by Indonesian oil and gas companies operating in high-risk regions like Algeria and Iraq. Through in-depth interviews with 25 key stakeholders, the study provides a comprehensive analysis of strategic indicators, shedding light on both the strengths and weaknesses of current evacuation practices. The findings highlight several positive aspects of the evacuation plans, including robust legal and ethical policies, productive government collaboration, and effective external engagement. These factors were consistently identified as strengths, demonstrating the importance of regulatory support and inter-institutional cooperation in ensuring the safety of migrant workers. Additionally, the strategic use of information technology emerged as a key strength, facilitating effective planning and execution of evacuation operations by integrating digital tools into crisis management processes (Spitzer et al., 2023).

However, the study also reveals several challenges that need to be addressed to improve the overall effectiveness of evacuation strategies. One of the primary concerns is the organisational structure, particularly the lack of internal coordination. The research indicates that clearer roles, responsibilities, and communication channels within the company are necessary to ensure smooth execution of evacuation plans. Additionally, resource and logistical constraints, such

as limited access to transportation and medical facilities, pose significant obstacles, particularly in remote or conflict-prone areas. The study also found that the current evaluation and learning mechanisms are underdeveloped, failing to incorporate lessons learned from previous evacuations into updated strategies. This issue highlights the need for more systematic and continuous evaluation processes to enhance organisational preparedness and responsiveness to crisis situations (Spitzer et al., 2023).

Another key finding is the observed differences in evacuation management between Algeria and Iraq. The research found that communication effectiveness was notably higher in Iraq than in Algeria, underscoring the importance of contextual adaptation in evacuation strategies. The political, cultural, and infrastructural conditions in each location influence the success of evacuation plans, highlighting the need for tailored strategies that account for local circumstances. For instance, while Iraq benefits from more robust communication networks, Algeria presents challenges in logistical infrastructure, which affects the efficiency of evacuation operations. These differences emphasize the critical role of local context in shaping the design and implementation of evacuation strategies, suggesting that a one-size-fits-all approach may not be appropriate in such high-risk environments (Lu et al., 2024; Rahmasari, 2022; Hossain, 2022; Maharani, 2023; Fauzi, et al., 2022).

The study also delves into the broader social and ethical implications of evacuation strategies. While the focus of the research was on operational effectiveness, the findings emphasize the need for multinational companies to foster positive relationships with local communities and uphold high ethical standards. The integration of digital technologies in evacuation management, while beneficial in many ways, also raises concerns about worker privacy and data security. As companies adopt more advanced tracking and communication tools, it becomes crucial to establish robust data protection policies that ensure the privacy and security of workers' personal information. This is especially important in the context of migrant workers who may be particularly vulnerable to privacy violations. The study calls for transparency in the use of these technologies and the implementation of encryption and limited access measures to safeguard both worker trust and corporate integrity (Spitzer et al., 2023).

From both a practical and theoretical standpoint, the research offers significant contributions to the field of evacuation management. The findings reinforce the importance of strategic planning and the integration of technology in creating resilient evacuation frameworks. The use of digital tools such as GPS tracking and emergency communication apps has proven to enhance coordination and responsiveness, aligning with established crisis management theories. The research also highlights the necessity of cross-stakeholder collaboration in developing effective evacuation strategies. This includes not only the oil and gas companies but also local governments, international organizations, and other relevant stakeholders (Husni, et al., 2023; Husnah, et al. (2023; Wairisal, 2023; Dayanti, & Nurchayati, 2023). The study suggests that better communication and resource-sharing among these entities could significantly improve the overall effectiveness of evacuation operations (Nordin et al., 2021).

Furthermore, the research underscores the importance of a holistic approach to evacuation preparedness. It highlights the role of regular evacuation simulation training and educational programs for migrant workers, which can enhance their readiness in the face of potential crises. This focus on training not only ensures the safety of workers but also contributes to maintaining business continuity in high-risk environments. The study also emphasizes the interconnectedness of worker safety and operational stability. Effective evacuation strategies are not only about ensuring the immediate safety of migrant workers but also about minimizing operational disruptions that can affect the company's long-term sustainability

(Risambessy, 2023; Dewa, 2021; Jamaludin, 2022; Martiawan, et al., 2023). The research, therefore, calls for a more integrated approach to risk management that considers both safety and business continuity (Nordin et al., 2021).

In addition to the emphasis on evacuation preparedness, previous studies have highlighted the significance of domestic factors that contribute to both worker safety and organizational resilience. For instance, Husni et al. (2023) argue that robust social security measures for laid-off workers are essential to safeguard not only the immediate well-being of migrant workers but also the long-term stability of the workforce. Husnah et al. (2023) further stress that the role of business credit and access to financial resources is crucial in enhancing the performance of small and medium-sized enterprises (SMEs), which can directly influence their capacity to respond to crises. Similarly, Wairisal (2023) explores the impact of organizational culture and leadership on employee performance, suggesting that a strong leadership foundation can facilitate effective crisis response. Moreover, Dayanti and Nurchayati (2023) discuss how transformational leadership and motivation directly affect employee engagement, which is vital during evacuation situations. In this context, it becomes clear that the integration of leadership, organizational culture, and financial preparedness can complement evacuation strategies, ensuring both the safety of migrant workers and the continuity of business operations in high-risk environments. This approach to evacuation planning is essential for fostering a resilient workforce capable of navigating complex crisis scenarios (Risambessy, 2023; Dewa, 2021).

Finally, the study contributes significantly to the academic literature by filling existing gaps in research on evacuation management in high-risk regions. While much of the previous literature has focused on the technical aspects of evacuation plans, this research takes a more comprehensive approach by examining the broader operational, social, and cultural factors that impact evacuation effectiveness. It also highlights the importance of integrating theoretical frameworks, such as risk management and crisis management, with practical operational solutions. By examining the case of Indonesian oil and gas companies, the study offers empirical evidence that not only identifies weaknesses in current strategies but also provides actionable recommendations for improving evacuation management. This research is a valuable resource for multinational companies operating in similarly high-risk environments, offering a roadmap for developing more effective and context-sensitive evacuation strategies (Nordin et al., 2021).

#### **4. Conclusion**

This study offers a comprehensive approach to developing migrant worker evacuation strategies in high-risk locations like Algeria and Iraq, emphasizing several key aspects. These include a multidisciplinary integration of legal policies, real-time technology, training, and cross-institutional coordination, which provides a holistic perspective to evacuation management. The research stresses the importance of adapting strategies to the specific challenges of each location, such as political instability in Iraq and security concerns in Algeria. Furthermore, it highlights the optimization of digital technology, such as GPS and emergency communication apps, to ensure worker readiness during crises. Cross-stakeholder collaboration is also identified as a critical factor, with strong partnerships between companies, governments, and international organizations enhancing evacuation effectiveness. Finally, the study underscores that effective evacuation strategies not only safeguard workers but also support business sustainability by linking safety to operational continuity.

The study identifies several strengths in evacuation management, including robust legal and ethical foundations, which ensure the protection of migrant workers in high-risk environments. Information technology, including real-time tracking and

data integration, is recognized as a key element that improves crisis response and coordination. Additionally, productive government collaboration strengthens resource allocation and enhances overall evacuation outcomes. However, several challenges are also noted, such as the need for better internal coordination within organizations, resource limitations (e.g., transportation and medical facilities), and insufficient evaluation mechanisms that fail to incorporate lessons learned from previous evacuations. The research calls for enhanced organizational coordination, investment in logistical resources, and continuous evaluation mechanisms to improve the adaptability and effectiveness of evacuation strategies. The study concludes with practical recommendations for enhancing evacuation management, including strengthening stakeholder partnerships, ensuring robust data protection, and adapting strategies to local conditions, while also highlighting future research directions focused on expanding geographical scope and improving evaluation tools.

## References

- Boers, M., & Henschel, P. (2021). Strategic evacuation planning in high-risk industries. *Journal of Safety Management, 18*(3), 145–162.
- Dayanti, A., & Nurchayati, N. (2023). Exploring the influence of transformational leadership style and motivation on employee performance. *Research Horizon, 3*(4), 467–476.
- Dewa, A. (2021). The influence of work motivation, job rotation, and career development on employee performance. *Research Horizon, 1*(6), 271–278.
- Fauzi, T. H., Adnani, L., & Jamaludin, M. (2022). Impact of enterprise resource planning (ERP) on the quality of work of company employees: A brief review. *Economic and Business Horizon, 1*(1), 33–39.
- Hossain, M. B. (2022). Foreign direct investment (FDI) and protecting Bangladeshi workers' human rights. *Research Horizon, 2*(3), 435–443.
- Husnah, H., Suparman, S., & Rauf, R. A. (2023). The role of business credit on SME performance, regional economic output, and unemployment. *Research Horizon, 3*(3), 151–163.
- Husni, L., Cahyowati, R. R., & Umam, K. (2023). Job loss social security (JKP) under Government Regulation No. 37 of 2021 as a form of protection for laid-off workers: A normative analysis. *Research Horizon, 3*(6), 628–637.
- International Commission on Occupational Health. (2022). ICOH statement on protecting the occupational safety and health of migrant workers. *Safety and Health at Work, 13*(3), 261–262. <https://doi.org/10.1016/j.shaw.2022.04.004>
- Jamaludin, M. (2022). Indonesia's food security challenges: How food SOE optimizes its role? *Research Horizon, 2*(3), 394–401.
- Khan, A., & Arokkiaraj, H. (2021). Challenges of reverse migration in India: A comparative study of internal and international migrant workers in the post-COVID economy. *Comparative Migration Studies, 9*(1), 49.
- Lee, J. (2021). Challenges in managing migrant worker safety in conflict zones. *International Journal of Risk and Crisis Studies, 25*(1), 33–47.
- Liao, K. A. S. (2020). Operation 'Bring Them Home': Learning from the large-scale repatriation of overseas Filipino workers in times of crisis. *Asian Population Studies, 16*(3), 310–330.
- Liao, K. A. S. (2024). Assembling exits and returns: The extraterritorial production of repatriation for Filipino migrant workers. *Journal of Ethnic and Migration Studies, 50*(10), 2612–2630.
- Lu, Y., Liu, J., & Yu, W. (2024). Social risk analysis for mega construction projects based on structural equation model and Bayesian network: A risk evolution perspective. *Engineering, Construction and Architectural Management, 31*(7), 2604–2629.
- Maharani, D. (2023). The role of working and educated household mothers in increasing family income. *Economic and Business Horizon, 2*(3), 11–18.
- Martiawan, R., Achdiat, A., Ruyani, N. R., Ediyanto, E., & Jamaludin, M. (2023). Analysis of food security in regional context: West Java provincial government as a case study. *Research Horizon, 3*(1), 1–8.

- Méndez, M., Flores-Haro, G., & Zucker, L. (2020). The (in)visible victims of disaster: Understanding the vulnerability of undocumented Latino/a and indigenous immigrants. *Geoforum*, 116, 50-62.
- Nordin, S. M., Rizal, A. R. A., Rashid, R. A., Che Omar, R., & Priyadi, U. (2021). Incidents and disaster avoidance: The role of communication management and the organizational communication climate in high-risk environments. *Sustainability (Switzerland)*, 13(18). <https://doi.org/10.3390/su131810138>
- Rahmasari, L. (2022). The impact of communication quality, teamwork, and trust on work productivity of Tanjung Emas port employees. *Research Horizon*, 2(6), 626-636.
- Rajan, S. I., & Arokkiaraj, H. (2022). Return migration from the Gulf region to India amidst COVID-19. In *Migration and pandemics: Spaces of solidarity and spaces of exception* (pp. 207-225).
- Rao, M. (2020). Should internal migrants who cannot return home due to COVID-19 be treated as disaster IDPs? Lessons from India. *Refugee Survey Quarterly*, 39(4), 609-619.
- Risambessy, A. (2023). The influence of professionalism, work-discipline, and trust on the performance of nurse paramedics. *Research Horizon*, 3(4), 291-299.
- Smith, M. J., & Liehr, P. R. (2023). Understanding middle range theory by moving up and down the ladder of abstraction. In *Middle Range Theory for Nursing* (5th ed.). <https://doi.org/10.1891/9780826139276.0002>
- Spitzer, J., Turnbull, C., & Farwin, M. (2023). Legal and ethical considerations in migrant worker safety management. *Risk and Ethics Journal*, 12(2), 123-135.
- Stoklosa, H., Burns, C. J., Karan, A., Lyman, M., Morley, N., Tadee, R., & Goodwin, E. (2021). Mitigating trafficking of migrants and children through disaster risk reduction: Insights from the Thailand flood. *International Journal of Disaster Risk Reduction*, 60, 102268.
- Wairisal, P. (2023). The influence of organizational culture, leadership, and work stress on employee performance. *Research Horizon*, 3(3), 249-259.
- Wu, H., Nie, R., Zeng, X., Cheng, C., Pan, J., Han, D., & Hosamo, H. (2024). Review of advanced emergency evacuation procedures in hospital buildings: Comprehensive analysis and insights. *Frontiers in Built Environment*, 10(1). <https://doi.org/10.3389/fbuil.2024.1381813>.
- Yap, C. A. D., & Opiniano, J. M. (2024). A generation of crisis-responsive reintegration in migration management: Reflections from the Philippines. In *Return migration and crises in non-Western countries* (pp. 15-43). Cham: Springer International Publishing.



Copyright: © 2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution-ShareAlike 4.0 International License (<https://creativecommons.org/licenses/by-sa/4.0/>).