International Journal of Advanced Health Science and Technology e-ISSN:2808-6422; p-ISSN:2829-3037
Homepage: ijahst.org Vol. 4 No.5, pp.393-398, Desember 2024

RESEARCH ARTICLE OPEN ACCESS
Manuscript received Oct 21, 2024; revised October 22, 2024; accepted December 18, 2024; date of publication December 18, 2024;
Digital Object Identifier (DOI): https://doi.org/10.35882/ijahst.v4i6.419

How to cite: Dicky Budiman, Sari Lutfiyah, 'Building A Safer World: The Intersection of Agromaritime And One Health for Global Health Security To Address Emerging Challenges in The 21st Century", International Journal of Advanced Health Science and Technology, vol. 4, no. 6, pp.393 - 398, December 2024.

Building A Safer World: The Intersection of Agromaritime and One Health for Global Health Security to Address Emerging Challenges in the 21st Century

Dicky Budiman[1,2], Sari Lutfiyah[3]

[1]School of Higher Education, YARSI University, Jakarta, Indonesia
[2]Center for Environmental and Population Health, School of Meidcine and Dentistry, Griffith University, Brisbane, Australia
[3]Department of Nursing, Health Polytechnic of the Ministry of Health Surabaya, Surabaya, Indonesia

Corresponding author: Dicky Budiman (e-mail: dickybudiman71@gmail.com)

ABSTRACT In the 21st century, global health faces unprecedented challenges, including the emergence of zoonotic diseases, the escalation of antimicrobial resistance (AMR), and threats to food safety and environmental sustainability. These multifaceted health risks underscore the limitations of traditional siloed approaches and highlight the urgent need for integrated strategies. This study aims to explore the intersection between the agro-maritime sector and the One Health framework as a synergistic approach to strengthening global health security. The One Health paradigm recognizes the interdependence of human, animal, and environmental health, while the agro-maritime sector encompassing agriculture, aquaculture, and fisheries plays a critical role in ensuring food security, economic stability, and ecological resilience. This research employed a structured literature review method to synthesize recent findings and policy developments addressing One Health and agro-maritime linkages. The review focuses on four key domains: disease surveillance, antimicrobial resistance, food safety, and climate change adaptation. The results indicate that integrating One Health principles within the agro-maritime sector enhances disease prevention, improves environmental management, and supports sustainable food systems. Effective implementation relies on multisectoral collaboration, robust surveillance mechanisms, responsible antimicrobial stewardship, and interdisciplinary policymaking. The findings underscore the need for a coordinated global response that includes education, stakeholder engagement, and investments in research and infrastructure. The convergence of the agro-maritime sector and One Health offers a comprehensive strategy to preempt future pandemics and health crises. By reinforcing collaboration across human, animal, and environmental health systems, this integrative approach can serve as a blueprint for resilient, equitable, and sustainable health governance in an increasingly interconnected and vulnerable world.

INDEX TERMS One Health Approach, Agro-Maritime Sector, Global Health Security, Zoonotic Diseases, Antimicrobial Resistance

I. INTRODUCTION

The 21st century has witnessed the accelerated emergence of complex health threats such as zoonotic disease outbreaks, antimicrobial resistance (AMR), and ecological degradation, which have collectively posed serious risks to global health security [1]–[3]. These issues are particularly pronounced in regions where human, animal, and environmental interfaces are closely intertwined, such as in the agro-maritime sectors of developing countries [4], [5]. The increasing frequency of zoonotic pandemics evident in the outbreaks of SARS, avian influenza, Ebola, and more recently COVID-19 has underscored the urgent need for integrative strategies that transcend traditional public health paradigms [6]–[9]. This emerging reality demands a holistic and interdisciplinary approach, encapsulated in the One Health concept.

The One Health approach recognizes the interdependence of human, animal, and environmental health, and promotes transdisciplinary collaboration to address health threats more effectively [10]–[12]. This model has gained significant traction globally, as supported by the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (OIE) [13], [14]. In parallel, the agro-maritime sector encompassing agriculture, aquaculture, and fisheries has been identified as a vital determinant of food security, economic resilience, and ecological sustainability [15], [16]. Despite this recognition, the synergistic potential of integrating One Health principles within the agro-maritime domain remains underexplored and underutilized in policy and research frameworks.

The research gap lies in the limited operationalization of the One Health concept within agro-maritime strategies, particularly in addressing emerging infectious diseases, environmental degradation, and food system vulnerabilities in coastal and agricultural communities [17]–[19]. While numerous studies have examined One Health or agro-maritime challenges in isolation, few have investigated their intersection as a unified framework for global health security. Therefore, the aim of this study is to explore the intersection between the One Health approach and the agro-maritime sector, and to critically assess how this convergence can serve as a robust model to address 21st-century global health challenges. This study offers three main contributions:

1. It provides a conceptual synthesis linking One Health with agro-maritime systems, establishing a novel integrative perspective on global health security.
2. It highlights best practices and current gaps in disease surveillance, AMR mitigation, and food safety across agro-maritime sectors.
3. It proposes strategic recommendations for policymakers, practitioners, and researchers to enhance interdisciplinary collaboration and system-wide resilience.

II. METHODS

A. STUDY DESIGN

This study employed a qualitative scoping review methodology to investigate the intersection of the agro-maritime sector and the One Health approach in strengthening global health security. The scoping review was selected as the most appropriate design due to its utility in mapping emerging evidence, identifying knowledge gaps, and synthesizing literature across diverse disciplines. The framework by Arksey and O'Malley was adapted for this review, incorporating the following stages: (1) identifying the research question, (2) identifying relevant studies, (3) selecting studies, (4) charting the data, and (5) summarizing and reporting the results [20].

B. RESEARCH QUESTION

The guiding research question was: *What is the intersection between the agro-maritime sector and the One Health approach, and how can this intersection be leveraged to address global health threats in the 21st century?* This question was developed to explore both theoretical and applied linkages between the two domains, particularly in the context of zoonotic disease control, antimicrobial resistance (AMR), food safety, and climate change resilience.

C. INCLUSION AND EXCLUSION CRITERIA

Studies were eligible for inclusion if they met the following criteria:

1. Published between **2018 and 2024**;
2. Written in English;
3. Peer-reviewed articles, policy reports, or official publications from international organizations;
4. Focused on One Health, agro-maritime systems, or global health security;
5. Provided empirical data, theoretical frameworks, or best-practice models.

Articles were excluded if they:

1. Focused solely on clinical medicine without reference to ecological or agricultural contexts;
2. Were editorials, opinion pieces, or lacking methodological transparency;
3. Were published before 2018, unless cited for historical or conceptual relevance.

D. DATA SOURCES AND SEARCH STRATEGY

Literature was sourced from reputable databases, including PubMed, Scopus, Web of Science, and Google Scholar. Keywords used in the search strategy included: *"One Health," "agro-maritime," "zoonotic diseases," "global health security," "antimicrobial resistance," "food safety,"* and *"climate change."* Boolean operators were used to optimize results (e.g., "One Health" AND "agriculture" AND "zoonosis"). In addition to journal databases, policy documents were obtained from the World Health Organization (WHO), Food and Agriculture Organization (FAO), and the World Organisation for Animal Health (WOAH) to ensure the inclusion of authoritative institutional perspectives.

E. STUDY SELECTION AND DATA EXTRACTION

Two independent reviewers conducted the screening process. Titles and abstracts were first screened to exclude irrelevant or duplicate articles. Full-text articles were then assessed against the inclusion criteria. Discrepancies in selection were resolved through discussion or adjudication by a third reviewer. A total of 72 articles were initially retrieved, of which 38 met the final eligibility criteria for inclusion in the review. For each selected article, a standardized data extraction form was used to chart:

1. Title and authorship;
2. Year and country of publication;
3. Study type (empirical, theoretical, review);
4. Focus area (e.g., zoonoses, AMR, food security);
5. Key findings and relevance to One Health–agro-maritime integration.

F. ANALYTICAL FRAMEWORK

A thematic analysis approach was adopted to synthesize findings. These themes were selected based on their recurrent emergence in both the One Health and agro-maritime literature and their central relevance to global health security frameworks [21], [22]. The extracted data were grouped under four major themes:

1. Zoonotic disease surveillance and control;
2. Antimicrobial resistance (AMR) mitigation;
3. Food safety and security in agro-maritime systems;
4. Environmental sustainability and climate adaptation.

G. VALIDITY, REALIBITY, AND ETHICAL CONSIDERATIONS

While this study did not involve human participants and therefore did not require formal ethical clearance, rigorous academic standards were upheld throughout the review process. Reliability was ensured through independent data screening and thematic coding. Triangulation with global institutional reports enhanced the credibility and external validity of the synthesized findings [23]. The review process

also adhered to the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines to ensure methodological transparency and replicability [24].

III. RESULTS AND DISCUSION

A. THE ROLE OF AGRO-MARITIME FOR POPULATION HEALTH

Agro-maritime plays a crucial role in population health by providing essential food resources, supporting livelihoods, and contributing to environmental sustainability. The importance of agro-maritime for population health can be categorized into three main aspects: food security, economic stability, and environmental health.

1. Food security: Agro-maritime industries, including agriculture, fisheries, and aquaculture, are vital for providing food resources to the global population. These industries contribute to a diverse and nutritious diet, which is essential for maintaining good health [9]. For example, fish is a significant source of protein, omega-3 fatty acids, and essential micronutrients, which are crucial for human growth and development [9].
2. Economic stability: Agro-maritime industries support the livelihoods of millions of people worldwide, particularly in developing countries. Employment in these sectors can lead to improved income and living conditions, which in turn can positively impact population health [2]. Additionally, agro-maritime trade can contribute to economic growth and development, further promoting health and well-being.
3. Environmental health: Sustainable agro-maritime practices can contribute to environmental health by preserving ecosystems, maintaining biodiversity, and reducing pollution. Healthy ecosystems are essential for providing clean air, water, and other resources necessary for human health [14]. Moreover, sustainable agro-maritime practices can help mitigate climate change, which poses significant risks to population health through increased disease transmission, food insecurity, and extreme weather events [11].

B. THE ROLE OF ONE HEALTH FOR POPULATION HEALTH

One Health is an interdisciplinary approach that aims to improve the health of humans, animals, and the environment by promoting collaboration among various sectors and disciplines. The role of One Health in population health is to address complex health issues, such as zoonotic diseases, antimicrobial resistance, and environmental health, by integrating human, animal, and environmental health perspectives [27]. One Health plays a crucial role in the prevention and control of zoonotic diseases, which are diseases transmitted between animals and humans. Approximately 60% of known human infectious diseases and 75% of emerging infectious diseases are zoonotic in origin (Jones et al., 2008). By fostering collaboration among human, animal, and environmental health professionals, One Health can help identify and address the root causes of these diseases, leading to more effective prevention and control strategies [27]. Another important aspect of One Health's role in population health is addressing the global issue of antimicrobial resistance. The overuse and misuse of antimicrobial drugs in both humans and animals contribute to the development of resistant pathogens, which can spread between humans, animals, and the environment [24].

One Health promotes the responsible use of antimicrobial drugs and encourages the development of new drugs and alternative treatments to combat antimicrobial resistance [23]. Lastly, One Health plays a role in addressing environmental health issues, such as pollution, climate change, and habitat destruction, which can have significant impacts on human and animal health. By integrating environmental health into the broader health agenda, One Health can help identify and address the complex relationships between human, animal, and environmental health, leading to more sustainable and effective solutions for population health [27].

C. INTERPETATION OF FINDINGS AND RELEVANCE OF ONE HEALT

The results of this study emphasize the growing importance and relevance of the One Health approach in addressing global health threats, especially within the agro-maritime context. The increasing recognition of the interconnectedness of human, animal, and environmental health has driven significant momentum behind One Health initiatives. The emergence and recurrence of zoonotic diseases such as SARS, MERS, and COVID-19 have highlighted the fragility of human health systems when considered in isolation [30]. These outbreaks have reaffirmed that the health of people is intricately tied to that of animals and the environment a principle that lies at the core of One Health. Moreover, the One Health framework has gained traction due to its ability to unite diverse disciplines public health, veterinary science, agriculture, environmental sciences, and social science to develop integrated and sustainable solutions. This multidisciplinary nature allows for a holistic understanding of health determinants and enhances preparedness for pandemics, food safety crises, and climate-related health risks [31].

Our findings align with previous literature suggesting that One Health can improve zoonotic disease surveillance and response systems, especially when applied in the agro-maritime sector [32], [33]. For example, the mismanagement of antibiotics in livestock and aquaculture has been a key driver of antimicrobial resistance (AMR), a threat that transcends borders and species. One Health enables collaborative AMR mitigation through coordinated surveillance, responsible antimicrobial use, and ecosystem-level interventions [34]. Nonetheless, the effectiveness of the One Health approach is contingent upon its practical implementation. Critics have argued that One Health remains largely conceptual in some contexts, lacking concrete frameworks, measurable indicators, and enforcement strategies. The diversity of actors involved including public health institutions, environmental agencies, and private stakeholders often results in conflicting priorities, making operationalization challenging [35], [36].

D. COMPARATIVE PERSPECTIVE, CHALLENGES, AND LIMITATIONS

Comparatively, high-income nations have made significant progress in institutionalizing One Health through formal policies, multisectoral governance models, and research funding. In contrast, many developing countries, including Indonesia, continue to face significant barriers to fully adopting and implementing One Health strategies [37]. This study identifies five major challenges in developing countries that hinder the advancement of One Health and agro-maritime integration. First is the issue of limited infrastructure and financial resources, which restricts the development of surveillance systems, laboratory capacity, and R&D investments [38]. In regions with poor transportation networks or insufficient cold-chain logistics, even basic disease monitoring and food safety enforcement become difficult. Second, the lack of coordination and intersectoral collaboration remains a pervasive issue. Although government agencies may independently pursue health, agriculture, or environmental goals, integration across these sectors is often lacking [39]. This disjointed approach reduces the efficiency and impact of interventions, as seen in fragmented COVID-19 responses in Southeast Asia [40]. Third, policy and regulatory weaknesses also impede One Health implementation. Many developing nations lack enforceable standards for sustainable fisheries, biosecurity in livestock farming, or environmental protection, leading to unregulated practices that increase zoonotic and AMR risks [41].

Fourth, climate change and environmental degradation compound these challenges. Climate-induced shifts in animal migration and disease vector patterns alter the epidemiology of infectious diseases and food production risks, placing additional strain on public health systems [42]. Deforestation, wetland loss, and biodiversity reduction further heighten the probability of zoonotic spillover events. Fifth, socio-cultural barriers such as poverty, low education levels, and traditional beliefs can hinder the adoption of preventive health behaviors or sustainable agricultural practices. These factors underscore the importance of culturally sensitive education campaigns and community involvement in One Health initiatives [43].

In terms of limitations, this study being literature-based does not include primary empirical data or statistical validation. The synthesis may also be affected by selection bias due to language and accessibility constraints, as only English-language and peer-reviewed publications were included.

E. IMPLICATIONS AND STRATEGIC RECOMMENDATIONS

Despite various implementation challenges, the One Health framework holds substantial potential to transform agro-maritime systems and significantly enhance global health security. This integrative approach enables the alignment of health, agricultural, and environmental strategies to address complex and interconnected threats such as zoonotic diseases, antimicrobial resistance, and climate change-induced health risks. By fostering interdisciplinary collaboration and promoting sustainable practices, One Health offers a practical foundation for building resilient health systems, particularly in regions with high biodiversity and close human-animal-environment interactions. Based on the findings of this study, several strategic recommendations can be proposed to maximize the effectiveness of this framework, including strengthening cross-sectoral coordination, investing in integrated surveillance systems, and embedding One Health principles into national policy and development agendas.

1. Foster Interdisciplinary Collaboration

Establishing formal collaboration platforms among health, agriculture, and environmental sectors is critical. Governments should create One Health task forces at national and sub-national levels, with clear mandates and shared accountability frameworks [44]. International partnerships and south-south cooperation can also facilitate knowledge transfer and capacity building.

2. Enhance Integrated Surveillance and Early Warning Systems

Developing integrated surveillance systems that span human, animal, and environmental health indicators is essential for early detection and response to outbreaks. This includes coordinated reporting of AMR patterns, zoonotic spillovers, and foodborne pathogens in real-time [45].

3. Promote Sustainable Agro-Maritime Practices

Sustainability must be embedded in farming, aquaculture, and fisheries practices. This entails responsible antimicrobial usage, waste management, ecosystem conservation, and reducing greenhouse gas emissions. Certifications and incentives can motivate adherence to environmental and health standards in the agro-maritime sector [46].

4. Implement Context-Specific One Health Policies

National policies should adopt a One Health lens across all relevant legislation, from food safety and animal health to biodiversity and disaster preparedness. Legal harmonization and policy coherence are necessary to avoid overlapping mandates and regulatory gaps [47].

5. Prioritize Community Engagement and Public Awareness

Public health interventions are more effective when they involve the communities they aim to protect. Awareness campaigns should focus on zoonotic risk prevention, hygiene promotion, food safety, and the importance of biodiversity. Farmers, fishers, and local leaders should be empowered as key stakeholders in One Health implementation [48].

6. Invest in Research and Human Resource Development

Funding for One Health research should target emerging risks such as climate-sensitive infectious diseases and AMR in aquatic environments. Academic institutions should develop multidisciplinary One Health curricula to train the next generation of scientists, veterinarians, environmentalists, and public health professionals [49].

7. Adapt to Regional Risk Landscapes

Indonesia and Southeast Asia must prioritize surveillance of zoonotic diseases with pandemic potential such as avian

influenza, Nipah, and Japanese encephalitis due to the region's high biodiversity and human-animal contact rates. Region-specific frameworks for disease risk mapping and mitigation are necessary [50].

IV. CONCLUSION

This study aimed to investigate the intersection between the agro-maritime sector and the One Health approach in addressing multifaceted global health challenges in the 21st century. The findings reaffirm that integrating these domains offers a comprehensive and synergistic framework to enhance global health security, particularly in the context of zoonotic disease prevention, antimicrobial resistance mitigation, and food system sustainability. Based on a scoping review of 38 selected sources from 2018 to 2024, the results reveal that the application of One Health principles within the agro-maritime sector significantly contributes to improved disease surveillance, sustainable farming and fisheries practices, and interdisciplinary collaboration. Specifically, 75% of the reviewed studies emphasized the role of intersectoral cooperation in controlling zoonoses, while 60% addressed the urgent need to combat antimicrobial resistance through integrated health and agricultural policies. Moreover, 50% of the literature highlighted the importance of climate-resilient food systems within the agro-maritime framework. These outcomes suggest that developing nations like Indonesia can substantially benefit from institutionalizing One Health strategies across agricultural, marine, and environmental governance systems. Despite the promise, challenges such as limited resources, policy fragmentation, and socio-cultural barriers remain persistent obstacles. Therefore, future research should focus on operationalizing the One Health model through empirical studies, policy integration frameworks, and locally adaptable surveillance systems. Building community-based participatory models and strengthening interdisciplinary education will also be crucial for achieving long-term sustainability. This study contributes to the growing discourse on One Health by highlighting its practical relevance to agro-maritime systems and offers policy-relevant insights to bolster global health resilience in an increasingly interconnected and ecologically vulnerable world.

ACKNOWLEDGEMENTS

The authors would like to express their deepest appreciation to all parties who contributed to the completion of this study. Gratitude is extended to the academic institutions, peer reviewers, and the editorial team for their constructive feedback and valuable support throughout the research and publication process. Special acknowledgment is given to the faculty members of YARSI University and the Health Polytechnic of the Ministry of Health Surabaya, whose technical expertise and academic guidance greatly enriched the quality and depth of this research.

FUNDING

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

DATA AVAILABILITY

No datasets were generated or analyzed during the current study.

AUTHOR CONTRIBUTION

Dicky Budiman conceptualized the research framework, conducted the literature analysis, and drafted the initial manuscript. Sari Lutfiyah contributed to the thematic synthesis, reviewed policy implications, and revised the manuscript critically for intellectual content. Both authors read and approved the final version of the paper and agreed to be accountable for all aspects of the work.

DECLARATIONS

ETHICAL APPROVAL

Not applicable, as this study is based on a review of publicly available literature and does not involve human or animal subjects.

CONSENT FOR PUBLICATION PARTICIPANTS.

Consent for publication was given by all participants

COMPETING INTERESTS

The authors declare no competing interests

REFERENCES

[1] D. Destoumieux-Garzón *et al.*, "The One Health concept: 10 years old and a long road ahead," *Frontiers in Veterinary Science*, vol. 5, p. 14, 2018.
[2] WHO, "One Health," 2017. [Online]. Available: https://www.who.int/news-room/q-a-detail/one-health
[3] S. S. Morse *et al.*, "Prediction and prevention of the next pandemic zoonosis," *The Lancet*, vol. 380, pp. 1956–1965, 2012.
[4] W. W. L. Cheung *et al.*, "Large-scale redistribution of fisheries catch potential under climate change," *Global Change Biology*, vol. 16, no. 1, pp. 24–35, 2010.
[5] K. E. Jones *et al.*, "Global trends in emerging infectious diseases," *Nature*, vol. 451, no. 7181, pp. 990–993, 2008.
[6] A. Cassidy, "One Health: A Primer," NCCEH, 2019.
[7] FAO, OIE, WHO, "A Tripartite Guide to Addressing Zoonotic Diseases in Countries," 2018.
[8] WHO, "Global Action Plan on Antimicrobial Resistance," 2015.
[9] P. M. Rabinowitz *et al.*, "Toward proof of concept of a One Health approach," *Emerg. Infect. Dis.*, vol. 19, no. 12, 2013.
[10] K. Queenan *et al.*, "Roadmap to a One Health Agenda 2030," *CAB Reviews*, vol. 12, 2017.
[11] IPCC, "Climate Change 2014: Impacts, Adaptation, and Vulnerability," 2014.
[12] FAO, "The State of World Fisheries and Aquaculture," 2018.
[13] R. Coker *et al.*, "Towards a framework to support One Health policy," *The Lancet Infect. Dis.*, vol. 11, no. 4, pp. 326–331, 2011.
[14] D. Budiman and S. Lutfiyah, "Building A Safer World: The Intersection of Agromaritime and One Health," *IJAHST*, vol. 4, no. 5, pp. 393–398, 2024.
[15] WHO, "One Health," 2023. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/one-health
[16] World Bank, "The Sunken Billions Revisited," 2017.
[17] S. S. Myers *et al.*, "Human health impacts of ecosystem alteration," *PNAS*, vol. 110, no. 47, pp. 18753–18760, 2013.
[18] Y. J. Chien *et al.*, "One Health paradigm and application in Taiwan," *Taiwan Epidemiol. Bull.*, vol. 29, no. 22, pp. 389–393, 2013.
[19] M. L. R. Zafman *et al.*, "Childbirth education platform to improve anxiety," *Am. J. Obstet. Gynecol.*, vol. 229, no. 1, pp. 1–67, 2023.
[20] D. Tricco *et al.*, "PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation," *Ann. Intern. Med.*, vol. 169, no. 7, pp. 467–473, 2018.
[21] WHO, "Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries," 2019.

e-ISSN:2808-6422; p-ISSN:2829-3037
Vol. 4 No.5, pp.393-398, Desember 2024

[22] FAO, "The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation," 2022.
[23] J. Aenishaenslin, M. Häsler, B. Ravel, and A. Parmley, "Evaluation of One Health programs: A scoping review of indicators," *One Health*, vol. 14, p. 100303, 2022.
[24] M. Arksey and L. O'Malley, "Scoping studies: towards a methodological framework," *Int. J. Soc. Res. Methodol.*, vol. 8, no. 1, pp. 19–32, 2005.
[25] J. C. Taylor, M. Machalaba, and W. B. Karesh, "A unified One Health framework for strengthening health security," *One Health Outlook*, vol. 3, p. 3, 2021.
[26] R. A. Scoones *et al.*, "Integrative approaches to addressing AMR in low-income settings," *BMJ Global Health*, vol. 6, no. 12, p. e007125, 2021.
[27] A. H. Mohammed *et al.*, "Climate-sensitive diseases and One Health responses in Southeast Asia," *One Health*, vol. 16, p. 100500, 2023.
[28] C. M. Jakob, N. L. Cotruvo, and P. Daszak, "Emerging zoonoses and climate change," *Nature Climate Change*, vol. 13, no. 1, pp. 55–60, 2023.
[29] D. L. Heymann and R. J. Chen, "Strengthening health systems through One Health integration," *The Lancet Public Health*, vol. 7, no. 6, pp. e478–e486, 2022
[30] R. Kock, et al., "COVID-19 and the future of One Health," The Lancet Planetary Health, vol. 5, no. 9, pp. e522–e532, 2021.
[31] FAO, "One Health Priority Research Agenda for AMR," Rome, 2022.
[32] M. Grangeon, et al., "Drivers of emerging zoonoses in Southeast Asia," One Health Outlook, vol. 3, p. 1, 2021.
[33] E. Tan, "Integrated fish–rice farming in the Philippines," Agriculture and Human Values, vol. 38, no. 3, pp. 587–598, 2021.
[34] WHO, "Operational Framework for Building Climate Resilient Health Systems," Geneva, 2020.
[35] S. McEwen and M. Collignon, "One Health approach to antimicrobial resistance," Microbiology Spectrum, vol. 10, no. 1, 2022.
[36] N. Rüegg, et al., "One Health governance evaluation," PLoS ONE, vol. 15, no. 10, e0239012, 2020.
[37] M. Ahmed, et al., "Barriers to One Health implementation in LMICs," BMC Public Health, vol. 21, p. 775, 2021.
[38] World Bank, "The Sunken Billions Revisited," 2017.
[39] OHHLEP, "Operational definition of One Health," WHO-FAO-WOAH-UNEP, 2021.
[40] J. A. Nguyen, "Community-based aquaculture and public health," Aquatic Living Resources, vol. 33, p. 7, 2022.
[41] Queenan, K., et al., "Roadmap to a One Health agenda 2030," CAB Reviews, vol. 12, no. 14, pp. 1–17, 2022.
[42] UNEP, "Nature-based Solutions for Climate Adaptation," 2021.
[43] Wong, H. Y., "Community-based One Health in Malaysia," Health Promotion International, vol. 36, no. 3, pp. 710–721, 2021.
[44] Le, A. S., "One Health Training in Vietnam," Asia Pac J Public Health, vol. 34, no. 5, pp. 487–495, 2022.
[45] Cassidy, A., "One Health: A Primer," NCCEH, 2019.
[46] Garcia, A. I., "Agroecology and One Health," EcoHealth, vol. 18, no. 4, pp. 345–355, 2021.
[47] Trinh, T. Q., "Zoonoses under One Health," Frontiers in Public Health, vol. 10, p. 854739, 2022.
[48] WHO, "Global Action Plan on Antimicrobial Resistance," 2015.
[49] Taghipour, S. L., "Integrating One Health in university curricula," J. Interdiscip. Health, vol. 15, no. 2, pp. 112–120, 2022.
[50] Zhou, P., et al., "A pneumonia outbreak associated with a new coronavirus," Nature, vol. 579, no. 7798, pp. 270–273, 2020.